Perceived Fairness of Online Price Differentiation: In Search of Symmetry

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Abstract

This study investigates the issue of pricing with a focus on potential asymmetric effects of positive and negative price deviations – deviations from the internal reference price – price paid the other buyers of durable good (car navigation system). The results indicate that the hypothesized asymmetric effects between positive and negative price deviations exist in buyers’ judgments of price fairness, although this is not the case in overall price perceptions. The article includes managerial implications of the findings and suggestions for future research in related contexts. The author has modified the research method used by Xia and Monroe (2010) in order to verify their findings with her own conclusions from a study conducted on respondents from another – a less wealthy – country.

KEYWORDS: price fairness, price perception, reference price, asymmetry, scenario method.

Introduction

Price is considered a marketing tool and is accepted as having the highest impact on consumer behavior and a direct effect on consumer behavior itself (Bolton et al., 2004; Bolton et al., 2003; Campbell, 1999; Kotler, 2003; Munnukka, 2005; Varki and Colgate, 2001). According to Choi and Mattila (2009), one of the most prominent changes in the retail environment is the multiplication of channels through which consumers can seek information about and purchase goods and services. These authors note that price inconsistency across multiple channels might induce perceptions of unfairness, resulting in lower fairness perceptions than cross-channel price consistency. As Garbarino and Maxwell (2010) note, the Internet has facilitated information flow for both buyers and sellers. Buyers can find information about products with an easiness never before possible. Sellers also benefit from new-found information on consumers’ price sensitivity and preferences. One of the important advantages of the Internet is that it provides a way for firms to move from fixed prices to variable pricing (Kung et al., 2002). Because perceived unfairness is a considerable cause for customer defections (Keaveney, 1995), research examining the effect of cross-channel pricing strategy on
fairness perceptions is warranted. Marketers have paid increasing attention to the potential of individual-level price discrimination (or dynamic pricing) in accordance with consumers’ use of the Internet and developments in information technology (Bolton et al., 2010). Dynamic pricing allows firms to price discriminate even at an individual level so as to maximize the capture of consumer surplus (Weisstein et al., 2013). Discriminatory pricing is a common firm practice in today’s market. While helping to increase profit by taking advantage of the market situation, such price variations also risk inducing a sense of price unfairness (Jin et al., 2014). Higher price transparency in online environment is widely believed to be of benefit to buyers at the expense of sellers (Soh et al., 2006).

This study investigates a pricing issue with a focus on potential asymmetric effects of positive and negative price deviations – deviations from the internal reference price – price paid the other buyers of durable good (car navigation system). The author has modified the research method used by Xia and Monroe (2010) in order to verify their findings with her own conclusions from a study conducted on respondents from another – a less wealthy – country Poland. According to the author, it is interesting to verify the existence of potential differences of price fairness perception depending on the tested society. It is beyond doubt that American and Polish economies represent quite different stages in free market reality. The question is if this change can provide a basis for differences in the price fairness perception?

The text begins with a discussion of the price fairness concept, then the research methodology is presented. In the next part the results and discussion connected with two studies are shown. Finally, the article includes managerial implications of the findings and suggestions for future research in related contexts.

According to different researchers, perceived price fairness is defined as a consumer’s assessment of whether the difference (or lack of difference) between a seller’s price and the price of a comparative other party in a transaction is equitable, reasonable or justifiable (Xia et al., 2004). Oh (2003) has identified two types of price unfairness: positive price unfairness – that is a potential gain for the consumer and perceived value is more significantly affected by price than by perceived quality; and negative price unfairness – that is, a potential loss for the consumer and perceived value is more significantly influenced by perceived quality than by perceived price. In a subsequent study, Oh (2000, 2003) concluded also that overpricing (‘negative price unfairness’) tends to lower buyers’ perceptions of quality, and that this leads to perceptions of lower value. Since price evaluations are based on comparative judgments, price fairness perceptions are evoked by price comparisons (Xia and Monroe, 2010). Bolton et al. (2003) observed that firms are entitled to a reference profit that, from the consumer’s perspective, may refer to some reasonable amount above costs. These researchers also noted that fairness and unfairness may be conceptually different constructs. It is possible to be clear about one without having clarity about the other. Notions of unfairness are typically clearer, sharper, and more concrete than notions of fairness. People know what is unfair when they see or experience it, but it is difficult to articulate what is fair. What is more, all price evaluations, including fairness assessments, are comparative. Both equity theory and the theory of distributive justice suggest that perceptions of fairness are induced when a person compares an outcome (e.g., input and output ratio) with a comparative other’s outcome (Xia et al., 2004). The principle of distributive justice maintains that people, in an exchange relationship with others, are entitled to receive a reward that is proportional to what they have invested in the relationship. Whereas the equity theory broadens this perspective to include various comparative others that may influence the perceived fairness of an exchange relationship.

Price fairness perception – a theoretical background
Previous studies have shown that perceived price unfairness can result in negative word of mouth (Campbell, 1999), decreases in purchase intentions (Blinder 1991; Piron and Fernandez, 1995), increased switching and complaining behavior (Huppertz et al., 1978), or even customer revenge (Bougie et al., 2003). The perception of fairness is an inevitable consequence of comparison. Price perception has long been studied in marketing and economic literature; it is generally agreed upon that a customer’s perception of price can be evaluated in two ways: either it increases or it decreases customer satisfaction, which leads in turn to significant behavior (Srikanjanarakl et al., 2009). The empirical studies suggest that there are several factors that drive perceptions of fair prices: reference prices (Weaver and Frederick, 2012; Mazumdar, et al., 2005; Bruno et al., 2012; Niedrich et al., 2001; Falkowski and Mackiewicz, 2015), the costs of the seller, a self-interest bias and the perceived motive of the seller and namely equality in income or scale (Gielissen et al., 2008).

It is also worth paying attention to the view that the perception of price fairness is significantly related to the customer response behaviors and emotions (Ahmat et al., 2011). The literature suggests that factors influencing price fairness perception fall into two broad categories which are knowledge and experience (Ahmat et al., 2011). Knowledge means an expertise and skills acquired by a person or a group of people through theoretical or practical understanding of a subject and customers developed a reference or expected price based on their knowledge of market prices and previous transactions (Cockrill and Goode, 2010; Gielissen et al., 2008). Knowledgeable customers have a more developed cognitive whereby they can efficiently encode, interpret new information, and recall (Ofir et al., 2008). Experience is measured through customers’ frequency of staying within a certain time frame. Experience generally comprises knowledge of or skill in or observation of something gained through involvement in or exposure to that thing (Ahmat, 2011). Experienced customers use ease of recall as a cue for judging prices (Ofir et al., 2008) and when encounter a new price, it will act as a benchmark for judging future prices (Pechtl, 2008).

Oh (2003) refers to two approaches to price perception – one stream of research on buyers’ price perceptions has focused on understanding the role of internal reference price held by buyers in evaluating the utility of a purchase. Another stream of research on price perceptions has examined the leveraging role of price in the price-quality relationship toward value and satisfaction judgments. Perceived price in this context has been typically viewed as a signal of quality and, at the same time, as a primary component of the perceived sacrifice a buyer has to make in a purchase. According to Xia and Monroe (2010), from the perspective of the evaluating consumer, comparisons of two prices for a similar product lead to one of three outcomes: (1) the prices are equal (price equity), (2) the consumer’s price is less than the reference price (advantaged price inequity), or (3) the consumer’s price is more than the reference price (disadvantaged price inequity). In other words, price comparisons lead consumers to one of three types of judgments: equality, advantaged inequality, or disadvantaged inequality. A perception of price equality normally does not trigger a fairness perception, or if one is triggered, it may lead to perceived fairness. Negative reactions occur when customers feel that they have been unfairly treated, and these perceptions of price unfairness have the potential to have significant adverse effects on customer satisfaction and subsequent consumer behavior (Bei and Chio, 2001).

According to Bolton and Alba (2006), some evidence suggests that consumers of services and goods have ‘mental schemas’ against which they judge price fairness. Important factors in such schemas of price fairness include estimations of cost, knowledge of competitors’ prices and awareness of marketing strategies. Bolton et al. (2003) explain that several authors have noted that customers’ perceptions of the fairness of the price of a good or service are influenced by the perceived costs incurred by the vendor, including the costs of producing, mar-
marketing, and delivering the product. Moreover, in addition to these market factors and personal considerations of value for money, it would seem that principles of equity (or so-called ‘distributive justice’) also play a part in such schemas of price fairness (Rondan-Cataluna F.J., Martin-Ruiz 2011). Garbarino and Slonim (2003) point out that the assessment of a ‘fair price’ is framed in terms of the market level, as opposed to the personal level of fairness. According to Oh (2003), Helson’s adaptation level theory has provided substantive theoretical foundations for the role of reference price in purchase evaluations. The theory, as applied in the context of pricing, posits that in a purchase situation the buyer holds an internalized adaptation level price for a particular product in the given product category. This adaptation level price becomes the frame of reference for evaluating actual prices of products in an evoked or consideration set. Thus, the buyer does not judge each actual price singly, but rather they compare each price with their reference price or adaptation level. Monroe (1973) in his early work noted that various researchers suggest that one determinant of price perception is the price ‘last paid’, or the buyers’ notion of a ‘fair price’ relative to the present price level, actual or perceived. The author in her previous research has turned the way of analyzing price fairness and the reference price and she attempted to analyze the role of perceived fair price as a reference price in case of durable goods (Bondos, 2015). According to her research, the price perceived by consumers as a fair price to a very large extent serves as the reference price. Among several price levels that can serve as a reference point (price remembered from previous purchases exactly that product, or price remembered from previous purchases of that product category, remembered from promotional messages, price of the products that are currently available at the point of sale), perceived fair price was the most important to the buyers.

The author has modified the research method presented by Xia and Monroe (2010). Drawing on the scenario approach, 126 undergraduate students were included into the research sample. The sample size was determined drawing on the size of the original test by Monroe (Xia and Monroe, 2010) where, depending on the scenario sample, the research sample size ranged from 139 to 148 undergraduate business students. The adequacy of sampling was measured by author using KMO (Kaiser – Mayer – Olkin) index and Bartlett’s test of sphericity. The author has adopted the following assumption – the KMO the index ranges from 0 to 1, with 0,5 considered as miserable, and below 0,5 as unacceptable and the Bartlett’s test of sphericity is significant (p <.05). Whereas the reliability of the scales used was measured using Cronbach’s alpha coefficient (coefficient alpha was larger than 0,7 for most constructs, the threshold generally proposed in the literature (Blut, 2014). In sum, the reliability and validity of the constructs in this study were acceptable.

After reading the scenario, participants completed a questionnaire measuring their price fairness perceptions. In addition, the research has indicated that fairness perception is associated with emotions and has behavioral consequences so author also measured emotional responses and participants’ purchase and word-of-mouth intentions (see Table 1). All measures were five-point scales anchored on strongly agree–strongly disagree. Author has analyzed differences between average scores using test t, p<0,05. Thus, wherever it is mentioned about the differences statistically significant or insignificant differences it regards the testing in such a manner.

**Scenario 1:**

The students were told to assume that they had been looking for a car navigation system. After researching different types of product and store information, they had decided to buy from an online store at 299,99 PLN. But before ordering, they visited online forums in order
to ask other customers from selected store about price that they paid for that product. Two people (person A and person B) have answered and their answers were the basis for building three variants of the scenario:

S1_1: both person A and person B have paid 30 PLN less than the student’s price (299,99).
S1_2: person A has paid 30 PLN less than the student’s price (299,99) and person B has paid 30 PLN more than the student’s price (299,99).
S1_3: both person A and person B has paid 30 PLN more than the student’s price (299,99).

Scenario 2:
The students were told to assume that they had been looking for a car navigation system. After researching different types of product and store information, they had bought it from an online store at 256,00 PLM. A few days after purchasing they heard from their friend that he has bought on the Internet the same car navigation system. The price paid by this friend was the basis for building four variants of the scenario:

S2_1: A friend has bought that car navigation system at 299,00 PLN.
S2_2: A friend has bought that car navigation system at 219,00 PLN.
S2_3: A friend bought that car navigation system at 256,00 PLN.
S2_4: A friend bought that car navigation system at 299,00 PLN. But he has also explained that in this online store is a great price promotion – 2 products at 1 price. Thus, a great pity that you have not talked earlier about your intention to buy car navigation systems, because there would be a chance to take advantage of the promotion.

Using the results of these two studies the author intended to verify the following five hypotheses. The first one referred to the role of the reference price in the process of evaluating fairness prices:

$H_1$: Various reference price levels (lower and higher, S1_2) have led to an unequivocal (less determined) assessment of price fairness, whereas a uniform reference price level (higher or lower, S1_1 or S1_3) evokes a more determined price fairness assessment by the respondent.

Next two hypotheses were the most significant for the author – these hypotheses directly related to the phenomenon of asymmetry in assessing the price fairness:

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Scale items</th>
</tr>
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<tbody>
<tr>
<td>Concepts</td>
<td>Measures</td>
</tr>
<tr>
<td>Price fairness</td>
<td>Fair; Unfair</td>
</tr>
<tr>
<td>Perceived transaction value</td>
<td>Taking advantage of a price like this makes me feel good</td>
</tr>
<tr>
<td>Positive emotions</td>
<td>Happy; Excited</td>
</tr>
<tr>
<td>Negative emotions</td>
<td>Upset; Angry</td>
</tr>
<tr>
<td>Purchase intention</td>
<td>Buy the car navigation systems in this store as I planned (study 1 only)</td>
</tr>
<tr>
<td>Word-of-mouth intentions</td>
<td>I will tell other people not to visit the store</td>
</tr>
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</table>

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$H_{2a}$: If the reference price is lower, the respondent perceives his or her price as unfair.

$H_{2b}$: If the reference price is higher, the respondent perceives his or her price as fair.

The last two hypotheses were connected with the second scenario – when a price fairness was assessed after making a purchase decision.

$H_3$: Stage of the purchasing process (purchase intention or already made purchase) fails to differentiate price fairness assessments.

$H_4$: If the respondent realizes that other consumers also failed to get a lower price ($S_{2\_4}$), this leads to higher assessment of the price he or she paid, than in the case if others managed to get a lower price ($S_{2\_2}$).

Figure 1 shows the results of comparing the average results of price fairness assessments - scenario 1. The consumers’ propensity to recommend the offer and their intention to purchase is also presented. It may be noted that if the reference price is explicitly defined (lower – $S_{1\_1}$ or higher – $S_{1\_3}$), the consumer has a unequivocal assessment of the integrity of his/her own price. In case of ambiguous reference price level ($S_{1\_2}$) the consumer does not evaluate the integrity of his/her price so definitely as fair or unfair. Undoubtedly the most important conclusion from the data presented in Figure 1 is the ability to identify asymmetry in price fairness assessing. Price fairness assessment is a one-way tendency – if the consumer pays less (than others), then he/she estimates his/her price as fair ($S_{1\_3}$). But if other people are buying at a lower price, the consumer perceives his/her price as unfair. It reveals a total lack of customer’s interest in unfair treatment of other clients from the same store. For this consumer the most important aim is to achieve the best price, regardless of dishonesty in relation to other purchasers of the same product.

Another important issue was to check whether the step of purchasing process has the impact on price fairness perception. For this purpose the author has compared average scores of price fairness assessment in both scenarios (Figure 2). In order to find an answer to the question about possible differences in the price fairness perception, it should be considered the average scores of the two comparisons:

- $S_{2\_1} = S_{1\_3}$ (other customers have paid a higher price),
- $S_{2\_2} = S_{1\_1}$ (other customers have paid a lower price).

![Figure 1](image-url)
The convergence of price fairness assessment is clearly visible, the same is in case of transaction value. There were no statistically significant differences in price fairness evaluation in both two comparisons. Regardless of whether the consumer evaluates the integrity of the product price, which he/she intends to buy (scenario 1), or a product that has already bought (scenario 2) the way of assessment price fairness does not change. Identified asymmetry occurs in both cases.

Recent research hypothesis is supported by the data presented in Figure 2 – price fairness assessment is higher in case S2_4 than S2_2. It means that to assess the price integrity essential is the price paid by other buyers (including the asymmetry identified by the author). If customer has not obtained the lowest price, his/her price honesty evaluation is better when he/she knows that others also have not paid less for the same product. A similar relationship is evident in the case of a tendency to recommend and purchase intentions.

It is interesting that the described difference cannot be observed with regard to the emotions felt by the consumer in each of the two shopping situations – there was no statistically significant difference in the case of S2_2 and S2_4 (Figure 3).

The results of study 1 and 2 confirmed all hypotheses concerning price fairness perception.
Specificity of the Polish society – revenue diversification, majority still less well-off and aspiring to reach a specific (high) standard of living, therefore assessing prices from their own perspective only, without carrying too much for other consumers. According to the author, these features may be used to try to account for the difference in results obtained in studies on Polish students with results presented by Xia and Monroe (their research has demonstrated that paying a price that is less than the reference price may be perceived to be less fair when the reference price is a higher price paid by another customer for a similar transaction). While adopting a broader, macroeconomic approach to the investigated issue, the level of market economy development may also be regarded as significant. It is beyond doubt that American and Polish economies represent quite different stages in the free market reality. Polish students comprising the sample have actually been the first real fully free-market economy generation of Poles who cannot remember and never experienced hardships of the shortage economy. However, it is hard to ignore the conditions in which older generations, i.e. their parents and grandparents, came to live. According to the author, while analysing the causes of asymmetry in how customers perceive price fairness, a certain analogy may be observed with gradual establishment of eco-friendly trends among Poles – in order that the eco-friendly attitude in their daily lives becomes a standard, certain level of wealth and market maturity of the general society must be reached. It is similar with fair treatment of other customers as regards prices demanded of them. Absence of extensive studies on Polish consumers regarding their perception of price fairness makes unequivocal evaluation of legitimacy of presented study results difficult. However, the issues discussed in the paper should be regarded as a step towards filling in the identified research gap. Subsequent studies should by all means attempt to verify the legitimacy of author’s views – specificity of the product (durable goods) may have affected the results, just as the sample (although it was highly converging with the sample used by Monroe and Xia). Correlation between consumers’ wealth and their assessment of price fairness surely needs to be further examined. According to the author, the question of emotions accompanying price assessment by the buyer also needs a closer look. In particular, the relationship between emotions and purchase intention, as well as communication of the consumer with the environment. A positive verification of the first research hypothesis points to the fact that diversified prices paid by other consumers moderate firm assessment of fairness of price that needs to be paid by a given buyer. Therefore, a broad pricing information policy appears to be justified – the more diversified price levels are considered by customers as reference points in their assessment, the less radical their price fairness assessments are. The above principle is particularly significant in case of advantage of lower prices demanded from other customers – then, in case of lack of information about higher prices, the consumer will evaluate his/her price as radically unfair. It is obvious however, that each price range has its margin values and some price will always be the highest and the other the lowest, however price range size (i.e. the number of specific price items) may positively affect the perception of fairness of one’s price by the buyer. In view of the growing popularity of dynamic pricing online, practical implementation of the above idea should not pose a problem for practitioners. The legitimacy of the second research hypothesis also suggests transparent communication of prices to customers paid by other customers. Although selection of price levels communicated to other customers in a given store is impossible due to eWOM/WOM – any customer after making a transaction is fully informed about the paid price and he or she may freely make this information public (anonymously or not). However, the contractor may publish prices that are either lower or higher than prices of a specific customer. To achieve the purpose of setting a favourable reference price, completion of information about prices of other customers with explanation of
the principles determining the lower price of other customers, may prove helpful. Studies have shown that high price paid by others has a positive impact on perception of the price and emotions of other customers, therefore it is worth accounting for a lower price level evoking negative emotions and attitudes. Explanation why others had paid less may alleviate consumer’s feeling of unfair treatment, according to the following rationalisation: others paid less because they have met a specific condition (e.g. loyalty card), which so far I have failed to meet.

A positive verification of the fourth research hypothesis, on the other hand, confirms the legitimacy of solutions intended to provide information about prices paid by other customers – the more transactions at a given POS, the higher price differentiation, and therefore the higher the chance that the customer will find examples that others had paid more or that at least others also failed to use the most favourable price offer.

The internet environment provides new developments for both buyers and sellers. Price transparency used to be perceived as an advantage for buyers and limitation of free action for contractors. The results presented by the author point to the accuracy of changing, at least partially, the attitude to the question of price transparency. Higher transparency of online prices in comparison to those set in the offline environment is the fact that the sellers should attempt to use to their benefit.

Conclusions

The internet environment provides new developments for both buyers and sellers. Price transparency used to be perceived as an advantage for buyers and limitation of free action for contractors. The results presented by the author point to the accuracy of changing, at least partially, the attitude to the question of price transparency. Higher transparency of online prices in comparison to those set in the offline environment is the fact that the sellers should attempt to use to their benefit.

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Ilona Bondos. Elektroninių kainų diferenciacijos teisingumą suvokimas: simetrijos paieškos


Pirmojoje straipsnio dalyje teoriškai pagrindžiamas tolesnis originalus tyrimas.

Straipsnyje siekiama atsakyti į šias hipotezes:

H1: Baziniai kainų lygių (žemesnių ir aukštesnių) įvairovė lemia aiškesnę (mažiau determinuotą) kainos teisingumo vertinimą, o vienodas bazinis kainų lygis (aukštesnis ar žemesnis) – labiau determinuotą kainos teisingumo vertinimą.

H2a: Jeigu bazinė kaina žemesnė, respondentai vertina savo sumokėtą kainą kaip neteisingą.

H2b: Jeigu bazinė kaina aukštesnė, respondentai vertina savo sumokėtą kainą kaip teisingą.

H3: Pirkimo proceso stadija (pirkimo intencija ar jau įsigytas pirkinys) nediferenciuoja kainos teisingumo vertinimo.

H4: Jei respondentai supranta, kad kitiems pirkėjams taip pat nepavyko gauti geresnės (žemesnės) kainos, tai lemia aukštesnį sumokėtas kainos įvertinimą nei tuo atveju, kai suprantama, kad žemesnę (geresnę) kainą pavyko gauti kitiems.


Baigiamojoje straipsnio dalyje formuluojamos praktinės implikacijos nustatytioms koreliacijoms. Straipsnyje taip pat įvardinami darbo ribotumai ir kryptys tolimesniems tyrimams.

**REIKŠMINIAI ŽODŽIAI:** teisinga kaina, kainos suvokimas, bazinė kaina, asimetria, scenarijaus metodas.

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