Comparing the Incomparable? How Consumers Judge the Price Fairness of New Products

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Abstract: The present article explores price fairness perceptions in the specific setting of new product launch prices. In this context, the process of forming price fairness judgments by comparing the price to be judged with the price in a reference transaction is thwarted by the fact that reference transactions are not readily available. Following the conceptual logic on the development of price fairness judgments, results from three experimental consumer studies reveal that price fairness is the key link between launch price and adoption intention but that this relationship is moderated by transaction similarity and social norms. More specifically, transaction similarity, captured by the degree of product newness and future expected price change, determines the comparators consumers will use in their evaluative effort and mitigates the negative launch price-perceived price fairness relationship. In consequence, consumers use existing products to judge prices of incrementally new products. Given the reduced similarity of reference transactions for really new products, consumers rather rely on future prices in their price fairness judgments providing evidence for consumers' forward-looking evaluation. The present study captures social norms by the concept of consumer innovativeness and results demonstrate that due to the inherent uncertainty of really new products, consumer innovativeness influences the extent to which individuals engage in price comparisons when judging the fairness of launch prices of these products. The authors conclude by deriving implications for the price setting of new products.
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1. Introduction

The extant literature on consumer reactions to prices highlights the importance of price fairness (e.g., Bolton, Keh, and Alba 2010; Campbell 2007; Sinha and Batra 1999; Xia, Monroe, and Cox 2004). Price fairness refers to a judgment on whether a price is perceived as “right, just, or legitimate versus wrong, unjust, or illegitimate” (Campbell 2007, p. 261). Perceived price unfairness triggers negative emotions that can result in consumers terminating the exchange relationship, negative word of mouth or even boycotts (Campbell 1999; Homburg, Hoyer, and Koschate 2005; Xia, Monroe, and Cox 2004). Given these adverse consequences for firms, it is crucial to understand how managers can use prices that evoke fairness perceptions.

A fundamental contribution of prior research is that consumers form their price fairness judgments by comparing the price to be judged with the price in a reference transaction, i.e., the reference price (Xia, Monroe, and Cox 2004). A reference price is any price to which other prices are related and consumers rely on a variety of possible reference prices such as prices paid previously, prices paid by other consumers for the same product, prices of equal or similar products from competitors, and even expected future prices (Bolton, Keh, and Alba 2010; Bolton, Warlop, and Alba 2003; Jacobson and Obermiller 1990). Prior research predominantly examines situations in which consumers can easily carry out price comparisons because prices from comparable reference transactions are readily available, for example, when price increases are concerned (Bolton, Keh, and Alba 2010; Haws and Bearden 2006; Weisstein, Monroe, and Kukar-Kinney 2013). In contrast, the present article aims to shed light on fairness perceptions of launch prices of new products for which reference transactions are not readily available.
The launch price is the initial price a firm sets for a new product when entering the market. We refer to a new product as one that provides novel benefits in the eye of consumers and, hence, differs from existing products (Hoeffler 2003; Zhao, Hoeffler, and Dahl 2009). Prior research classifies new products according to their newness on a continuum that reaches from incremental new products (INPs) to really new products (RNPs). While INPs are more continuous in that they build on existing products, RNPs depart from traditional categories and enable consumers to do something they have not been able to do before (Hoeffler 2003; Zhao, Hoeffler, and Dahl 2009; 2012). New product diffusion models have demonstrated that the actual adoption of a new product depends on the price and on individuals’ valuation of the new product (e.g., Kalish 1985). Park, MacLachlan, and Love (2011) indicate that in the particular context of new products reference prices are particularly influential in purchasing decisions because consumers will be uncertain of the actual value of the new product. The present study thus proposes that the price is the salient factor in consumers’ evaluative effort of the new product.

As research on learning about new products (Moreau, Lehmann, and Markman 2001) implies, consumers evaluate new offerings by relating to extant knowledge about the product category, which is used as a comparator in this evaluation. Consequently, in order to evaluate new products consumers may use prices of analogous products or products that solve similar problems as reference points. Reference prices may also emanate from a forward-looking price evaluation (Jacobson and Obermiller 1990) if the new product departs significantly from existing product categories and reference transactions serving as comparators are difficult to obtain.

Researching consumers’ price fairness perceptions in the context of new products is important because commercializing new products remains a crucial but challenging task for firms as high failure rates indicate (Gielens and Steenkamp 2007; Jhang, Grant, and Campbell 2012; Tyagi 2006). Given that researchers consider the launch price an integral part of a new product’s appeal
for consumers (Hultink et al. 1998; Lichtenstein, Ridgway, and Netemeyer 1993) and the role of price fairness (e.g. Bolton, Keh, and Alba 2010; Campbell 2007; Xia, Monroe, and Cox 2004), it is surprising that no research examines price fairness perceptions of new products and which role these perceptions play in the adoption of new products. Closing these research gaps is important especially when considering that the adverse consequences of perceived price fairness may be most harmful in the context of new products because they potentially hinder a new product’s diffusion in the market. Thus, this research supports price setters to better anticipate individual consumer responses to launch prices of new products and to price more competently for consumer acceptance.

2. Conceptual Background: Price Fairness Perceptions When Products Are New

This article draws on the conceptual model of price fairness perceptions by Xia, Monroe, and Cox (2004) to develop a conceptual framework of price fairness perceptions of launch prices of new products. Building on theories of distributive justice (e.g., Adams 1965), Xia, Monroe, and Cox (2004) propose that a judgment of price fairness emanates from the consumer comparing the focal price in question with a reference price from a comparative transaction. A perceived discrepancy between the focal price and any reference price is necessary but not sufficient for perceptions of inequality and thus unfairness to occur. Xia, Monroe, and Cox (2004) point out that the sufficiency of a price discrepancy as a precursor to price fairness perceptions hinges on several moderating factors. Proposing the existence of such moderating factors, our basic assumption in the realm of our research is that a low launch price will be judged fairer than a high launch price.

Xia, Monroe, and Cox (2004) discuss different groups of moderating factors of which transaction similarity and social norms, beliefs, and metaknowledge of the marketplace are
particularly relevant for studying price fairness perceptions of new products. Transaction similarity refers to the degree to which the launch price of a new product and the price of a reference transaction, e.g., the price of existing market offerings, are comparable (Xia, Monroe, and Cox 2004). Transaction similarity encompasses all aspects of a transaction, including terms, conditions, and product attributes as well as characteristics of the transaction parties including the price setter and the consumer (Haws and Bearden 2006; Xia, Monroe, and Cox 2004). The higher the transaction similarity, the more likely it is that the price from a reference transaction will be used for the price comparison (Tversky and Kahneman 1974). Depending on transaction similarity, reference prices can be based on prices of existing products in the here and now or on expected future prices (e.g. Bolton, Keh, and Alba 2010, Jacobson and Obermiller 1990). Prior research finds that consumers are indeed able to form expectations by using their previous experiences (Rust et al. 1999).

Following this logic, we consider two facets of transaction similarity: the degree of product newness, i.e., INPs and RNPs, and expected price change (EPC) in the future. We expect these factors to moderate the launch price-perceived price fairness relationship in determining the comparators consumers will use in their evaluative efforts. In addition, Xia, Monroe, and Cox (2004) argue that consumers draw on social norms and metaknowledge of the marketplace to form price fairness perceptions. In the new product literature social norms and metaknowledge about new products in a certain domain are captured by the concept of consumer innovativeness (CI) (Goldsmith and Hofacker 1991). Accordingly, we investigate the role of CI in the formation of price fairness perceptions of new products.

Finally, price (un)fairness perceptions can induce behavioral reactions of consumers such as product/brand choice or quantity purchased (Mazumdar, Raj, and Sinha 2005). We capture consumers’ behavioral reactions in the construct of adoption intention which refers to “a
consumer’s expressed desire to purchase a new product in the near future” (Arts, Frambach, and Bijmolt 2011, p.135).

In their conceptualization Xia, Monroe, and Cox (2004) include value perceptions as an additional variable mediating the relationship between price fairness and behavioral reactions. However, Xia and Monroe (2010) highlight that price fairness judgments and value perceptions are both comparative judgments, highly correlated, and very similar. In the context of new products it is difficult to judge the benefits of the product (Hoeffler 2003) and thus its value, i.e., what consumers get for what they give up. Furthermore, following the reasoning by Van den Bos and Lind (2002) we expect that in situations of uncertainty which surrounds new products, fairness phenomena prevail. Therefore, we focus on price fairness because consumers, who are less able to judge the benefits of a new product, can use reference prices as their essential comparators to build price fairness judgments.

To summarize, the goal of the present study is to examine the mediating role of price fairness perceptions in the relationship between launch price and consumers’ adoption intention. In addition, we propose and test three important moderators — product newness, EPC, and CI — that may moderate the effect of the launch price of a new product on perceived price fairness. This article explores the influence of the proposed moderators on the launch price-price fairness relationship by conducting a series of three experimental studies on price fairness perceptions of new products. Figure 1 shows the organizational framework of the key constructs and the chronology in which they are examined.

--- Insert Figure 1 about here ---
3. Study 1: The Moderating Role of Product Newness

3.1. Hypothesis Development

Following the general logic of price fairness perceptions (cf. Huppertz, Arenson, and Evans 1978), we build on the fundamental premise that a low launch price is perceived fairer than a high launch price. Additionally, Study 1 tests whether the magnitude of the price fairness differential between a high and a low launch price depends on the degree of product newness.

Based on the role of transaction similarity when building price fairness judgments, the present study proposes that these judgments depend on the level of product newness. The concept of assimilation and contrast effects when evaluating a new object (Herr, Shermann, and Fazio 1983; Meyers-Levy and Sternthal 1993) lends support for the moderating effect of product newness. As has been argued before, consumers search for reference prices to comparatively evaluate the price in the focal transaction (Xia, Monroe, and Cox 2004). In this comparison process, consumers pay attention to the similarity between the two transactions being compared. In case of high observable similarity, consumers selectively put more emphasis on information that supports the similarity leading to an assimilation effect which increases the salience of differences (Meyers-Levy and Sternthal 1993). Since INPs are rather similar to existing products (Hoeffler 2003; Zhao, Hoeffler, and Dahl 2009) and can be evaluated by relying on extant category knowledge (Moreau, Lehmann, and Markham 2001), the assimilation effect induces consumers to perceive the transaction of purchasing an INP as very similar to purchasing a comparable existing product. In consequence, a high price discrepancy with the reference transaction becomes more salient.

In case of high observable dissimilarity consumers focus on information in support of the dissimilarity which results in a contrast effect (Meyers-Levy and Sternthal 1993). This contrast offers a natural explanation for a price discrepancy (Xia, Monroe, and Cox 2004). RNPs are less
similar to existing products (Hoeffler 2003) and cannot be easily evaluated by extant category knowledge (Moreau, Lehmann, and Markham 2001). However, consumers can rely on related categories and thus derive reference prices. The observed dissimilarity as implied by the contrast effect provides an explanation for a price discrepancy; hence, this discrepancy will not negatively impact price fairness perceptions. Therefore, we expect that the negative effect of launch price on price fairness is smaller for RNPs than for INPs.

Apple’s iPhone 5s and the iPad 1 serve as examples to demonstrate this reasoning. The iPhone 5s can be regarded as an INP at the time of market launch as it offered relatively minor improvements over the previous model, the iPhone 5. Here, consumers may simply rely on the price of the existing iPhone 5 or similar competitor products when judging the fairness of the launch price of the iPhone 5s. In this situation of high transaction similarity, forming a price fairness judgment tends to be easy for consumers. As a result, a high (versus low) launch price of the iPhone 5s is likely to be perceived relatively unfair compared to prices of similar products that consumers draw upon for comparison purposes. In contrast, Apple’s iPad 1 can be regarded as an RNP at the time of market launch which combined features from traditional product categories such as smartphones and PCs. Consumers thus are required to base their fairness judgments of the iPad 1’s launch price on less similar transactions representing a more difficult comparison than in the case of an INP. As a result, a high (versus low) launch price of the iPad 1 is unlikely to be judged as unfair due to the lower similarity of existing product categories consumers can draw upon in their price comparison. Hence, we hypothesize:

\[ H_1: \text{Product newness moderates the negative effect of a high vs. low launch price on price fairness such that the effect is smaller for RNPs than for INPs.} \]
3.2. Pilot Study

We conducted a pilot study with 60 participants before the main experiment to develop our manipulations of launch price and product newness and to identify two new products that differed significantly in participants’ perceived newness. A valid manipulation of product newness asks for the selection of two products that vary in newness but are equal otherwise, including features and benefits. Unfortunately, RNPs are different from INPs precisely in that they offer higher benefits (Hoeffler 2003). Hence, constructing an undisputable newness manipulation resembles attempting to square a circle. However, we came close to the ideal by choosing two products with the same color, design, and functional features except for one, making the product with the extra feature an RNP and the one without it an INP. This extra feature was chosen to be fundamental enough to satisfy the criteria of an RNP, i.e., to enable consumers to do something they have not been able to do before and to depart from traditional categories (Hoeffler 2003; Zhao, Hoeffler, and Dahl 2009). Note that this extra feature of an RNP may distort perceptions of price fairness due to a higher product advantage because product features are considered in the price fairness judgment (Haws and Bearden 2006). To ensure that a difference in product advantage does not distort our findings, we perform an additional analysis controlling for relative advantage when we test our hypotheses.

In the pilot study, we tested different manipulations of product newness that participants rated on three seven-point scales (adopted from Zhao, Hoeffler, and Dahl 2009, 1 = “not very innovative, not very novel, not very original” and 7 = “very innovative, very novel, very original,” α = .93). We selected a product pair of innovative smartphones that differed most in perceived newness ratings (M_{INP} = 3.43; M_{RNP} = 5.73, F(1, 58) = 78.89, p < .001). As Appendix A shows, both products share all product features (display size and resolution, processor, and
camera) except for one. Thus, the higher novelty of the RNP exclusively stems from its additional feature (i.e., the bendable OLED display technology).

We then developed a launch price manipulation by grounding our launch price manipulation on what participants indicated they would least and most pay for the product (Bornemann and Homburg 2011). “Least” refers to the minimum price that participants would be willing to pay without having quality concerns. In contrast to our expectations, the low and high price anchors for the RNP were almost identical to the ones for the INP, although the RNP offered an additional benefit. This congruence in willingness to pay may reflect that the higher benefits provided by the RNP is also surrounded by higher uncertainties (Hoeffler 2003). Thus, we averaged the respective price anchors to form a universal launch price manipulation for both the INP and the RNP (low: €259; high: €509).

3.3. Participants, Method, and Design

In the main experiment, a total of 513 participants from a European consumer panel (51% female, median age = 25) were randomly assigned to the four treatment conditions of a 2 (launch price: low vs. high) × 2 (product newness: INP vs. RNP) factorial between-subjects design conducted in a lab setting. The resulting cell sizes ranged from 125 to 130.

Similar to Zhao, Hoeffler, and Dahl (2009) we simulated the launch of the new smartphone using a mock advertisement. In the advertisement, we provided a picture of the INP or RNP, respectively, with a corresponding short description of the product features, including the manipulation of the price. To exclude potential confounding effects of trust (Weisstein, Monroe, and Kukar-Kinney 2013) attributable to brand image, no brand information was provided. After exposure to the advertisements, participants responded to the statement “I personally feel that the advertised selling price for the smartphone is…” on four seven-point semantic differentials.
anchored “unfair/fair,” “unreasonable/reasonable,” “unacceptable/acceptable” and “unjustified/justified” (adopted from Bolton, Keh, and Alba 2010 and Vaidyanathan and Aggarwal 2003). After one item was dropped (“unacceptable/acceptable”) because of low factor loadings, internal consistency was satisfactory (α = .95). To test for behavioral consequences, we assessed consumers’ adoption intention on three seven-point items (e.g., “I would actively seek out the smartphone in order to buy it”; adopted from Castaño et al. 2008) anchored “strongly disagree/strongly agree” (α = .83). All psychometric properties are summarized in Appendix B.

To assess the predictive validity of adoption intention, subjects were then asked to participate in a lottery in which they could choose to receive the new product they had just been presented or a shopping coupon of equal value in case they won the lottery. Finally, they were debriefed and thanked.

3.4. Results and Discussion

For checking the launch price manipulation we averaged two seven-point semantic differentials (“The price is low/high,” “The product is very inexpensive/very expensive”; r = .86) to a perceived expensiveness score. An analysis of variance (ANOVA) showed that the perceived expensiveness of the launch prices was significantly different in the intended direction (M<sub>low</sub> = 3.26, M<sub>high</sub> = 5.41, F(1, 512) = 560.166; p < .001). A second ANOVA confirmed that the RNP was perceived significantly more novel than the INP on the same scale as in the pilot study (M<sub>INP</sub> = 3.10; M<sub>RNP</sub> = 5.36, F(1, 512) = 563.733, p < .001). Thus, both manipulations were effective.

Consistent with our expectations, an ANOVA showed a significant effect of launch price on perceived price fairness (M<sub>low</sub> = 5.59; M<sub>high</sub> = 4.11, F(1, 512) = 199.852; p < .001). Participants in
the low launch price condition perceived the price to be fairer than in the high launch price condition.

To analyze H1, we carried out a 2 x 2 ANOVA with launch price and product newness as independent variables and price fairness as a dependent variable (F(3, 509) = 101.016, p < .001, adjusted R² = .369). As previously seen, the direct effect of launch price was negative and significant (F(1, 509) = 230.382, p < .001). The direct effect of product newness was positive and significant (F(1, 509) = 60.324, p < .001). Furthermore, the results showed a significant interaction (F(1, 509) = 15.239, p < .001). In the INP group, the mean difference in price fairness between a low and a high price was 1.88 and significant (Mlow = 5.41, Mhigh = 3.53, F(1, 253) = 178.629, p < .001) resulting in an η² of .414. In the RNP group, the mean difference was 1.10 and significant (Mlow = 5.78, Mhigh = 4.68, F(1, 256) = 64.784, p < .001), showing an η² of .202. Thus, in the case of the INP 41.4% of the change in price fairness can be accounted for by the launch price, whereas only 20.2% can be explained by the launch price in the case of the RNP. As hypothesized the negative effect of launch price on perceived price fairness is stronger for INPs than for RNPs; specifically, almost twice as strong. The results support H1. Figure 2 depicts the interaction.

--- Insert Figure 2 about here ---

Although we took great care in manipulating only product newness, as discussed before, we must account for the possibility that the benefit from the additional feature and, hence, higher relative advantage of the RNP compared with the INP may have distorted the results. Consequently, we recalculated the ANOVA, including a single-item measure for perceived relative advantage (“In my eyes this product is superior to my own product,” anchored 1 = strongly disagree and 7 = strongly agree, adopted from Rijsdijk and Hultink 2003) as a control
variable. The results showed that the positive effect of relative advantage on price fairness
\(F(1, 508) = 58.920, p < .001\) improved the explained variance of the model
\(F(4, 512) = 99.113, p < .001, \text{ adjusted } R^2 = .434\) but had no impact on the direction and the
significance of the other effects. Specifically, the significance of the interaction term holds when
controlling for relative advantage \(F(1, 508) = 18.791, p < .001\).

3.5. Additional Insights on Price Fairness

In various contexts perceived unfairness has been shown to negatively affect purchase intentions (e.g., Homburg, Hoyer, and Koschate 2005; Weisstein, Monroe, and Kukar-Kinney 2013). We expect the positive fairness-purchase intention relationship to hold for price fairness and adoption intentions of new products. Furthermore, we consider the possibility of a mediating role of price fairness for the launch price-adoption intention relationship. Indeed, we expect that a high launch price does not imply lower adoption intentions compared to a low launch price as long as the high price is perceived as fair. We examined the proposed relationships by carrying out a mediation analysis using the bootstrap test (5,000 resamples) that is implemented by Preacher and Hayes (2004). This procedure is superior to Baron and Kenny’s (1986) approach (Zhao, Lynch, and Chen 2010). In support of the mediation prediction, the overall indirect path from launch price to adoption intention through price fairness was significant \(b = -.670\), with a 99% confidence interval excluding zero \([-0.899, -0.464]\). As Figure 3 (Panel A) depicts, the negative sign stems from the combination of the negative effect of launch price on price fairness and the positive effect of price fairness on adoption intention. Holding price fairness constant, the direct path between launch price and adoption intention was not significant \(b = .225, t = 1.623, p > .10\), providing evidence for an indirect-only (“full”) mediation (Zhao, Lynch, and Chen 2010). The total effect of launch price on adoption intention is negative \(b = -.444, t = -3.502,\)
In addition, to validate our previous findings, we ran a moderated mediation analysis using the same bootstrapping method as before (5,000 resample), adding product newness as a moderator. Again, we find a significant launch price x product newness interaction on price fairness ($b = .767$, $t = 3.904$, $p < .001$).

To assess whether the adoption intentions resulting from price fairness perceptions predict actual behavior, we calculated the correlation of the adoption intention measure with a dummy variable that was coded 1 if participants chose the respective product stimulus in the lottery and 0 otherwise. The bivariate correlation was positive and significant ($r = .306$, $p < .01$). In accordance with previous research (Bartels and Reinders 2011), this finding implies that adoption intention can be used as an indicator for actual behavior.

--- Insert Figure 3 about here ---

Based on the results of Study 1 we conclude that in the case of INPs consumers predominantly use prices of existing products to form a reference price for price fairness judgments of the launch price. However, we found a reduced effect size for RNPs. As discussed before, for RNPs consumers might rely on reference prices from related product categories as price comparators (Moreau, Lehmann, and Markham 2001). However, the reduction in the effect size for RNPs indicates that the price fairness evaluation for RNPs is based on additional information to derive a price comparator. In the following we will focus on price fairness perceptions of RNPs to better understand the composition and effect of price comparisons for RNPs.

Studying perceived price fairness for RNPs is of special interest for firms. On the one hand, RNPs have a greater impact on company growth and success than INPs (McDermott and O’Connor 2003; Rubera and Kirca 2012). On the other hand, RNPs are even more likely to fail than INPs (Jhang, Grant, and Campbell 2012) and pricing decisions are more difficult to make.
(Dean 1969). In this light, an investigation of factors that may mitigate the negative effect of RNP launch prices on price fairness to facilitate consumer acceptance is of particular relevance.

4. Study 2: The Moderating Role of Expected Price Change

4.1. Hypothesis Development

For RNPs, prices of existing products can only partly serve as reference prices since RNPs are per definition less similar to existing products. The questions arises on which price comparators consumers rely if transactions involving existing products are less adequate to judge the fairness of the launch price of an RNP. Consumers can in fact use any cognitive reference point (Rosch 1975) and prior research on reference prices has argued that expectations about future prices can also serve as a reference anchor to judge prices in the here and now (e.g., Tsiros and Hardesty 2010; Jacobson and Obermiller 1990). In a situation, in which price comparator based on existing products of the same product category are less available – as is the case of RNPs – consumers may compare the price to be judged with the price they expect the very same product to have in the near future. This future scenario may show a higher transaction similarity as compared to existing products of related categories. In other words, for an RNP, a reference transaction involving a future purchase of the identical product may show higher transaction similarity than any reference transaction involving the purchase of an existing product in the here and now. Consequently, we argue that consumers’ expected price change (EPC), i.e., the relative difference between the observed launch price and their expectation of the price that the RNP will have in the near future, moderates the relationship between launch price and price fairness.

Prior research contributes to the notion of the forward-looking consumer who considers expectations about future prices when making a purchase decision (e.g., Sun, Neslin, and Srinivasan 2003; Winer 1985). Indeed, research finds that consumers are able to form
expectations using their previous experiences (Rust et al. 1999). Jacobson and Obermiller (1990) suggest that an expected future price may serve as an internal reference price against which the price to be judged is compared. Our argument for a potential moderating effect of EPC is as follows. Price comparisons with future prices involve the very same product and the very same person as a referent other; therefore, transaction similarity is higher than price comparisons between an RNP and existing market offerings, which are less similar. As a result, consumers may be more likely to rely on the expected future price (Xia, Monroe, and Cox 2004) and, thus, take expected changes in future prices into account in their price fairness evaluation.

As we argued before the high observed similarity between the transaction of purchasing an RNP today and the transaction of purchasing it in the future should lead to an assimilation effect (based on Meyers-Levy and Sternthal 1993). In consequence, if consumers expect high price changes, the discrepancy between the launch price and the expected future price becomes more salient. In this case, the launch price is perceived as unfair regardless of whether it is high or low since consumers expect to pay much less for the same product in the future. We posit that high levels of EPC therefore weaken the negative effect of launch price on perceived price fairness. In contrast, for low levels of EPC the judgment of the fairness of the launch price depends more strongly on the price level itself since the price discrepancy in the comparative future transaction is low. Thus, for low levels of EPC the negative effect of launch price on perceived price fairness will be stronger.

Apple’s iPad 1 serves again as an example to illustrate this point. If consumers expect the price of the iPad 1 to remain stable over time and thus establish a reference price of a similar level, we expect that a low launch price will be perceived as fairer than a high price. However, following Adams (1965), when consumers expect the future price of the iPad 1 to differ greatly from the launch price, i.e., when large EPC are expected, we posit that the price discrepancy triggers
perceived price unfairness regardless of whether the launch price is high or low. Hence, EPC should mitigate the negative effect of launch price on price fairness.

Note that consumers usually expect the price of a new product to decline shortly after launch (Balachander and Srinivasan 1998) which implies that consumers are disadvantaged by a price discrepancy. In addition, building on theories of distributive justice, prior research suggests that consumers perceive unfairness even if they are advantaged by the price discrepancy, albeit to a lower extent (Oliver and Swan 1989; Ordóñez, Connolly, and Coughlan 2000). Consequently, we treat EPC as a percentage variable accounting for the amount of change compared to the base launch price and not for the direction of change.

$H_2$: For RNPs, expected price change moderates the negative effect of a high versus a low launch price on price fairness such that the effect is smaller (larger) if the expected price change is high (low).

4.2. Participants, Method, and Design

We used a commercial European consumer panel to recruit 160 individuals (47% female, median age group = 35–44) to participate in an online experiment with a one-factorial (launch price: low vs. high) experimental design. Manipulations of launch price and the selection of a new product stimulus were based on the results of another pilot study (N = 88). We selected an innovative pair of ski goggles (see Appendix A) that was rated highest in perceived newness (M = 6.21) on the same seven-point scale as used in Study 1. Based on participants’ willingness to pay, the low launch price was set at €107 and the high launch price at €213. In the main study, a filter question allowed only participants into the final sample who stated that they engaged in winter sport activities to ensure that ski goggles were a relevant product category. Subjects were then randomly allocated to one of the two treatment conditions, resulting in cell sizes of 71 and
89, respectively. Procedure and measurements of price fairness ($\alpha = .96$) and adoption intention ($\alpha = .86$) were the same as in Study 1 (see Appendix B). Additionally, and similarly to Tsiros and Hardesty (2010), EPC was assessed with the question “What price do you expect the product to have in six months?” The time horizon was based on interviews with sales staff in a large retail chain that specializes in consumer electronics. Interviewees indicated that, on average, launch prices are held constant six months before first adjustments are made. We then calculated consumers’ EPC relative to the price stimulus.

4.3. Results and Discussion

An ANOVA confirmed that participants perceived the price in the high launch price condition as significantly more expensive than the price in the low launch price condition ($M_{low} = 4.00$, $M_{high} = 5.54$, $F(1, 158) = 73.157, p < .001$). Thus, the manipulation was successful.

An ANOVA revealed a significant effect of launch price on perceived price fairness ($M_{low} = 5.32; M_{high} = 4.21$, $F(1, 158) = 23.921; p < .001$). Participants in the low launch price condition perceived the price to be fairer than in the high launch price condition.

A descriptive analysis revealed that 78% of all study participants expected the price to fall rather than increase within the next six months. To test for moderation, a moderated regression analysis was conducted following the procedure proposed by Spiller et al. (2013) for interactions between continuous and categorical variables. This procedure is superior to the traditional approach of dichotomizing (mean-splitting) the continuous variable and then performing a $2 \times 2$ ANOVA (Irwin and McClelland 2003; Spiller et al. 2013). Spiller and colleagues’ approach involves the calculation of a moderated regression model to compare the slope differences for the continuous variable (i.e., EPC) across the levels of the categorical variable (i.e., launch price). If significant slope differences are found, an interaction is generally established. To further explore
the interaction, a “floodlight analysis” was performed using the Johnson-Neyman technique (Johnson and Neyman 1936) to identify the range of the continuous moderator variable for which the simple effect of the independent categorical variable on the dependent variable is (and is not) significant (shaded grey in the respective figures).

To test H2, a moderated regression was performed on perceived price fairness with EPC (M = 22.3, SD = 17.78, min = 0, max = 88), a dummy variable for launch price (0 = low launch price, 1 = high launch price), and their interaction (F(3, 152) = 10.487, \( p < .001 \), adjusted R \( = .155 \)). In the low launch price condition, the slope of EPC was negative and significant (b = -.026, t = -2.699, \( p < .01 \)). The slope difference in EPC in the high launch price condition compared with the low launch price condition was significant (b = .026, t = 2.044, \( p < .05 \)), yielding a slope for EPC of exactly zero in the high launch price condition. The slope differences across the treatment conditions provide support for an interaction between launch price and EPC. The Johnson-Neyman point for \( p = .05 \) (t = 1.98) for the EPC moderator occurs at a value of 39.95, or 0.99 standard deviations higher than the mean of 22.3. Hence, a higher launch price compared to a lower launch price leads to lower price fairness only for an EPC smaller than 39.95 (%). Higher than this point no difference in price fairness exists across the two conditions of launch price, confirming H2. The interaction is depicted in Figure 4. In addition, it is discernable that EPC has not much of an effect when the launch price is high. However, for a low launch price an increase in EPC results in lower perceptions of price fairness and hence, reduces the benefits of low launch prices.\(^1\)

--- Insert Figure 4 about here ---

\(^1\) We thank an anonymous reviewer for proposing this analysis.
As before, we conducted a mediation analysis using the same approach as in Study 1 and again find evidence for an indirect-only ("full") mediation (see Figure 3, Panel B). In addition, we ran a moderated mediation analysis, adding expected price change as a moderator. With this analysis we also find a significant launch price x EPC interaction on price fairness (b = .026, t = 2.043, p < .1).

In summary, Study 2 provides initial evidence of the mitigating role of EPC for the negative relationship between launch price and price fairness. When consumers expect strong price changes, they consider the launch price as relatively unfair regardless of whether the new product has a high or low launch price.

4.4. Additional Insights Regarding Relevance of EPC for INPs

Implicitly, we propose that for INPs consumers do not rely so much on the future purchase of the identical product when forming price fairness judgments because for INPs, per definition, price information is available on existing products which show high levels of similarity to an INP. Given the strong relevance of prices of similar existing products there is no need to carry out a comparison with an expected future price. We ran an additional experiment to assess whether EPC indeed does not moderate the launch price-price fairness relationship for INPs. We created a new product stimulus with manipulations of launch prices. We again used a pair of ski goggles which exhibited the same characteristics as the ski goggles from Study 2, however, without the characteristic of the battery-run information display making it less really new. Based on a pilot study the low launch price was set at €62 and the high launch price at €93. We collected data by working together with sports clubs, which provided a link to our study in their quarterly newsletter. Overall 98 individuals participated in the online experiment (36.1% female, median age group = 18-24) with a one-factorial (launch price: low vs. high) experimental design.
Subjects, who indicated that they engaged in winter sports, were randomly allocated to either the low launch price or high launch price treatment, resulting in cell sizes of 48 and 50, respectively. The measurement of price fairness ($\alpha = .917$) was the same as in Study 1 and 2 and EPC was measure as in Study 2.

The ski goggle was perceived as rather incremental ($M = 3.99$) on the same seven-point scale as used previously. An ANOVA showed that the manipulation of launch price was successful ($M_{low} = 3.44; M_{high} = 5.46, F(1, 96) = 83.10; p < .001$). Another ANOVA revealed a significant effect of launch price on perceived price fairness ($M_{low} = 4.95; M_{high} = 4.19, F(1, 96) = 9.96; p < .01$). With regard to the moderating effect of EPC, a descriptive analysis disclosed that 89.8% of all participants expected the price to fall rather than increase within the next six months. We again performed a moderated regression analysis (Spiller et al. 2013). The moderated regression was performed on price fairness with EPC ($M = 22.92, SD = 13.64, min = 0, max = 51.61$), a dummy variable for launch price, and the interaction ($F(3, 94) = 3.873, p < .05$). In the low launch price condition, the slope of EPC was negative but not significant ($b = -.003, t = -225, p > .05$). The slope difference in EPC in the high launch price condition compared with the low price condition was also not significant ($b = -.013, t = -720, p > .05$), yielding a slope of -.016 in the high launch price condition. As the slope differences were not significant, an interaction is not established and thus no additional floodlight analysis was performed.

Relating this finding to the results of Study 1 and 2, we found that in an INP context consumers do not rely so much on future prices of the very same product but rather base their price fairness judgments on the prices of similar existing products. For RNPs, consumers perform their price comparison using future prices of the focal product as reference price due to the higher similarity of the future transaction compared to the low transaction similarity of existing
products. We conclude that consumers evaluate launch prices of new products with reference prices based on as-similar-as possible transactions.

5. Study 3: The Moderating Role of Consumer Innovativeness

5.1. Hypothesis Development

Following Xia, Monroe and Cox (2004) conceptualization of factors influencing price fairness perceptions social norms, beliefs and metaknowledge are one group of factors determining the evaluation of price fairness. In the new product literature, social norms and metaknowledge about new products in a certain domain is captured by the concept of CI (Goldsmith and Hofacker 1991). We follow Goldsmith and Hofacker’s (1991) domain-specific conceptualization of CI as the “predisposition to learn about and adopt new products in a specific domain of consumer behavior” (p. 212).

We propose that the relevance of CI is especially given for RNPs and not for INPs, because the novelty of RNPs poses a high level of uncertainty on consumers in evaluating new products (Hoeffler 2003; Zhao, Hoeffler, and Dahl 2009). New product literature suggests that individuals differ in the way they deal with such uncertainty (Rogers 2003). High CI individuals are said to be capable of dealing better with the uncertainty inherent to RNPs than low CI individuals (Rogers 2003). Hence, individuals high (versus low) in CI are less (more) likely to apply strategies to reduce this uncertainty. Thus, we propose that high CI individuals search for and carry out price comparisons to a lesser extent than their low CI counterparts who carefully engage in price comparisons to reduce the uncertainty related to the benefits of an RNP.

In general, consumers rely on their beliefs about norms to refine their judgment of price fairness (Xia, Monroe, and Cox 2004). As a result, over time consumers develop a metaknowledge on pricing tactics which influence their price fairness perceptions (Bolton,
Warlop, and Alba 2003; Wright 2002). A norm develops when many transactions are undertaken with the same behavior. Therefore, a pricing tactic that might initially be perceived as unfair evolves into a widely accepted norm, which is more likely to be perceived as fair (Kahnemann, Knetsch, and Thaler 1986). Highly innovative consumers as opposed to less innovative consumers are constantly involved with new products launched in a specific domain because they buy new products in a particular product category soon after they appear in the market (Goldsmith and Hofacker 1991). Taken together, high CI individuals have a distinct set of “social norms and metaknowledge of the marketplace” (Xia, Monroe, and Cox 2004, p. 2; see also Bolton, Warlop, and Alba 2003) that differentiates them from low CI individuals.

As highly innovative consumers constitute the first group of individuals to adopt RNPs (Rogers 2003) they tend to be familiar with the go-to-market tactics for RNPs and thus also with the pricing tactic of high launch prices for RNPs. Previous research has shown that familiarity with pricing practices reduces the negative effect of these practices on perceived price fairness (Bolton, Warlop, and Alba 2003; Wright 2002; Wirtz and Kimes 2007). Hence, for highly innovative consumers showing this familiarity the effect of a high launch price compared to a low launch price on price fairness should be reduced. Furthermore, high CI individuals are to a lesser degree focused on the price of a product and tend to be less price sensitive (Goldsmith, Flynn, and Kim 2010; Ramirez and Goldsmith 2009) which also results in the launch price-price fairness relation to be less strong for highly innovative consumers.

With regard to less innovative consumers which are not familiar with adopting new products early on as well as with specific go-to-market tactics for RNPs the perception of an RNP is of high uncertainty. Hence, we propose that for less innovative consumers, who experience such high uncertainty and who have limited familiarity with pricing tactics of RNPs, a high launch price results in additional risk adding to the overall perceived uncertainty with the RNP. This
outcome will lead to a stronger negative effect of launch price on price fairness for less innovative consumers.

**H3:** For RNPs, CI moderates the negative effect of a high vs. low launch price on price fairness such that the effect is smaller (larger) for consumers high (low) in CI.

### 5.2. Participants, Method, and Design

Study 3 is a one-factorial (launch price: low vs. high) between-subjects design. 109 undergraduate students (50% female; median age 22) from a major European business school participated for course credit and were randomly assigned to the low launch price or the high launch price condition (cell sizes were 51 and 58, respectively). To select a suitable RNP, we again conducted a pilot study before the main experiment (N = 52). This time, the product rated highest in newness was a wearable camcorder (M = 5.33) that allows to capture and share videos hands-free (see Appendix A). During the pilot study, we also assessed participants’ willingness to pay for this camcorder. As a result, for the manipulation of launch price in the main experiment, we used €89 in the low price condition and €209 in the high price condition. Otherwise, the procedure and the measures to assess EPC, price fairness (α = .93) and adoption intention (α = .81), were identical to what we used previously (see Appendix A). Additionally, CI was measured on a product category level on five seven-point items (e.g., “In general, I am among the first in my circle of friends to buy a consumer electronic product when it appears”; adopted from Goldsmith and Hofacker 1991) anchored “strongly disagree/strongly agree”, α = .92 (for a summary of construct measurements, see Appendix B).

### 5.3. Results and Discussion

We carried out an ANOVA to confirm that the launch prices used in the manipulation were perceived as significantly different in expensiveness, using the same seven-point measure as in
Studies 1 and 2. The results indicate that the manipulation was successful ($M_{\text{low}} = 3.51$, $M_{\text{high}} = 5.09$, $F(1, 107) = 58.151$, $p < .001$).

As in the previous studies, the direct effect of launch price on price fairness was negative and significant ($M_{\text{low}} = 5.55$, $M_{\text{high}} = 4.38$, $F(1, 107) = 25.691$, $p < .001$).

We performed a moderated regression on perceived price fairness with CI ($M = 2.84$, SD = 1.37, min = 1, max = 6), the dummy-coded launch price variable (0 = low launch price, 1 = high launch price), and their interaction as independent variables ($F(3, 105) = 13.544$, $p < .001$; adjusted $R = .258$). In the low launch price condition, the slope of CI was negative and significant ($b = -.359$, $t = -3.132$, $p < .01$). The slope difference in CI in the high launch price condition compared with the low launch price condition was highly significant ($b = .544$, $t = 3.360$, $p < .01$), yielding a positive slope of .185 for CI in the high price condition. The significant slope differences across the treatment conditions provide support for an interaction between launch price and CI. The Johnson-Neyman point for CI occurs at a value of 3.98, or 0.83 standard deviations higher than the mean of 2.84. Hence, a higher launch price leads to lower price fairness only for values of CI lower than 3.98. Higher than this point no significant difference exists in price fairness across the two conditions of launch price given larger confidence intervals at high levels of CI. In support of H3, we observe that the negative effect of launch price of RNPs on price fairness is stronger (weaker) for low (high) CI.² The interaction is depicted in Figure 5.

--- Insert Figure 5 about here ---

² For the INP in Study 2, we also tested the moderating role of CI which was measured as in Study 3. The moderated regression was performed on perceived price fairness with CI ($M = 3.26$, SD = 1.51, min = 1, max = 6.75), a dummy variable for launch price, and the interaction ($F(3, 94) = 6.524$, $p < .001$). In the low launch price condition, the slope of CI was positive but not significant ($b = .105$, $t = .957$, $p > .05$). The slope difference in CI in the high launch price condition compared with the low price condition was also not significant ($b = .209$, $t = 1.340$, $p > .05$), yielding a slope of .314 in the high launch price condition. As the slope differences were not significant, an interaction is not established. This finding demonstrates that for an INP the relevance of CI is limited.
Similar to Study 2, the vast majority (92%) of participants expected the price of the camcorder
to fall rather than increase within the next six months. We performed a moderated regression
analysis on price fairness with EPC (M = 30.41, SD = 17.76, min = 0, max = 91.39), a dummy-
coded launch price variable (0 = low launch price, 1 = high launch price), and their interaction
(F(3, 101) = 13.915; p < .001; adjusted R² = .266). The results revealed that the slope of EPC in
the low launch price condition was negative and significant (b = −.039, t = −3.468, p < .01). The
slope difference in EPC in the high launch price condition compared with the low launch price
condition was also significant (b = .027, t = 1.998, p < .05), yielding a slope of -.012 for EPC in
the high launch price condition. The significant slope differences provide further support for an
interaction between launch price and EPC. The Johnson-Neyman point for p = .05 (t = 1.98) for
the EPC moderator occurs at a value of 43.46, or 0.73 standard deviations above the mean of
30.41. Hence, a higher launch price leads to lower price fairness only for values of EPC lower
than 43.46 (%). Higher than this point no difference exists in perceived price fairness across the
two conditions of launch price. Hence, we observe a negative effect of launch price on price
fairness for consumers who expect small price changes. Taken together, our results provide
further support for H2. The interaction is depicted in Figure 6.

--- Insert Figure 6 about here ---

We conducted a mediation analysis using the same approach as in Study 1 and 2 and again
find evidence for an indirect-only (“full”) mediation (see Figure 3, Panel C). To validate the
interaction results, we ran two moderated mediation analyses, adding expected price change and
CI as moderators. We again find a significant launch price x expected price change interaction (b = .027, t = 1.998, p < .1) as well as a significant launch price x CI interaction (b = .544, t = 3.360, p < .01) on price fairness.
Taken together, Study 3 provides support for H₃ and validates the results of Study 2 (H₂) in a different RNP context. EPC and CI moderate the negative relationship between launch price and price fairness such that the effect is weaker for high levels of the respective variable.

6. Summary

6.1. General Discussion

Albeit highly managerially relevant, we know little about consumers’ reactions to launch prices of new products. The present research is thus an important step towards making actual price setting more of a science, and less of an art (cf. Hofstetter et al. 2013). In this paper, we investigate price fairness perceptions of launch prices of new products, an issue that has, to date, been overlooked by both behavioral pricing researchers and scholars investigating the commercialization of new products. Following the conceptualization logic of Xia, Monroe, and Cox (2004) on perceived price fairness, the results of three experimental studies garner insights into important moderating effects of product newness, EPC, and CI that mitigate the negative effect of launch prices on price fairness judgments for new products.

In Study 1, we find that the negative launch price-price fairness effect is weaker for RNPs than for INPs. We attribute this result to the increased difficulty in finding comparable prices of existing products and thus forming a price comparator to judge the price fairness for an RNP. Although this initial finding may sound like good news for firms in that it leaves more room for a high launch price for an RNP, the subsequent results contain a warning not to be casual about the issue. First, a low launch price of an RNP is still perceived significantly fairer than a high launch price (Study 1). Second, three mediation analyses (Studies 1-3) indicate that price fairness judgments, albeit more difficult to form, are the key variable linking the launch price of an RNP and adoption intention. Hence, unfair perceptions of launch prices of an RNP will lower
consumer adoption and pose an obstacle to a rapid diffusion. Third, we find that, given the lower similarity of reference transactions for RNPs, consumers rely on future prices in their price fairness judgments (Studies 2-3). Specifically, when consumers expect the price to decrease in the near future, the launch price may be perceived as unfair regardless of whether it is initially high or low. Finally, we find evidence that CI moderates the relationship between the launch price of an RNP and price fairness. Specifically, the negative effect is weakened (strengthened) for individuals high (low) in CI (Study 3). Thus, while high CI individuals (e.g., innovators and early adopters; Rogers 2003) respond more favorably to high launch prices, the majority (i.e., medium level of CI) perceives them as relatively unfair. The results of the three studies are summarized in Table 1.

--- Insert Table 1 about here ---

This article contributes to theory related to behavioral pricing and consumer acceptance of new products in several ways. First, we extend previous research that investigated price fairness perceptions for general buying behavior (e.g., Bolton, Keh, and Alba 2010; Campbell 2007; Weisstein, Monroe, and Kukar-Kinney 2013) by demonstrating its importance for consumer acceptance of new products. To date, this area has been neglected in adoption research. The main contribution of this article is to better understand the role of price fairness perceptions of launch prices of (really) new products. Prior literature reveals that the similarity of reference transactions as well as social norms, beliefs, and metaknowledge are important to build price comparators that underlie price fairness judgments (Xia, Monroe, and Cox 2004). Following this conceptual logic, the present research establishes that scholars and practitioners should account for moderating factors of the launch price-perceived price fairness relationship. Although transaction similarity decreases with product newness, consumers make an effort to
base their price fairness judgments using as-similar-as-possible reference transactions for building price comparators. Therefore, for RNPs, an expected price change becomes relevant. Finally, due to the inherent uncertainty of RNPs, CI influences the extent to which individuals engage in price comparisons when judging the fairness of launch prices of RNPs.

Specifically, we extend the behavioral pricing literature by examining perceived price fairness in the context of new products. We establish that product newness moderates the extent to which launch prices are perceived as fair. We find that, for INPs for which price comparisons with prices from relatively similar transactions are relatively easy, price fairness perceptions are highly influenced by the launch price. However, we show that for high degrees of product newness, when appropriate price comparators in the form of existing products are less available, price fairness judgments depend to a lesser extent on the level of the launch price.

Moreover, we garner new insights into the adoption of RNPs. Our results indicate that consumers base their price fairness judgments on expectations about future prices because transaction similarity is higher if price comparisons involve the same product than if they involve a comparison with products of a different product category. The higher the magnitude of EPC the more unfair the price is perceived regardless of whether the RNP was initially priced high or low. By providing evidence for consumers’ forward-looking evaluation, our research contributes to the literature by extending the transaction space of ‘looking back’ (at past prices), ‘looking across’ (at competitor prices), and ‘looking within’ (at firm’s cost) established by Bolton, Warlop, and Alba (2003) by the dimension of ‘looking ahead’ (at future prices) for the specific context of (really) new product price evaluations. With regard to the role of CI when setting launch prices for RNPs, our insights contribute to the understanding of how to position RNPs.

Mahajan and Muller (1998) have conceptually reasoned that highly innovative (“innovators”) and less innovative (“majority”) consumers are different in their needs and, thus, have to be targeted
differently. We make a new contribution with regard to this reasoning because we demonstrate that CI influences the extent to which launch prices of RNPs are perceived as fair. Highly innovative consumers have established metaknowledge and thus, social norms about the pricing tactic for RNPs. Hence, highly innovative consumers perceive high launch prices as fairer than less innovative consumers. As a result, CI mitigates the negative effect of launch price on price fairness.

Finally, by specifically researching the context of new products and RNPs from a consumer perspective, we establish the mediating role of price fairness in the context of new product launch prices and their effect on consumer adoption.

6.2. Managerial Implications

This research offers important implications for managers involved in marketing new products. With high product failure rates in mind (e.g., Tyagi 2006), our results highlight several methods for increasing new product acceptance. Having demonstrated that the negative effect of launch price on perceived price fairness is mitigated by product newness, EPC, as well as CI, and in turn affects adoption intentions, managers should consider each of these moderators when setting and communicating launch prices.

More specifically, managers need to account for how novel potential consumers will perceive a new product. For INPs, companies should set a lower price initially. When launching an RNP, companies can decide to set the initial price high or low based on considerations related to temporal segmentation. Our results indicate that managers should set a high launch price to skim the willingness to pay of highly innovative consumers and then gradually reduce the price to target less innovative consumers. However, following the logic of Mahajan and Muller (1998), such an approach should only be applied when the life cycle of a new product is expected to be
rather long. If an RNP is expected to show a rather short life cycle, the company should target less innovative consumers (“majority”) (Mahajan and Muller 1998) using a low launch price. In the case of a low launch price for an RNP managers need to influence potential consumers’ future price expectations. In this case, the communication for the RNP could focus on a guarantee of a constant price. For example, retailers use price tags to indicate the length of time that a price has not been changed. Our results propose that marketing managers should follow a similar strategy that does not focus on the past, but that highlights that prices remain fixed for a specific period.

6.3. Research Implications

Several avenues for future research remain. First, in our framework, we have not examined the role of trust. Xia, Monroe, and Cox (2004) emphasize the importance of trust in buyer-seller-relationships and its influence on consumers’ perceptions of price fairness. Trust can either emanate from an established relationship with a company or contextual cues like the company’s reputation. Recently, Barone and Jewell (2013) have shown that brands with a certain innovative reputation can violate category norms without harmful effects on consumers’ attitudes. It seems fruitful to investigate the role of a brand’s reputation on perceived price fairness and whether a brand with a certain reputation can afford to violate established pricing norms for new products.

Second, in our study we focused on transaction similarity with regard to product-related as well as time-related aspects. However, other aspects of a transaction such as promotional terms might be also relevant for price comparisons. Hence, future research could shed light on these other aspects.

Third, we acknowledge that research needs to focus on the small albeit important difference between price fairness and value perceptions. In our research we focused on price fairness based on the notion that value is difficult to evaluate in a new product context (Hoeffler 2003). Future
research needs to investigate how to measure and capture value in this context and how to influence value perceptions for new and really new products.

Fourth, a central factor in the present study is the reference price. Multiple conceptualizations of reference price exist (Mazumdar, Raj, and Sinha 2005) and we draw on the normative conceptualization where the normative reference price is one that consumers judge as fair (Campbell 1999). Reference prices can also be conceptualized as an expectation which is then based on consumers’ memory and context information. As Rust and colleagues (1999) demonstrate consumer expectations can be regarded as distributions taking on board the notion that the consumer has a probability that a particular outcome, such as a future price, will be encountered. Consumers form these expectations based on their accumulated experience (Oliver 1997) and engage in updating (Rust et al. 1999). For reference prices in the context of new products in general and for expected future prices specifically it would be worthwhile to explore how consumers form these expectations, how they are updated, and thus in which way their perceptions and evaluations will change over time. Because consumers are uncertain about the value of a new product, it seems to be especially fruitful to capture the uncertainty of consumer expectation judgments.

Finally, as always, future research should ensure the generalizability of the results by investigating the findings under different conditions. Because this article is the first to study price fairness perceptions of new product launch prices, we encourage future research to examine additional product- and consumer-related moderators.
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### TABLE 1:
Summary of Study Results

<table>
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<tr>
<th>Study</th>
<th>Moderator/Condition</th>
<th>Perceived Price Fairness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>low launch price</strong></td>
</tr>
<tr>
<td>Study 1 (Smartphone)</td>
<td>Incrementally New Product</td>
<td>5.405</td>
</tr>
<tr>
<td></td>
<td>Really New Product</td>
<td>5.784</td>
</tr>
<tr>
<td>Study 2 (Ski goggles)</td>
<td>Expected Price Change</td>
<td>at mean (22.3%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at 1 SD above mean (40.08%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at 1 SD below mean (4.52%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at J-N pointb (39.95%)</td>
</tr>
<tr>
<td>Study 3 (Camcorder)</td>
<td>Expected Price Change</td>
<td>at mean (30.41%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at 1 SD above mean (48.17%)</td>
</tr>
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<td></td>
<td></td>
<td>at 1 SD below mean (12.65%)</td>
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<tr>
<td></td>
<td></td>
<td>at J-N pointb (43.46%)</td>
</tr>
<tr>
<td></td>
<td>Consumer Innovativeness</td>
<td>at mean (2.84)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at 1 SD above mean (4.21)</td>
</tr>
<tr>
<td></td>
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<td>at 1 SD below mean (1.47)</td>
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<tr>
<td></td>
<td></td>
<td>at J-N pointb (3.98)</td>
</tr>
</tbody>
</table>

* = .05; ** = .01; *** = .001; ns = not significant;
aThe average price fairness perception of the low launch price and high launch price condition
bJohnson-Neyman point. Above this score, the effect of launch price is not significant
Figures

FIGURE 1:
Organizational Framework

Transaction Similarity
Product Newness: INP versus RNP (Study 1)
Expected Price Change (Studies 2-3)

Launch Price
Low versus high

Perceived Price Fairness
(Studies 1-3)

Adoption Intention
(Studies 1-3)

Knowledge, beliefs, and social norms
Consumer innovativeness (Study 3)
FIGURE 2:

Study 1: The Launch Price × Product Newness Interaction

![Bar chart showing the interaction between launch price and product newness.](image-url)
A: The mediating role of price fairness on the relationship between new product launch price and adoption intention (Study 1)

\[ a = -1.484^{***} \]
\[ b = .451^{***} \]
\[ c = .225^{ns} \]

B: The mediating role of price fairness on the relationship between launch price and adoption intention (Study 2)

\[ a = -1.110^{***} \]
\[ b = .447^{***} \]
\[ c = -.352^{ns} \]

C: The mediating role of price fairness on the relationship between launch price and adoption intention (Study 3)

\[ a = -1.175^{***} \]
\[ b = .376^{***} \]
\[ c = .231^{ns} \]

* \( p < .05 \); ** \( p < .01 \); *** \( p < .001 \); ns=not significant
FIGURE 4:
Study 2: The Launch Price × Expected Price Change Interaction

![Graph showing the interaction between launch price and expected price change on price fairness. The graph indicates that as the expected price change increases, the price fairness decreases, with a notable point at 39.95. The graph also highlights the Johnson-Neyman point, which is the threshold for statistical significance.]
FIGURE 5:

Study 3: The Launch Price × Consumer Innovativeness Interaction
FIGURE 6:

Study 3: The Launch Price × Expected Price Change Interaction

![Graph showing the interaction between launch price and expected price change affecting price fairness.](image-url)
Appendixes

Appendix A

MANIPULATION OF EXPERIMENTAL VARIABLES

<table>
<thead>
<tr>
<th>Product Newness</th>
<th>INP</th>
<th>RNP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study 1 (smartphone)</strong></td>
<td>4.8”, 1280x720 touch screen display</td>
<td>4.8”, 1280x720 touch screen display</td>
</tr>
<tr>
<td></td>
<td>Quadcore 1.4GHz processor</td>
<td>bendable OLED display technology</td>
</tr>
<tr>
<td></td>
<td>8 MP camera</td>
<td>Quadcore 1.4GHz processor</td>
</tr>
<tr>
<td></td>
<td>€259 [€509]</td>
<td>€259 [€509]</td>
</tr>
<tr>
<td><strong>Study 2 (ski goggles)</strong></td>
<td>Anti-scratch, anti-fog coating</td>
<td>Anti-scratch, anti-fog coating</td>
</tr>
<tr>
<td></td>
<td>UV filter</td>
<td>UV filter</td>
</tr>
<tr>
<td></td>
<td>Usable up to -40°C</td>
<td>Usable up to -40°C</td>
</tr>
<tr>
<td></td>
<td>Battery-run information display</td>
<td>Battery-run information display</td>
</tr>
<tr>
<td></td>
<td>€107 [€213]</td>
<td>€107 [€213]</td>
</tr>
<tr>
<td><strong>Study 3 (camcorder)</strong></td>
<td>4 GB internal memory</td>
<td>4 GB internal memory</td>
</tr>
<tr>
<td></td>
<td>480 x 320 HVGA resolution</td>
<td>480 x 320 HVGA resolution</td>
</tr>
<tr>
<td></td>
<td>€89 [€209]</td>
<td>€89 [€209]</td>
</tr>
</tbody>
</table>
Appendix B

MEASUREMENT OF LATENT CONSTRUCTS (Study 1/Study 2/Study 3)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Alpha</th>
<th>ITTC</th>
<th>CR</th>
<th>AVE</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Innovativeness(^a)</td>
<td>---/-.92</td>
<td>---/-.92</td>
<td>---/-.84</td>
<td>---/-.69</td>
<td>---/2.84</td>
<td>---/1.37</td>
</tr>
<tr>
<td>In general, I am among the first in my circle of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>friends to buy a ___ when it appears.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Compared to my friends, I often shop for ___.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>If I heard that a new ___ was available through a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>local department store, I would be interested</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>enough to buy it.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In general, I am the first in my circle of friends to</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>know the names of the latest ___.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know about ___ before other people do.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price Fairness(^b)</td>
<td>.95/.96/.93</td>
<td>.95/.96/.93</td>
<td>.87/.85/.77</td>
<td>4.86/4.70/4.93</td>
<td>1.40/1.53/1.34</td>
<td></td>
</tr>
<tr>
<td>I personally feel that the advertised selling price</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for the ___ is...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unfair – fair</td>
<td>.90/.85/.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unreasonable – reasonable</td>
<td>.90/.93/.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unacceptable – acceptable</td>
<td>---/.91/.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unjustified – justified</td>
<td>.90/.89/.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adoption Intention(^c)</td>
<td>.83/.86/.81</td>
<td>.85/.87/.86</td>
<td>.67/.70/.70</td>
<td>3.39/4.29/3.35</td>
<td>1.45/1.60/1.41</td>
<td></td>
</tr>
<tr>
<td>I like to try the experience of using the ___</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I like to buy the ____</td>
<td>.59/.63/.58</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I will actively seek out the ____ in order to buy it.</td>
<td>.80/.82/.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.69/.78/.63</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

\(^a\) adopted from Goldsmith and Hofacker (1991); 1 = “strongly disagree”, 7 = “strongly agree”

\(^b\) adopted from Bolton, Keh, and Alba (2010)/Vaidyanathan and Aggarwal (2003); 1 = “unfair/unreasonable/unacceptable/unjustified”, 7 = “fair/reasonable/acceptable/justified”

\(^c\) adopted from Castaño et al. (2008); 1 = “strongly disagree, 7 = strongly agree”

\(^d\) item dropped due to low factor loading