Price Transparency and Purchase Intention in The Context of Online Shopping

Emergent Research Forum Paper

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Abstract

Electronic market provides more price transparency than conventional market due to its lower search cost, easier access to price information. However, after examining previous work, empirical research on the effect of price transparency on online consumer’s purchase behavior is extremely rare. Based on the stimulus–organism–response model and equity theory, we develop a theoretical model. Specifically, we investigate the impact of price transparency of lower price on purchase intention through perceived website diagnosticity and perceived price unfairness. In addition, we also examine the moderating impact of explanation facilities as a website design feature on the relationship between price transparency and perceived price unfairness. An experimental study is designed to test the hypothesized model.

Keywords

Price transparency, price unfairness, website diagnosticity, purchase intention.

Introduction

Electronic market has long been of interest partially because compared with conventional market it endows online consumers with more price transparency. Due to the properties of electronic market consumers are able to enjoy lower search cost, easier access to product-relevant information and the convenience of comparing various alternatives (Hinz et al. 2011). Spoiled by being increasingly informed about price information, online consumers expect to be entitled with more price transparency, which presses seller to share more pricing information (Hinz et al. 2011).

In response, online retailers can choose to either disclose or conceal price information to customers. When designing an e-commerce website, should a firm disclose as much information as they can to satisfy customers’ needs? Although price transparency strategy’s importance has been acknowledged, it has received little systematic theoretical attention. Extant IS transparency studies have generally focused on transparency within supplier’s internal operation (Soh et al. 2006). Transparency strategy in B2B markets is comparatively well defined (Granados and Gupta 2013), whereas research on B2C transparency is relatively scarce. Also, considerable studies overly and exclusively relied on cognitive beliefs (Sun and Zhang 2006) but neglected the importance of customer’s affective element (Cyr et al. 2009).

To fill this research void, this paper aims to address two research questions: how does disclosure of price information affect buyers? How can technology support a firm’s transparency strategy? To better study both the positive and negative impacts of price transparency, we examine a common but thorny situation faced by a seller, where some competitors’ prices are lower than the seller’s price of the same product. We call it price transparency of lower price which is defined as the extent to which the lower price information of a product or service from a competitor is accessible and visible to online consumer on seller’s website (Zhu 2004).

Thus, the present paper builds a model associated with the relationship between price transparency and consumer demand of a product. Grounded on S-O-R model (Mehrabian and Russell 1974) and equity theory (Adams 1965) we will empirically examine how the extent of price transparency of lower price influences an online consumer’s purchase intention through two mediators (i.e. perceived price diagnosticity and perceived price unfairness). The concurrent test of price diagnosticity and price unfairness perceptions is necessary to investigate both the positive and negative impacts of price
transparency. We further posit that provision of explanation facilities as a website design feature moderates the relationship between price transparency and perceive price unfairness.

We believe this research will make several contributions. First, this paper addresses a research gap that a core set of theory needs to be developed to provide guidance to the practice of transparency strategy (Granados and Gupta 2013). Second, this study reveals the moderating effect of provision of explanation facilities to alleviate price unfairness perception. In addition to theoretical implications, the present research also has practical implications. Since the current study explains how price transparency influences consumer’s a purchase intention, it can help organizations develop sound transparency strategy and be proactive to alleviate the negative consequence of price transparency strategy.

Literature Review

To study the effect of price transparency on online consumer’s purchase behavior, we apply a classical paradigm of human behavior: Stimulus-Organism-Response (S-O-R) paradigm (Mehrabian and Russell 1974). The rationale of choosing S-O-R model as our overarching framework is that it bridges the connection between environmental arousal and human’s behavior. In addition, especially in information systems field, several studies drew on the S-O-R paradigm as theoretical foundation to explain how website design feature affects web consumers’ behavior (Jiang et al. 2010; Koufaris 2002; Xu et al. 2014).

S-O-R model posits that the way a customer engages in response to the same stimuli depends on an individual’s cognitive and(or) affective process(es) of. Stimulus (S) exists external to people and is environmental cue or arousal (Mehrabian and Russell 1974). The organism (O) refers to internal process which intervenes between stimuli and a person’s response (Bagozzi 1986). Response (R) manifests itself in two ways which is either approach or avoidance behavior (Mehrabian and Russell 1974). In our context, response is accordingly operationalized as purchase intention which is defined as the extent to which a consumer will buy a product from an e-commerce website (Jiang and Sun 2015).

Following the S-O-R paradigm, we contextualize the general stimuli concept as price transparency. Price transparency is a broad and elusive construct. To enhance price transparency of online shopping, one of the widely-adopted methods is to provide cross-store price comparison on website. We choose to study the impact of price transparency under the condition that a competitor’s price is lower than the seller. Then, vendors will face a dilemma of whether to support higher price transparency in this situation. If faithfully presenting this competitor’s price consumers are very likely to buy from its competitor since pricing is one of the most critical determinants of purchase behavior (Krishna et al. 2002). If not, vendors cannot meet consumers’ needs of greater transparency. Therefore, this thorny question calls for better understanding of price transparency strategy under this context.

After extensive review, we propose to use perceived price diagnosticity and perceived price unfairness to represent cognitive reaction and affective reaction respectively. Cognitive reaction refers to the mental process based on calculation and affective reaction is based on “gut feeling” toward an object (Hsee and Rottenstreich 2004). Perceived price diagnosticity’s definition is adapted from prior study (Jiang and Benbasat 2007) and is defined as the extent to which a consumer perceives price information presented on the website is helpful for them to evaluate a product’s price being judged. Perceived price unfairness refers to a customer’s assessment and associated emotions of whether the price of a product is set unreasonably, unacceptably and unjustifiably (Xia et al. 2004).

The choice of investigating perceived price diagnosticity and perceived price unfairness and integrating them into our conceptual model is due to the following reasons. Perceived price diagnosticity is one of the most frequently studied cognitive reactions in IS literature (Jiang and Benbasat 2007; Jiang et al. 2005; Xu et al. 2014). It has been demonstrated to promote consumer’s patronage (Jiang and Sun 2014; Jiang and Benbasat 2007). In marketing literature, price unfairness is a significant antecedent for customer satisfaction and behavioral intention which is our paper’s focus (Campbell 1999; Xia et al. 2004). Also, unfairness perception has affective aspect, which helps to understand online user’s affective reaction. The buyer with unfairness perception may feel angry or outraged when a transaction’s outcome is to his or her disadvantage. These negative emotions may either occur concurrently with the unfair cognitions or even precede unfair cognitions (Xia et al. 2004).
**Hypothesis Development**

In this study, we develop a research model based on the above-mentioned S-O-R model and equity theory with age, gender, perceived ease of use (PEU) Perceived usefulness (PU), product price, brand reputation and trustworthiness of a seller as control variables. The entire research model is shown in Figure 1.

**Hypothesis**

Consumers may perceive that the website design of revealing better offer can enhance price processing effectiveness. Our argument is based on the S-O-R model which posits that environmental stimulus significantly influences an individual’s cognitive reactions, which has been supported by past research regarding a sorting design feature’s aid in user’s perceived understanding and decision making (Hess et al. 2005). Accordingly, we expect the website providing cross-store price comparison and accurately displaying a lower price offered by a competitor will improve online user’s comprehensive understanding of the price being judged.

**H1:** Price transparency of lower price will positively influence perceived price diagnosticity.

Equity theory (Adams 1965) suggests that consumers generally have expectations that they should pay the same price for the same product. In particular, equity theory indicates equity score, which is equal to the ratio between customer’s outcome and input, determines price fairness perception. In our scenario, price is the outcome and input is transaction characteristics, including purchase quantity, customer’s identity and so on. During pre-purchase process, consumers tend to pay more attention to pricing subconsciously assuming every customer’s input is identical, which means they have propensity to ignore the fact that pricing setting is based on different characteristics of transactions, such as a buyer’s identification (i.e., identity as a new customer), purchase quantity frequency, time and so on (Xia et al. 2004). Therefore, perceived price unfairness judgment is most likely determined by the price information presented on seller’s website. Higher price transparency indicates online consumers are more capable of spotting a lower price offered by seller’s competitor. This price differential increases consumers’ price unfairness perceptions. Therefore, we hypothesize

**H2:** Price transparency of lower price will positively influence perceived price unfairness of the current transaction.

The above discussion illustrates our point that price transparency is a double-edged sword which possibly generates unfairness perception. Thus, when designing website managers should be proactive to alleviate the potentially adverse impact of price transparency and thereby take precautions to prevent damage. The present study proposes that explanation facilities are competent at this job (Wang and Benbasat 2007), which is defined as explanations presented on an e-commerce website. Explanations regarding pricing can be why certain pricing is set or how shipping fee is calculated. Equity theory (Adams 1965) specifies in addition to contextual information (e.g. price information), explanations of setting a certain price influences perceptions of price fairness. In this light, since buyers’ major concern is the actual price
differential (Xia et al. 2004), an online seller may control the potential damage by offering explanation facilities of setting a certain price once a lower price is detected. For example, an explanation could be presented along with price information and indicate the higher price is caused by providing free shipping regardless of the grand total of an order. Therefore, consumers will likely regard price discrepancy with explanation facilities as less unfair. We posit,

**H3:** Explanation facilities will negatively moderate the relationship between price transparency of lower price and perceived price unfairness.

Marketing researchers have shown that consumer can only make sense of price (“inexpensive” or “expensive”) after a comparison (Monroe and Lee 1999). If an e-commerce website presents consumers with price discrepancies among offers of the same product objectively it will improve online consumers’ capabilities of evaluating and comparing different offers. Thus, the website with high perceived price diagnosticity will be more useful for consumers to accomplish their shopping goals. Numerous studies building on the technology acceptance model (TAM) demonstrated that the most important driving factor of technology adoption is perceived usefulness of a technology (Davis et al. 1989). Thus, we posit

**H4:** Perceived price diagnosticity of a website will positively influence online user’s purchase intention.

The formation of price unfairness perception generates negative emotions (Campbell 2007). Perceived price unfairness is also the assessment of product value. These assessments and negative emotions influence consumers’ responses, including purchase intention. Therefore, we posit

**H5:** Perceived price unfairness of current transaction will negatively influence online user’s purchase intention.

**Methodology**

The experiment will be conducted in a controlled setting. The context is purchasing clothing from a department store website. On the tested website, three articles will be listed in alphabetic order. We plan to implement a three (price transparency of lower price at low, medium, high level) by two (yes vs no explanation facilities) between-subject design to test our model. As for the manipulation of price transparency of lower price, at low level, only one store’s price information will appear. At medium level of price transparency, the focal online vendor’s along with one competitor’s prices will be revealed. This competitor’s prices are consistently lower than the seller’s prices by 30$. Likewise, in the case of high level of price transparency, two competitors’ prices will be revealed. Their prices are consistently lower than the seller’s prices by 30$. The two-level explanation facilities factor (whether to present the reason of setting higher price) will be varied within subjects. In other words, only the condition with explanation facilities will display why the seller’s price is higher than its competitor by 30$. After interaction with different conditions, each subject will take a post-experience survey. Partial Least Square (PLS) will be used to assess the measurement model and its structural model.

**Discussion and Future Work**

This study will have two theoretical contributions. First, there is a shortage of existing empirical research about the relationship of price transparency and purchase intention in e-commerce setting. To top it off, prior research yielded mixed theoretical perspective about it. Current research will contribute on e-commerce literature by demonstrating that price transparency can either facilitate or deter buy’s purchase. Second, this study proposes the moderating effect of explanation facilities between price transparency and price unfairness. To best of our knowledge, it has not been tested in any prior empirical study. Furthermore, our research will have practical implications for organizations. The hypothesized model assists in guiding the practice of transparency strategy. Based on how the disclosure of price information affect consumers, firms can take steps to design a sound transparency strategy and utilize technology related to explanation facilities to support a firm’s transparency strategy.

We plan to carry out the experiment proposed in methodology part and recruit subjects for the six conditions. Future research can also focus on understanding how to design explanation facilities to mitigate price unfairness perception. It would be interesting to test different types of explanation facilities and assess their impacts on price unfairness perception.
REFERENCES


