

Understanding Perceived Price Fairness in Online Shopping

Research-in-Progress

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Abstract

Price fairness is an important factor that influences online shopper drop-out rate in online shopping. This research attempts to understand the factors that influence online shoppers' perceived price fairness. Based on the equity theory, we argue that perceived promotion fairness plays an important role in influencing perceived price fairness. We further argue that perceived promotion fairness is in turn significantly influenced by the shopper's search efforts, contingent upon whether or not the promoted price is realized. A research model was developed that incorporates the equity theory, the motivation literature, and website design features. We developed a plan to conduct experiments to test the hypotheses.

Keywords: Online search efforts, availability of promotion entry, promotion fairness, price fairness.

Introduction

Coupon promotion is used to generate sales increase in a short run (Taylor 2001), attract new customers (Taylor and Long- Tolbert 2002), and encourage multiple purchases of a brand (Krishna and Shoemaker 1992). However, coupon promotion may be a double-edged sword. Against the wish of seller, consumers may develop unfairness perceptions due to price difference for the same product (Xia et al. 2004). As a result, consumers without coupon a promotion code may form perceived price unfairness, which can significantly alter customers' willingness to pay (Monroe 2003; Ajzen et al. 2000) and therefore leads to cart abandonment. Annually, the possibility of abandonment behavior is estimated to range from 25% to 75% (Perman 2000). Thus, it is important to analyze customers' perceived price unfairness in online shopping.

The majority of prior research has looked at price discrimination or price unfairness from the standpoint of price difference and segmenting policies, as shown in Xie et al's (2004) review article. In terms of online shopping, however, the final price is typically determined by buyer and seller's joint efforts. In traditional retailing, the distribution of coupon is under the retailer's control, targeting particular customer bases (e.g., Chen et al. 2001; Moorthy 1984; Narasimhan 1984). With respect to online shopping, the customer often needs to make extra efforts to find the promotion information, so the process through which the customer achieves the final price also plays a significant role in developing the customer's price fairness perception.

This research focuses on how online shoppers go through the process to find promotional coupons and how such search efforts influence their fairness perceptions. Non-coupon users have greater chance to perceive they are at a disadvantage when they are about to check out at the end of the purchase process (Oliver and

Shor 2003). Traditionally, customers are prompted to input a promotion code, which can encourage consumers to search for more coupons, especially when they have excellent search skills and have high search motivation.

During the last thirty five years, researchers have investigated the impact of search efforts on price fairness. But their empirical results are not consistent in validating the relationship (Mowen and Grove 1983; Oliver and Swan 1989). Oliver and Swan (1989) did not empirically confirm the expected relationship but Xia et al. (2010) extended their model to prove without a granted coupon, excessive search efforts could lead to a sense of less price fairness, which potentially can reverse consumers' intention to purchase. The rationale is that despite the ubiquity of promotion coupons, a coupon may have expired or is exclusive to a specific customer community. Many online coupons are only valid for a specific period of time, e.g., during the Memorial Day weekend.

Our research extends Xia et al.'s (2010) model to explain how the display of a promotion code entry box on the shopping cart page or in checkout mode, search skill and search motivation will stimulate customers to search for promotion codes. A customer's search efforts into searching for the promotion information is regarded as an important mediator to influence two significant dependent variables: his/her later price and promotion fairness perceptions. We draw upon equity theory perspective (Adams 1965) to hypothesize how the decision that whether a promotional price is granted moderates the relationship between online search efforts and fairness perceptions of price and promotion. We further utilize heuristic theory (Van den Bos et al. 1997) to posit that a consumer's promotion fairness positively affects his price fairness.

This research has theoretical implications. By proposing availability of promotion entry as a construct, we extend Xia et al. (2010)'s model by explaining how price fairness and promotion fairness are formed and influenced when consumers with search skills and search motivation are inspired by a promotion code entry box to be involved in more search activities. By developing a better theoretical understanding of the role of online search efforts in fairness perception, we argue that only on the condition that a discounted price is granted online, search efforts as customer's input will be significantly related to both promotion and price fairness. In addition to theoretical implications, the present research also has practical implications. It can draw an organization's attention that setting up a promotion code entry box on website can also increase a customer's sense of price unfairness and dissatisfaction when the typed promotion code is expired or not recognized.

Literature review

Antecedents of online search efforts

Previous research has suggested that there are two major antecedents of consumer information search: motivation to search and search skills. Bettman and Park (1980) theorized that a customer's search skill and motivation to search were major determinants for information search activity. Their model is consistent with Bettman's (1979) model and Petty and Cacioppo's (1986). Srinivasan (1990) reviewed previous research about search efforts and summarized variables used as antecedents. According to their analysis and summary, a customer's search skill and motivation to search were concluded to be major determinants. Their rationale is that both of those factors are necessary to cognitively process pre-purchase related information. Thus, in this research, we expect search skill and motivation to search to have positive impact on search efforts.

In addition to those two primary antecedents, the presentation of a promotion textbox serves together to stimulate the efforts of seeking for a lower price via e-coupon or promotion code. Oliver and Shor (2003) confirmed that promotion code textbox can suggest a perceived unfairness for those not having a code. The greater sense of inequity which individuals feel, the harder they will strive to restore perceived levels of equity (Huseman et. al.1987). In order to satisfy themselves, equity theory tells us that (Adams 1965), there is a behavioral option for an individual that he can adjust his own inputs to match up with expected outcome. In this scenario, promotional price is the expected outcome for a non-coupon buyer. Thus, Textbox can invigorate consumers to engage in more search efforts to gain a discounted price. (Xia et al. 2010) already confirmed that such search efforts would assist consumers to develop promotion tactics fairness perception and price fairness perception.

Equity theory and price fairness

We begin with the discussion of the construct of price fairness and how online search efforts influence the formation of a customer's price fairness according to equity theory. Price fairness is a significant antecedent for customer satisfaction and brand loyalty (Xia et al. 2004). According to Bolton et al (2003)'s definition, fairness is referred to as an assessment of whether outcome or the process to reach a certain result is righteous, rationale, and acceptable. Thus, price fairness is defined as a customer's assessment of whether the price of goods is set reasonably, acceptably and justifiably (Xia et al. 2004).

There are numerous research paradigms to deal with consumer satisfaction research. In comparison with expectancy disconfirmation (Churchill and Surprenant 1982), norms (Woodruff et al. 1983), and attribution (Folkes 1984), the equity theory (Adam 1965) as one theoretical perspective is suitable to explain how fairness or unfairness perceptions occur based on satisfaction of relationship within the field of interpersonal relationships. Equity framework is unique because fairness is evaluated according to both input, which a customer invests into the exchange and outcome. Instead, the traditional method is to compare the original expectation of focal transaction with reality to determine satisfaction or simply take one factor like social norm, attribution alone to influence satisfaction.

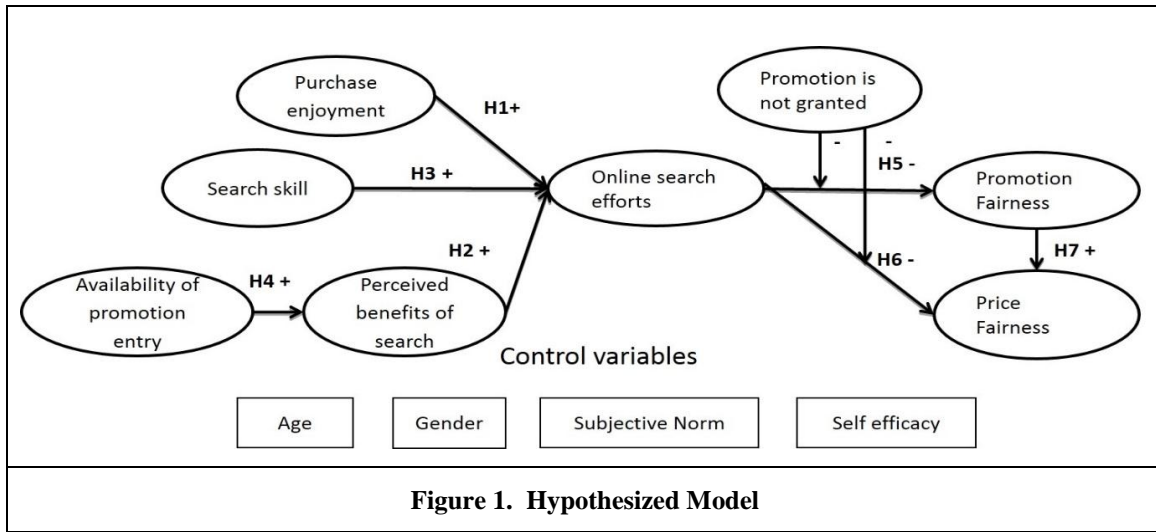
The equity process is triggered when the consumer forms a perception of the difference between output and input as equity score and compare it to the reference party's equity score (Oliver and Swan 1989). Self, other customers or different organizations such as stores can be references to influence a customer's price fairness perception (Bolton et al. 2003). When the focal party's score outweighs the reference party's score, positive inequity appears because excessive input simply can obtain the same outcome or identical input gets less payback (Oliver and Swan 1989). However, when the scores are equivalent, equity is assured (Freedman 1976). Therefore, to circumvent the occurrence of inequity, the amounts of contribution or inputs of focal party and reference are not necessarily supposed to be equal. The equality of equity scores of two parties is crucial.

Distinct types of inputs and outputs are utilized and perceived by the customer to form fairness perception. Inputs includes devoted amount of time, effort, and financial resources and so forth when price information is sought. Outputs comprise discounted price, product quality, service quality, and so on. Besides monetary inputs, various types of nonmonetary sacrifices of consumers can be included, especially the perceived search efforts to locate coupons as well are factors to determine price unfairness. Acquiring available coupons or promotion codes may reduce the price. Nevertheless, it simultaneously increases the consumer's time and efforts to search for a specific website, offering the most available coupon.

There is a scarcity of existing empirical research about the relationship of consumer's search efforts and fairness perceptions. Even worse, empirical results are inconsistent in validating this relationship. Oliver and Swan (1989) examined the effect of both buyers' and vendors' efforts and promotion outcome on customer's fairness perception. The result indicated that the consumer's input into information search, including time and effort, was not significant predictor for fairness perception. Their explanation is due to the uniqueness of employed data sample. Mowen and Grove (1983) concluded that the consumer's sense of equity will be affected by search efforts merely when the price the consumer pays is more than another one. Likewise, it has been proved that if consumers are not granted a promotional price, excessive search efforts to obtain the promotion code will lead to lower price fairness (Xia et al. 2010). Therefore, in our research, with a view to online shopping, we strive to provide an explanation for these conflicting results.

A model of online information search and price fairness

We developed a research model based on the above-mentioned equity theory and motivational model with age, gender, subjective norm and self-efficacy as control variables (Figure 1). Consumer pre-purchase information seeking is an enduring topic and a great number of research models have been proposed and validated, treating pre-purchase information search as a key element (e.g., Bettman 1979; Schmidt and Spreng 1996). In current research, we refer to online search efforts as the degree of perception and effort exerted with the objective of obtaining related data on the Internet for the specific purchase or promotion during a pre-purchase search process (Kulviwatet al. 2004). All definitions of these constructs are summarized in table 1.



Availability of promotion entry	Whether the website offers the presentation of the input field of promotion information for customer to obtain higher discount or lower price.
Purchase enjoyment	A feeling of pleasure that an individual feels for collecting and searching for online information related to purchase.
Search skill	The cognitive capability of searching for and processing information, with the objective of searching related information on Internet.
Perceived benefits of search	Perception of the positive consequences that provide value by facilitating achievement of higher-level values.
Online search efforts	The degree of perception and effort exerted with the objective of obtaining related data on Internet to the specific purchase or promotion during a pre-purchase search process.
Fairness	An assessment of whether outcome or the process to reach certain result is righteous, rationale, acceptable.
Promotion fairness	Customer' fairness perception of the process to judge whether customer is able to win the promotional price according to the specification of the promotion tactics.
Price fairness	Thus, price fairness is defined as a customer's assessment of whether price of goods is set reasonably, acceptably and justifiably.

Table 1. Construct definition

Hypotheses

Motivation to search online is defined as the driving force that activates behavior to expend efforts in searching, gathering and processing related online information (Schmidt and Spreng 1996). Motivation is normally theorized and distinguished along two dimensions: extrinsic motivation and intrinsic motivation (Davis et al. 1992; Deci 1975). Extrinsic motivation is defined as the driving force which is stimulated from the outside to achieve a certain outcome such as rewards and threat of punishment (Ryan and Deci 2000). Intrinsic motivation signifies the driving force that is originated from inward interests or even enjoyment of the task per se (Ryan and Deci 2000).

Within this dichotomy, we use perceived benefits of search to represent extrinsic motivation and apply purchase enjoyment to represent intrinsic motivation. Purchase enjoyment is defined as a feeling of pleasure that an individual feels for collecting and searching for online information related to purchase (Katona and Mueller 1955). Distinguished from extrinsic motivation or utilitarian value, purchase enjoyment is concerned about hedonic value of shopping (Babin et al. 1994). Purchase enjoyment enables

them to have freedom, escape from real life issues, and arousal (Babin et al. 1994). That is why with high level of purchase enjoyment, individuals tend to engage in extensive amount of search activity (Engel et al. 1973).

The perceived benefit of search is defined as perception of the positive consequences that provide value by facilitating achievement of higher-level values (Olshavsky 1979). In this study we restrict positive consequences only to be the discounted price attained by coupon usage (Bettman 1979). Actual search behavior is invigorated and directed by a positive attitude towards searching which was verified by literature (eg. Duncan and Olshavsky 1982). Therefore, if customers anticipate to accrue benefits from the search process, they are more likely to conduct extensive search activities, to avoid regrets due to a hasty purchase. Prior researchers have confirmed the existence of this relationship (Srinivasan and Ratchford 1991).

H1. Purchase enjoyment is positively related to online search efforts.

H2. Perceived benefit of search is positively related to online search efforts.

In addition to search motivation, search skill also influences online search efforts. Search skill is defined as the cognitive capability of searching and processing information, with the objective of searching related information on the Internet (MacInnis et al. 1991). Search skill deals with large issues such as technology boredom, apathy, anxiety on consumer use and experience of Internet (Meuter et al. 2003). They have also confirmed that a consumer's ability to search facilitates search activity to great extent (Bettman and Park 1980; Srinivasan 1990).

Search skill's influence on search efforts can be explained by self-efficacy theory (Compeau and Higgins 1995). Self-efficacy is defined as the extent or strength of people's belief in their capabilities to organize and execute actions required to complete task and achieve goals (Bandura 1977; Ormrod 2006). In terms of initial self-efficacy, when a customer launches a searching process, customers differ in their beliefs about their capabilities to acquire knowledge, put skills to good use, and master the material (Bandura 1982). Schunk (1989) showed that self-efficacy could be boosted through increasing aptitude, e.g., search skill.

Self-efficacy is not involved with skill itself but with judgments on how the skills one possesses can increase achievement (Bandura 1982). Thus, a customer with low self-efficacy, when using an Internet search engine to locate promotion information, will tend to bury his head the sand and sit on his hands. In contrast, those confident customers who believe they are capable to handle an online search are likely to spend more efforts (Schunk et al. 2008).

H3. Search skill is positively related to online search efforts.

The availability of promotion entry, as a website design feature, is served as antecedents to perceived benefits of search. Availability of promotion entry refers to whether the website offers the presentation of the input field for of promotion information for the customer to obtain a higher discount or lower price. Normally when a consumer just logs in a specific brand's official website to shop or is about to check out on of the retailer's website, popular retail sites offer an input field to prompt consumers to enter a promotion code (Oliver and Shor 2003). Because the feature of price promotion is to offer price reduction (Kalwani and Yim 1992), the input field is regarded as a reminder for customers that if they are able to find a valid promotion code, they can receive a lower price. The customer is challenged to search online to find the promotion code. Discounted price is exactly one type of perceived benefits of search as we defined previously. So we hypothesize:

H4. The availability of promotion entry is positively related to perceived benefits of search.

According to equity theory (Adams 1965, Oliver and Swan 1989), as long as the difference between inputs and outputs (discounted price) is not equivalent as reference parties, the balance of equity is tipped: perceived price unfairness is generated. A coupon is contingent on certain rules specified by issuer (Kalwani and Yim 1992). For example, a coupon may have expired or is exclusive to specific customer community.

If a promotional price is denied, a consumer's expectation of receiving a lower price is violated. Thus, the customer will treat himself before search process as reference party. No matter whether it is before or after the search process, consequences are identical that promotional price is not given. However, search efforts are already consumed, when the customer already sacrificed their time resource to search for promotional price. Then, he or she forms a perception of difference between output and input as equity score (Oliver and Swan 1989) and compare it with reference party. Since input is larger after the search process, equity score

accordingly decreases thus generating price unfairness. When a promotional price is not attainable, the more efforts a customer spends, the more the disparity of equity scores between pre-search and pro-search is and the more price unfairness the customer perceives.

In contrast, when a customer is granted a promotional price, the customer experiences a positive feeling that their search effort was worthy. In such a case, fairness is not influenced by search efforts because outcomes and inputs to calculate equity scores between pre-search and pro-search are both changed. Input is varied from no effort to exerted efforts to search for promotion information. Output is changed from regular price to prospectively promotional price. So, search efforts do not influence price fairness significantly. This argument is supported by Mowen and Grove's (1983), who find that search efforts affect customers' fairness perceptions and satisfaction judgments only when they pay more than they receive.

H5. Whether consumers are granted a lower promotional price negatively moderates the relationship between online search efforts and price fairness.

Promotion fairness is defined as customer's fairness perception of the process to judge whether customer is able to win the promotional price according to the specification of the promotion tactics (Xia et al. 2010). Before the transaction has been completed, a customer engages with the rules and restrictions specified by the promotion tactics. Efforts regarded as an input, is expended primarily during the process of transaction (Xia et al. 2010). Similar to the mechanism of hypothesis H5, we propose:

H6. Whether consumers are granted a lower promotional price negatively moderates the relationship between online search efforts and promotion fairness.

According to the social justice framework, fairness is theorized and distinguished in two dimensions: distributive and procedural fairness. Distributive justice is defined as fairness perception of how articles and rewards are socially allocated by group members (Forsyth, 2010). If the ratio of rewards and costs is equivalent to what they sacrifice, then according to the formulated distributive norms, distributive justice occurs (Adams 1965, Deutsch 1975). Since price fairness can be determined by difference between search efforts and product price, price fairness is one type of distributive fairness. Procedural fairness pertains to fairness judgments of an entire purchase course (Thibaut and Walker 1975), concerning the transaction transparency of the process, so promotion fairness is one type of procedural fairness.

Heuristic theory (Van den Bos et al. 1997) informs us that when people perceive that procedural information precedes outcome information, customer's perception of procedural fairness will affect fairness evaluation of the outcome (Collie et al. 2002). Customers interact with purchase process first. So promotion fairness or procedural fairness is shaped first. Subsequently, customers form distributive fairness or price fairness. Thus, the influence of search efforts on price fairness should be through procedural fairness.

While we propose promotion fairness to mediate the impact of online search efforts on price fairness, we also expect online search efforts to have a direct impact on price fairness above and beyond that which is mediated by promotion fairness. Once the discounted price is not granted, an individual is not likely to feel the same way about their price fairness, irrespective of his perception of promotion procedure. After going through thorough a search process of promotion code, customers are likely to feel they are entitled to a lower price due to expended efforts. Failure to redeem a coupon due to its restriction will cause the violation of entitlement (Kukar-Kinney et al. 2011) and negative feeling towards owner's motive to send out coupon information (Xia et al. 2010), both of which lead to the formation of price unfairness. In other words, more online search efforts will cause less price fairness when the promotional price is not granted, independent of promotion fairness regarding the redemption of coupon process. Therefore, we hypothesize that,

H7. When promotional price is denied, the effect of online search effort on price fairness perceptions will be partially mediated by promotion fairness.

Research Methodology

We will conduct an experiment with a 2×2 between-subjects factorial design. Each group will use a different combination of web feature design for promotion entry and promotional price. Since this research aims to solve fairness-related issues, a scenario-based approach is feasible and reasonable to be employed (Collie et al. 2002). The context is an online coupon promotion where we will manipulate availability of promotion

entry box (yes vs. no) and promotional price (granted vs. denied). College students will participate in the experiment and will be randomly assigned to one of four combinations.

After interaction with different scenarios, each subject will take a post-experience survey. Our measurements of online search efforts, promotion price and price fairness are adapted from previous research (Xia et al. 2010). Koufaris (2002)'s measurements for purchase enjoyment and search skill will be used. Four items out of seven from Teo (2002)'s measurement for perceived benefits of search are selected because those items are suitable, based on the definition in this research. All of items for each latent construct are listed in Table 2. A pretest will be conducted to identify ambiguous or poorly worded items. Items will be adjusted and reworded according to constructive recommendations. Each question will be measured on a seven-point Likert scale, ranging from (1) strongly disagree to (7) strongly agree.

Table 2. Measurements
Purchase enjoyment (Koufaris 2002)
During my visit to _____ retailer website: I found my visit interesting I found my visit enjoyable I found my visit exciting I found my visit fun
Search skill (Koufaris 2002)
I am very skilled at using the Web I know how to find what I want on the Web I know more about using the Web than most users
Perceived benefits of search (Teo 2002)
By searching for more information, I am certain of making the best buy It pays to surf around before purchasing online Surfing around various sites helped me to find the lowest price when I purchase online By rushing into an online purchase, one is bound to miss a good deal
Promotion Fairness (Xia et al. 2010)
I think this price promotion advertised by the store is ____: Unfair – fair Unreasonable – reasonable Unacceptable – acceptable
Price fairness (Xia et al. 2010)
I think the price I paid for the product _____ is: Unfair – fair Unreasonable – reasonable Unacceptable – acceptable
Online search effort (Xia et al. 2010)
I feel that I spent a lot of time and effort in trying to search for the promotion information online I spent a lot of effort in collecting the coupons and promotion code in order to get the deal It took a lot effort to get ready to redeem the coupons

Table 2. Measurements

PLS will be used for assessing both the measurement model and structural model. Since constructs in our model are all reflective, each construct's reliability will be measured to ensure that the score for the final reflectively measured scale range from .80 to .96, exceeding the recommended guideline: .707 (Chin 1998).

Besides, discriminant validity will be evaluated as well by measuring items loading on their constructs at .707 or above without cross-loading problem, and assuring that the square root of the average variance extracted (AVE) for each construct surpasses the construct's correlations with other constructs (Chin 1998). In addition, convergent validity and common method bias will be reported likewise especially when we measure constructs at one time period with self-reported data so the correlations between variables stand a chance to be inflated (Spector 2006).

Whether all hypothesized relationships are significant will be tested with control variables. To determine whether promotion fairness partially mediates the relationship between online search efforts and price fairness when the promotional price is granted as hypothesized in our research model, we will formally run Sobel's (1982) analysis for mediating effect of promotion fairness.

Theoretical and practical contributions

This research is focused on investigating the impact of the presentation of promotion entry textbox design feature and consumer's personal difference on consumer price fairness perceptions, including price fairness and promotion fairness through their online search efforts. This has significant research contributions.

First, there is a shortage of existing empirical research about the relationship of consumers' search effort and fairness perceptions in online shopping. Prior research yielded mixed empirical results about this relationship. Based on equity theoretical perspective, current research contributes to the literature on price fairness because it is anticipated to demonstrate that consumer's search efforts significantly determine consumers' promotion fairness and price fairness perceptions when promotional price is granted.

Second, the majority of existing research models on online search treated search efforts or search cost as dependent variable. That causes the restriction of commercial implication of this stream of research. Perhaps most critically, our model extends online search model by connecting it with ultimate dependent variable: price fairness. Since price fairness influences customer's satisfaction, which is a big concern of e-commerce, this research, upon successful completion, can render significant practical implications.

Third, by proposing a new construct availability of promotion entry, we hypothesize its effect on search efforts and afterwards, its influence on price fairness. We extend our knowledge of promotion entry box as one type of web design by demonstrating how this construct can act as reminder for customers to expend more online search efforts. Previously, Oliver and Shor (2003) found that the textbox to type in promotion code is one origin of unfairness perception. This study complements it to explain the generation of customer's price unfairness from search efforts perspective.

Furthermore, studying the role of online search efforts and its antecedents in price fairness perception has practical implications for organizations.

First, we hypothesize that more search efforts during the pre-purchase process will lead to less fairness perception when the promotional price is denied. Therefore, a manager can take steps to (1) cooperate with coupon-collecting company to make it easier for customer to acquire a promotion code and (2) optimize the layout of the company's website to make the promotion code more conspicuous when the firm is willing to send coupons to all potential customers without discrimination.

Second, normally merchants will intend to show off how good the deal is by using coupons so they highlight discount information rather than the restriction terms. Therefore, consumers may ignore limitation of redeeming coupons in the purchase process but when applying a coupon at the checkout, they eventually discover those restrictions. As we hypothesize, only when a promotional price is not granted, more search efforts will lead to more inflated price unfairness. We suggest retailers and manufactures draw customer's attention to redemption restriction of a promotion code or coupon when designing a coupon.

Third, another upstream intervention can be feasible for sellers to decrease a customer's online search efforts by modifying features of a promotion code entry box to prevent drawing a non-coupon buyer's attention, or displaying an entry box with directions to find a coupon or code to save time spent on search efforts.

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