The Effects of the Timing of Post-Purchase Price Reductions and Brand Strength on Consumers' Price Unfairness Perceptions

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Abstract

The Effects of the Timing of Post-Purchase Price Reductions and Brand Strength on Consumers' Price Unfairness Perceptions

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Pricing literature examined the impact of price increases or decreases on price unfairness perceptions in pre-purchase contexts but post-purchase price reduction context received limited attention. Moreover, the impact of brand strength on perceptions of price unfairness in a post-purchase price reduction context has received little attention despite evidence that shows that brand names impact consumers' internal reference price and quality perceptions. Hence, this dissertation aims to close this gap by inquiring about the impact of brand strength and depth of post-purchase price reductions on price unfairness perceptions over time by relying on construal level theory and acquisition-transaction value model. In two experiments, four new scales that are suitable for post-purchase price reduction context were developed and refined: Perceived price unfairness, perceived negative transaction value, perceived loss in acquisition value, and internal reference price. The model was tested with a structural equations model. In experiment one, when the temporal distance was proximal, advertised selling price, which is a low level construal, was more influential on perceived loss in acquisition value. On the other hand, when the temporal distance was far, perceived quality, which is a high level construal, was more influential on perceived loss in acquisition value in line with predictions of construal level theory that assert high level construals are more influential at far but low level construals are more impactful at proximal temporal distance. Consumers perceived more price unfairness and negative transaction value when the post-purchase price reduction was proximal to their purchase than when it was far. In the

high price reduction condition, consumers perceived higher perceived negative transaction value and higher perceived price unfairness than in the low price reduction condition. In experiment two, temporal distance moderated the relationship from advertised selling price to perceived negative transaction value such that advertised selling price was influential on perceived negative transaction value at proximal temporal distance but not at far temporal distance as expected by construal level theory.

Chapter 1: Introduction

Overview

Imagine that you bought a laptop last month. Today, you learned that it is going to be sold at a 40% discount from now on. Would you feel that the price reduction was unfair? Would you feel less unfairness if you had purchased the laptop 4 months or 8 months ago? The timing of post-purchase discounts may have considerable consequences, such as below.

Ten weeks after the iPhone's release on September 5th, 2007, Apple announced a price reduction of its 8GB iPhone, which was its most up to date model, from $599 to $399. This action angered the current customers of iPhone (Krazit 2007). Some customers were so angry that they sued Apple. The lawsuit cited that plaintiffs could not resell their iPhones without a loss and that Apple treated them unfairly (Anonymous 2007). In response to its loyal customers' reactions, Apple issued an apology, agreed to refund $200 to those who had bought the phone within 14 days of the price reduction under its price protection guarantee, and offered $100 credit at Apple stores to those, who purchased earlier (Wingfield 2007).

While the majority of research on price fairness is devoted to understanding fairness perceptions before or during a purchase (e.g., Kahneman, Knetsch, and Thaler 1986), price fairness perceptions after a purchase have received recent but still limited attention (Kukar-Kinney, Xia, and Monroe 2007; Kukar-Kinney, Xia, and Monroe 2011; Xia, Kukar-Kinney, and Monroe 2010; Xia and Monroe 2010). The recent research in post-purchase price fairness examined the impact of the characteristics of price matching policies on price fairness perceptions (Kukar-Kinney, Xia, and Monroe 2007) or the impact of the purchase decision stage in which a promotion was denied on price fairness perceptions (Kukar-Kinney, Xia, and Monroe 2011). This research focused on specific forms of promotions that are aimed at price discrimination depending on consumers' effort (e.g., cut coupons, collect receipts, or search for a lower price in other stores to claim a price

reduction based on a price matching policy), but left the question about how sellers' post-purchase price reductions, which are uniformly available to all consumers, impact consumers' price fairness perceptions unanswered.

Price fairness research has frequently employed dual entitlement theory (Kahneman, Knetsch, and Thaler 1986), which examines price fairness after a price increase by a seller or equity theory (Adams 1965), which focuses on the proportionality of outputs/inputs of referent agents (e.g., other customers). Hence, the majority of price fairness research has examined either price increases by the sellers before a purchase or lower prices paid by other customers after a purchase. However, price decreases by sellers after a purchase have received limited attention. As the difficult situation Apple got into exemplifies, consumers can perceive price unfairness even after their purchase if they learn that the product they bought has been discounted by the seller, especially soon after their purchase.

Although price reductions after purchases happen frequently, customers of other companies or brands do not usually react as strongly as those of Apple. This observation raises the question whether brand strength is an important variable affecting the relationship between post-purchase price reductions on price fairness perceptions given the fact that Apple is a strong brand. Although brand strength and brand loyalty are similar and correlated constructs, the focus of this dissertation is the impact of brand strength on price fairness.

To the best of my knowledge, the only study that attempted to answer the question that inquires the relationship between the timing of post-purchase price reductions and price fairness perceptions is Haws and Bearden's (2006) study. Haws and Bearden (2006) found that price unfairness perceptions increased as the time elapsed between the consumer's last purchase and price reduction decreased. They found that consumers found a deep price reduction proximal to their purchase more unfair than a shallow discount but this effect dissipated as the time between the

purchase and the price reduction increased. Although Haws and Bearden (2006) examined the impact of time and depth of price reductions on price unfairness perceptions, they neither considered brand strength, another potentially influential variable, nor did they test an underlying mechanism for consumers to perceive price unfairness.

This dissertation will examine the joint impact of brand strength, time, and depth of price reductions on price unfairness perceptions. Consequently, the focus of this dissertation is the impact of the brand strength and depth of post-purchase price reductions on price unfairness perceptions over time.

Research Issue

Although previously mentioned literature examined the issues surrounding the timing of post-purchase discounts, gaps still exist. Haws and Bearden (2006) examined the impact of the time elapsed between a purchase, and price reduction and depth of price reductions on price fairness but ignored the impact of brand names. As shown by Rao and Monroe (1989), brand names have a significant impact on product evaluations. Campbell (1999b) showed that consumers are more forgiving towards more reputable companies (strong brands) while inferring price unfairness when they encounter price discrepancies than they are to less reputable companies (weak brands). In the opening example, Apple's brand strength might have impacted the price fairness perceptions. Some of the relevant questions are: Do people perceive less price unfairness for their distant past purchases than recent purchases when they encounter a post-purchase discount from a strong brand as opposed to a weak one? How does a deep discount encountered by a consumer affect his price unfairness perceptions differently than a shallow discount over time? What is the underlying mechanism for people to perceive price unfairness after a post-purchase price reduction?

Overview of Conceptual Framework

In the opening example, the consumers expressed that they were treated unfairly after purchasing a product in the past and later learning that the price of the same product had been reduced. The consumers' current perceptions of price unfairness were influenced by looking into the past (or evaluating their past purchase retrospectively). When consumers learned about the discount, they imagined what could have happened if they had decided not to purchase the product; if they had waited longer; of if they had decided to purchase another brand. This ability to imagine different situations between different points in time allows consumers to evaluate past purchases at present time. As such, the time difference between present date and this imaginary time point impacts the perceptions of consumers in the present despite the fact that the event already took place in the past. Consequently, the timing issues surrounding post-purchase price reductions are likely to benefit from a theory that has the element of time at its core. Construal level theory (Trope and Liberman 2010) that encompasses the past, the present, and the future will be used to form a conceptual basis to examine the timing of post-purchase price reductions.

Construals are "mental representations that are invoked by distance" (Liberman, Trope, and Wakslak 2007, p. 114). According to construal level theory (Trope and Liberman 2003; 2010), people form high level (more abstract or general) construals of events in the distant future and past than those in the proximal future and past. People also tend to form low level construals (more concrete or detailed) of events in the proximal past and future than those in the distant past and future. The implication of this theory is that people tend to evaluate events in the proximal past and future in more concrete terms, such as the detailed features, rather than abstract overall thoughts or feelings.

In addition to employing construal level theory, this dissertation will integrate it with acquisition-transaction value model (Grewal, Monroe, and Krishnan 1998).

Acquisition-transaction value model is suitable to use in settings, where price comparison advertisements, such as Apple's, are observed. Moreover, acquisition-transaction value model distinguishes between two value perceptions, namely acquisition value and transaction value to offer a comprehensive explanation regarding the underlying mechanism leading to price unfairness perceptions. As such, acquisition-transaction value model integrated with construal level theory can be used to explain changes in price unfairness perceptions over time.

The literature will be reviewed to understand how consumers evaluate a past purchase in the second chapter. Findings from the reference price, price fairness, and brand strength literature will be included as they relate to timing of post-purchase price reductions. The third chapter will form the conceptual framework by integrating the acquisition-transaction value model and construal level theory to develop the hypotheses.

Potential Contribution

This dissertation contributes to the literature by examining the impact of brand strength and depth of post-purchase price reductions on price unfairness perceptions over time. By examining the combined impact of timing and depth of price reductions, this dissertation explains how the time between the last purchase and the subsequent discount may augment the impact of the depth of discounts on consumers' price unfairness perceptions, depending on brand strength.

The contribution of this dissertation is twofold. First is theoretical. Construal level theory will be integrated into the framework of acquisition-transaction value model to explain how price unfairness perceptions are impacted by the timing of post-purchase discounts, acquisition value, and transaction value. This dissertation is also extending the knowledge about the impact of brand strength on price unfairness perceptions over time. As such, the examination of brand strength according to construal level theory opens up a fertile research area involving the impact of brands

on price unfairness perceptions over time for future researchers. Second is substantive. The findings of this dissertation may provide guidelines for companies to determine the timing for price reductions in order not to increase price unfairness perceptions depending on their brand strength.

Organization of the Dissertation

Chapter one introduces the background and the research issue. In chapter two, the literature on construal level theory, price fairness perceptions, reference price, acquisition-transaction value model, and brand strength will be reviewed. Chapter three then constructs the conceptual framework based on the integration of construal level theory and brand strength into the acquisition-transaction value model for pre-purchases. Construal levels of different elements in this extended acquisition-transaction value model for pre-purchases are discussed. Based on this model, extended acquisition-transaction value model for post-purchase price reductions will be formed by discussing the differences between pre and post-purchase price reductions. Hypotheses will be presented while the conceptual model is being created. Chapter four will present the first experiment, which uses student participants. This experiment is the initial attempt at creating the scales for the new constructs and testing the model. Chapter five will present the second experiment, which uses non-student participants recruited online. This experiment refines the scales further and re-tests the model on a different product. Chapter six discusses the findings and concludes with limitations and future research suggestions.

Chapter 2: Literature Review

Introduction

The purpose of this chapter is to organize a review of past research as it relates to timing issues surrounding post-purchase discounts. In the first section, findings obtained using construal level theory from consumer behavior and pricing research streams will be reviewed. The second section will gather research findings as they relate to the timing of post-purchase price reductions and fairness perceptions of such price reductions. The findings from price fairness, reference price, and brand strength literature will be drawn upon.

Section 1: Construal Level Theory

Construal Level Theory

Construals are "mental representations that are invoked by distance" (Liberman, Trope, and Wakslak 2007, p. 114). According to construal level theory (Trope and Liberman 2010), objects, events, or phenomena at different psychological distances in time are represented by different levels of construals. There are four dimensions of psychological distance: Temporal (time), social (self vs. others), spatial (physical), and hypothetical (probability of occurrence) distance (Trope and Liberman 2010). According to construal level theory (Liberman and Trope 1998), psychological distance increases the salience of either desirable end states or feasibility of attaining the end states in such a way that distant events are evaluated in more abstract (high level - desirable end state) construals but proximal events are evaluated in more concrete (low level - feasibility of attaining the end state) construals. As such, events distant in the past or future invoke high level construals and more abstract, coherent, and superordinate representations. However, events proximal in the past or future, invoke low level construals, such as, details and concrete representations.

However, the high vs. low level distinction is not a black and white picture. There are levels of abstractness associated with different distances. At proximal distance, mental representations are more detailed and contextual. As the distance increases, people omit these details gradually to form more abstract construals. Categorization schemes follow this kind of abstraction. For instance, "object categorization (e.g., recliner, chair, furniture), trait categorization (e.g., plays the piano, musical, talented), and goal directed action categorization (e.g., reading a textbook, doing well in an exam, succeeding academically)" (Trope, Liberman, and Wakslak 2007, p. 84).

High level construals help answer why the action is performed and low level construals answer how the action is performed. Consequently, low level construals invoke feasibility concerns over high level construals, which invoke desirability aspects (Trope and Liberman 2003). For instance, a high level construal (desirability aspect) may be the desire to ride a sports car. On the other hand, a low level construal (feasibility concern) may be how to ride the sports car (i.e., the payment of the loan and the cost of the gas). This discussion lends itself to the idea that proximal events are dealt with how to obtain the goal (i.e., deal with logistical problems, and doability concerns). High level construals are dealt with higher level goals and representations (i.e., enjoying the sports car). After this brief review of construal level theory, research related to construal level theory and the subject of this dissertation will be examined next.

Construal Level Theory and Consumer Behavior

Construal level theory argues that time is the determinant of level of construals in consumers' minds. Consumer behavior research has used time either as a resource (Suri and Monroe 2003) or as a variable that impacts consumers' construal levels. This dissertation focuses on the latter. How construal level theory has been employed in consumer behavior will be reviewed next.

Trope, Liberman, and Wakslak (2007) reviewed how psychological distance impacted construal levels for consumer behavior. They argue that depending on the temporal distance, consumers weigh primary (essential) or secondary (peripheral) characteristics of choice problems to arrive at decisions. They assert that primary features of a product are construed at higher levels, but secondary features are construed at lower levels. The reasoning for this is that central features are relevant to the product's intended goal and hence constitute higher levels of abstraction than peripheral features.

Trope and Liberman (2000) examined how consumers evaluated the primary and secondary features of a product depending on temporal distance. In an experiment (study 3), they asked respondents to evaluate a radio that they plan to purchase to listen to the morning programs either the next day or in a year. In the first condition, they indicated that the sound quality (primary feature) was bad but the clock (peripheral feature) was pretty functional. In the second condition, the sound quality was good but the clock was useless. Participants, who were told to imagine purchasing the radio, whose sound quality (the primary feature) was good but clock (peripheral feature) was useless, in a year, were more satisfied with their purchase than those, who were told that the sound quality was bad but clock was good. In contrast, the near future condition (next day) did not differ between these conditions.

Liberman, Trope, and Wakslak (2007) discussed the applications of construal level theory to consumer behavior. Liberman, Trope, and Wakslak (2007) argue that consumers are more likely to be more satisfied with their decisions if they have a matching temporal distance with the construal level of the decision they are making than if they don't have a matching temporal distance with the construal level of their decision. For instance, if consumers are making decisions about feasibility related choices for the proximal future and desirability related choices for the distant future, they are more likely to be more satisfied about the outcomes than when they make

feasibility related choices for the distant future and desirability related choices for the proximal future.

Construal level theory was also employed to explain the fit between consumer goals and advertisement message concreteness. Lee, Keller, and Sternthal (2010) researched the persuasive impact of advertisements that feature high or low level of construals depending on the recipient's goal orientation. They identified two goal orientations: Prevention and promotion. Consumers with a prevention goal orientation seek safety and hence are more sensitive to details, which are construed at low levels. On the other hand, consumers with a promotion focus seek growth and achievement, which are construed at high levels. Lee, Keller, and Sternthal (2010) argue that when there is a fit between the goal orientation of the recipient and the construal level of the advertisement, the evaluations are more favorable than when there is no fit. As such, people with a promotion focus will be more open to higher level construals in an advertisement, whereas, consumers with a prevention focus tend to be affected by lower level construals in an advertisement. Lee, Keller, and Sternthal (2010, p. 738) argue that "if a consumer's goal were to limit the chances of choosing the wrong beer for a party, a message describing Budweiser's expertly selected hops would enhance persuasion, whereas if the goal were to enjoy a superior beer, a message featuring the brand's heritage of quality would have greater impact."

They manipulated goal orientation (prevention vs. promotion). They provided two kinds of advertisements to respondents: Construed at a low level and construed at a high level. The advertisement construed at a low level emphasized the features of an elliptical trainer and explained how to exercise. The advertisement construed at a high level stressed the health benefits of exercise and why consumers should use the elliptical trainer. The results showed that respondents primed with a prevention focus evaluated the brand more favorably when the advertisement was construed at low level than the brand advertised emphasizing high level construals. The respondents with a

promotion focus on the other hand evaluated the advertisement with the high level of construal more favorably than the low level one.

Construal Level Theory and Price

Construal level theory has been applied to consumer decision making contexts in order to make price related judgments. Consumers construe feasibility concerns or costs at low levels (Liberman, Trope, and Wakslak 2007; Liberman and Trope 1998). On the other hand, quality perceptions are central to purchase decisions and hence high level construals (Trope, Liberman, and Wakslak 2007).

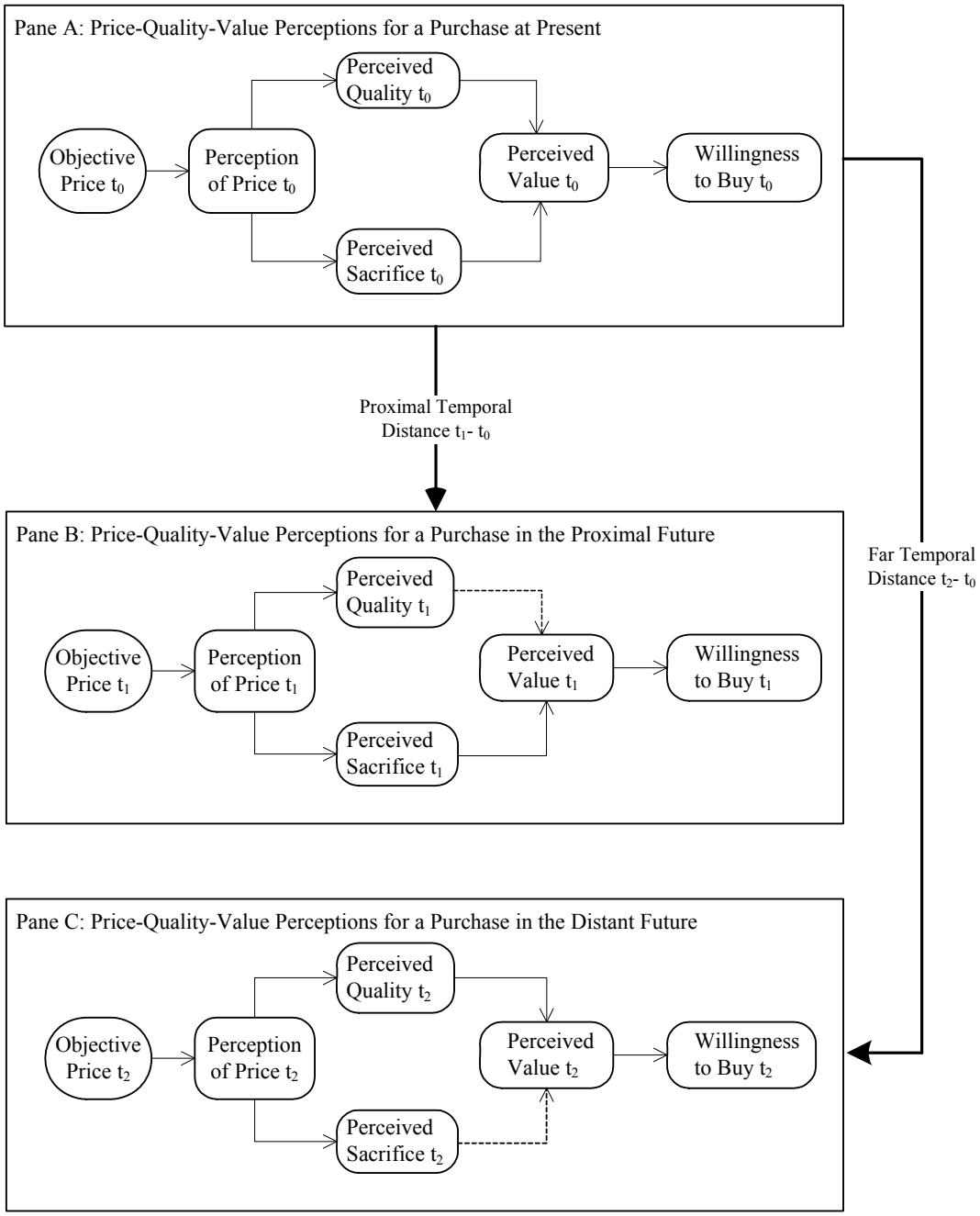
Based on such the assertions of construal level theory, Bornemann and Homburg (2011) devised a study to examine the impact of temporal distance on consumers' quality evaluations and sacrifice perceptions over time. They used the price-quality-value model (Dodds, Monroe, and Grewal 1991) to form their hypotheses.

According to price-quality-value model (Dodds, Monroe, and Grewal 1991), price is used to infer both quality and monetary sacrifice (see Figure 1 Pane A). Quality is what consumers get from a transaction whereas monetary sacrifice is what consumers give (Monroe 1990, p. 74). Quality is positively but monetary sacrifice is negatively related to value. Higher prices may lead consumers to infer higher quality but at the same time higher monetary sacrifice. If quality perceptions increase more than the monetary sacrifice perceptions, value increases. If the higher price is a weak cue for higher quality, the monetary sacrifice increases more than the quality perceptions, decreasing value perceptions (Dodds, Monroe, and Grewal 1991). This tradeoff between price-quality and price-sacrifice inferences shows the dual-role of price while determining value. Value indeed is positively related to willingness to buy (Monroe 1990).

According to Bornemann and Homburg (2011), temporal distance affects the salience of either of the components of the price-quality-value model (Dodds, Monroe, and Grewal 1991). For proximal future purchases, low level construals (i.e., perceived sacrifice) will be dominant and gain priority over high level construals (i.e., perceived quality). For distant future purchases, perceived quality will be more influential on perceived value than perceived sacrifice. Consumers in Bornemann and Homburg's (2011) study were asked to imagine that an e-book reader is going to be launched in a 2 (the proximal (2 days later) or distant (6 months later) future) x 2 (at a high price (€210) or at a low price (€95)) experiment.

Quality was perceived to be roughly the same for both high and low price conditions for subjects who were told that the product is going to be launched two days later (proximal future condition). Quality perceptions in the distant future condition were higher for the high price condition than the low price condition. Monetary sacrifice perceptions were lower for proximal future than distant future at low price level but monetary sacrifice perceptions were higher in the proximal future condition than in the distant future condition. Product evaluations did not change between high and low price conditions for the respondents in the proximal future condition. However, product evaluations were higher at the high price condition than low price in the distant future condition (Bornemann and Homburg 2011).

Please refer to Figure 1. Pane A, Pane B, and Pane C represent quality, sacrifice, and value perceptions at present, in the proximal future, and in the distant future respectively. Pane B shows that low level construal (i.e., perceived sacrifice t_1) will be influential on perceived value t_1 because consumers will weigh the sacrifice component more heavily in their value judgments. For distant events (Pane C) perceptions of quality t_2 will overpower perceived sacrifice t_2.



Source: Dodds, Monroe, and Grewal (1991)

Figure 1: Price-Quality-Value Perceptions over Time

Bornemann and Homburg (2011) conducted a bootstrap analysis within a dual mediator (perceived quality and sacrifice) model and observed that in the proximal future condition (Pane B), perceived sacrifice t_1 was significantly but perceived quality t_1 was not significantly affecting perceived value t_1. In the distant future condition (Pane C), they found that perceived quality t_2 was significantly but perceived sacrifice t_2 was not significantly affecting perceived value t_2. The results described in Bornemann and Homburg's (2011) study support the predictions of construal level theory. This study shows that value perceptions and willingness to purchase may be influenced by temporal distance.

Construal Level Theory and Brand Strength

Construal level theory has been applied to branding concepts as well. For instance, Kim and John (2008) examined the impact of construal level on perceived fit for brand extensions. Perceived fit is the degree to which consumers consider a brand extension similar to its parent brand. This similarity can be enhanced if the brand extension is in the same category as the parent brand, complimentary to the parent brand, and is able to be manufactured with the skill and expertise of the parent brand. Kim and John (2008) examined construal level as a moderator variable that determines the importance of perceived fit. They asserted that perceived brand extension fit is a high level construal because it is a global (abstract) judgment consumers use to evaluate the brand extension. They argued that consumers who construe events at a high (low) level will place more (less) importance on the perceived fit of the brand extension. They manipulated the construal level by manipulating temporal distance and asked the respondents to evaluate the fit for proximal (very soon) or distant (six to eight months) future brand extensions. The respondents were asked to imagine that MTV would start a music downloading service (high fit) or a travel agency (low fit). They found that when brand extensions are evaluated at high construal level (distant future), the high fit brand extension was evaluated more favorably than the low fit one. However, at

proximal future, the high or low fit brand extensions were not evaluated differently. This study shows that distant future events construed at high levels (i.e., brand extension fit) are more influential on consumers' judgments than those construed at low levels, however, this difference disappears for proximal future events.

Although brand related information can be considered a high level construal, Lee, Keller, and Sternthal's (2010) study shows that brand related information can be construed at both low and high levels by manipulating the construal levels of brand information. For instance, a cereal brand can advertise to be suitable for breakfast. Its message can be framed with an abstract mindset as getting the nutrition for the day (high level construal) or with a concrete mindset pouring milk on cereal (low level construal) (Kim and John 2008, p. 117).

Section 1 Summary

This section reviewed the construal level theory (Trope and Liberman 2000; 2010). According to construal level theory, temporally distant events are construed at high but temporally proximal events are construed at low levels. The literature review reveals that consumers may be more satisfied after making decisions that are corresponding to consumers' construal level. The central attributes of products are relevant to their goal and therefore construed at high levels. The peripheral attributes are construed at low levels. When consumers decided to purchase a product with a good central attribute that is construed at high levels for a temporally distant purchase occasion in the future, they were more satisfied than when they made the same decision for a product with a good peripheral attribute (Trope and Liberman 2000).

Consumers' perception of value increased as the temporal distance between present and the time when the purchase would be made increased. This effect is due to the increase in the salience of quality perceptions and the decrease in cost concerns. When the decision was for the proximal

future, the dominance of cost concerns over quality perceptions decreased value perceptions (Bornemann and Homburg 2011).

Consumers liked advertisements that appealed to them using high level construals of a brand instead of low level construals when they were primed to have a high level mindset or vice versa (Lee, Keller, and Sternthal 2010).

The literature review in section 1 reveals that studies employing construal level and temporal distance most of the time involved the impact of future events on present perceptions. However, construal level theory (Trope and Liberman 2010) predicts that the impact of distant (proximal) events in the past or future on present perceptions to be the same. Therefore, the findings related to the impact of construal levels of future events on present perceptions in the literature can support predictions that are related to the impact of construal levels of past events on present perceptions.

The literature review in section 1 shows that consumers are likely to construe brand strength related cues at high levels and price related cues at low levels. This difference in construal levels is likely to be impacted by the temporal distance between present and when the event, for which the construal is formed, happened in the past. For distant past events, high level (i.e., brand strength related cues) will impact the consumers' judgment more than the low level (i.e., price related cues). For proximal past events, low level construals (i.e., price) are likely to influence consumers' judgments more than high level construals (i.e., brand strength).

Section 2: Price Unfairness Perceptions

Equity Theory

Equity theory (Adams 1965) asserts that satisfaction with outcomes from any social exchange depends on social comparisons. Inequity perceptions arise from a person's consideration of his investments and returns as compared to the inputs and outputs of a referent other. People choose referent others to compare with themselves according to the others' similarity to themselves (Xia, Monroe, and Cox 2004). Equity theory has two major steps. First, the focal person, who perceives (un)fairness, assesses his/her own output-input ratio. Second, the focal person compares his/her output-input ratio to that of the referent other. The outputs and inputs of the referent other constitute the reference with which the person, who perceives the (un)fairness, compares his/her outputs and inputs. The degree to which the proportionality of the four elements of the exchange differs from the focal person's perception of their appropriate distribution determines the level of unfairness the focal person perceives.

Equity theory has been applied to pricing research frequently. Equity theory was applied to examine the fairness of differential pricing situations (Cox 2001) and to determine the fairness of promotions (Darke and Dahl 2003). Due to equity theory's roots in social comparisons, studies that employed equity theory, compared the outcomes of one person to a referent other. The price fairness perceptions were examined usually when one customer learned that another customer paid a lower price for the same product. The condition when another customer paid a higher price received little attention (e.g., Xia and Monroe 2010). Researchers employing the equity theory frequently used similar others (customers) but not sellers or self as referent others.

Dual Entitlement Theory

Kahneman, Knetsch, and Thaler (1986) examined the circumstances and antecedents that consumers perceive as fair. They named this theory dual entitlement theory because it was assumed that the seller was entitled to a fair profit and the buyer was entitled to a fair price. They devised a scenario in which a firm made pricing decisions. A hardware store, which was selling snow shovels for regularly $15, increased the price of the shovels to $20 after a major snow storm. When respondents were asked whether this action was fair, 83% indicated that the price increase was not fair. The reasoning behind this result is that the firm was behaving opportunistically and taking advantage of the short term shortage of snow shovels. While making judgments about the price increase, consumers use a reference transaction, in which the regular conditions and specifications of exchanges are contained. Any deviance from this reference transaction is considered unfair.

However, not all price increases are unfair. Kahneman, Knetsch, and Thaler (1986) asked respondents to imagine that due to a transportation problem, a lettuce shortage occurred and the wholesale price of lettuce increased by $.30. The grocery store increased the price of a head of lettuce by $.30. The majority of the respondents (79%) found the price increase fair. The reasoning behind the perceived fairness of the price increase is that the grocery store is protecting its profits by the price increase but not trying to boost its profits more than the reference profit.

According to dual entitlement theory the consumers have a sense of a reference transaction (the price and other conditions of a transaction often based on status quo) and changes from the status quo is judged with regard to this reference transaction. An increase in the price needs to be justified by the firm with the purpose of maintaining previous profit levels. If this is not the case, the resulting price is perceived unfair as in the snow shovel example; else it is fair as in the lettuce example.

Dual entitlement theory has been employed to examine many outcomes in marketing such as customer satisfaction (Herrmann et al. 2007) and price fairness (Bolton, Warlop, and Alba 2003; Campbell 1999b). Although dual entitlement theory was used successfully to explain these outcomes, it has its limitations. Campbell (1999b) found that price fairness perceptions were influenced by the inferred relative profit and the inferred motive. Moreover, reputation of sellers after a price increase moderated the relationship between inferred relative profits and inferred motive.

Bolton, Warlop, and Alba (2003) found that consumers not only underestimate sellers' costs, which in turn swell inferred profits but also underestimate the impact of inflation on price increases. Bolton, Warlop, and Alba (2003) also found that the composition of costs (quality, rent, risk, etc) affected fairness perceptions although two retailers made the same amount of profit. They found that consumers were willing to accept quality differences to justify price differences and perceive equal price fairness, but not willing to accept operating costs, risk, or customer base as excuses to charge different prices. As a result consumers experienced more price unfairness due to price differences caused by these costs.

Vaidyanathan and Aggarwal (2003) found that even when the price increases are justified by cost hikes, unfairness perceptions were more when the locus of control was within the company and when the price increase was within the volitional control of the company than when the locus of control was outside the company and when the company had no volitional control over the price increase.

Price Unfairness Perceptions

More often than not researchers did not distinguish between whether consumers perceived price unfairness due to the price changes after or before a purchase. There are four conditions under

which price fairness can be perceived depending on whether a purchase took place and either the price of the product increased or decreased: (1) before a purchase due to a price increase, (2) before a purchase due to a price reduction (3) after a purchase due to a price increase (4) after a purchase due to a price reduction.

The first condition, which is a pre-purchase price increase, has been examined predominantly by dual entitlement theory (Kahneman, Knetsch, and Thaler 1986). Kahneman, Knetsch, and Thaler (1986) examined the price fairness perceptions before a purchase when the seller increased prices opportunistically. Subsequent research using dual entitlement theory usually included scenarios where sellers increased prices before a purchase. The subjects were questioned as to whether the prospective purchase price would be fair (Campbell 1999b; Vaidyanathan and Aggarwal 2003).

The second condition, which is a pre-purchase price reduction, was examined within the promotions literature. Darke and Dahl (2003) examined the price fairness perceptions when consumers got a deal. They identified that the bargain size positively affected price fairness perceptions. Moreover, they found that non-monetary aspects of obtaining a bargain increased price fairness perceptions. Equity theory was mostly employed for pre-purchase price reductions.

The third condition, which happens after a purchase due to a price increase, received little attention. The reason for the literature not to consider this condition is most likely that a price increase after a purchase is likely to be perceived as a gain for the consumer and hence is not likely to lead to price unfairness.

The fourth condition, which happens after a purchase due to a price reduction, is the focus of this dissertation. The Apple example shows that timing of post-purchase price reductions may impact fairness perceptions. The most notable study, which considered the impact of post-purchase

price reductions on price fairness perceptions, was conducted by Haws and Bearden (2006), who showed that price unfairness perceptions depend on the timing of post-purchase price reductions. They examined the impact of time difference (recency) between when a consumer purchased a DVD player and when the consumer learned that the same product was discounted. They found that price unfairness perceptions depended on the recency. They identified that the closer the discount to the purchase, the higher the perceived price unfairness. In Haws and Bearden's (2006) study, one hour, one day, or one month after his purchase, the consumer learned that the retailer was charging a lower price for the same item. The price unfairness perceptions were found to be higher when the consumer learned about the discount one hour after his purchase than one month. Moreover, the interaction between the recency and the depth of price reductions was significant. They found that consumers found deep price reductions temporally proximal to their purchase more unfair than shallow discounts. However, this effect dissipated over time.

Caruso (2010) examined the impact of proximal and distant past events on consumers' emotions and current fairness perceptions. He asked the respondents to imagine that Amazon.com implemented a pricing system (one year/one month) ago and charged its most loyal customers more than others. He found that distant past (one year ago) events did not arouse as much emotion as events in the near past (one month ago). Respondents in the proximal past condition felt more anger, cheated, and outraged than those in the distant past condition. He also found that the negative emotions mediated the relationship between temporal distance and fairness of the pricing system, indicating that the pricing system distant in the past did not cause as much unfairness perceptions as the proximal one. This finding implies that people are more likely to find temporally close past events less fair than temporally distant events although they are equivalent in magnitude.

Caruso's (2010) findings are consistent with construal level theory (Trope and Liberman 2010) that states distant events are evaluated in more abstract terms and proximal events in more

concrete terms. Because the distant events are thought abstractly, the consumers were less likely to pay attention to the price or other details of the pricing system. Therefore, the details (i.e., charging more) of the pricing system was not the focus of the respondents in the distant past condition in Caruso's (2010) study. When consumers did not focus on the details, they were less likely to perceive the distant past events to be similar to present events. As a result, the comparison of dissimilar events did not result in price unfairness perceptions (Xia, Monroe, and Cox 2004). Therefore, the pricing system in the distant past led to less unfairness perceptions than the one in the proximal condition.

Xia, Monroe, and Cox (2004) argued that perceived transaction similarity can increase price unfairness perceptions. The reason for this is that the more similar the transactions, the more comparative judgments between the reference transaction and his/her transaction the consumer can make to perceive price unfairness. Xia, Monroe, and Cox's (2004) argument about transaction similarity is also consistent with Caruso's (2010) findings and construal level theory. According to construal level theory (Trope and Liberman 2010), as the temporal distance between present and an imaginary time point increases, the details of the transaction gradually disappears from the consumers' memory. Only the overall evaluations of temporally distant transactions are used in forming price fairness perceptions. Hence, the reduction in the details of a transaction and the use of such overall evaluations make it harder for consumers to make comparative judgments and perceive price unfairness for temporally distant transactions.

Bolton, Warlop, and Alba (2003) examined the impact of inflation on price fairness perceptions over time. They found that consumers tended to underestimate the impact of inflation over time while deciding whether a price increase was fair. However, this study did not include brand strength or discounts that may account for price unfairness perceptions.

Oh (2003) examined the impact of price fairness on quality and value perceptions in a post-purchase situation. The study was administered at a hotel after guests checked in. Participants' internal reference price was measured by asking the fair price and market price for their room. Positive (negative) price fairness was operationalized as when consumers paid less (more) than their internal reference price. When consumers perceived positive price fairness they also rated quality higher. The relationship between positive price fairness and value was mediated by price (sacrifice) and quality perceptions. Negative price fairness generated a stronger impact on value and quality perceptions than positive price unfairness. Under positive price fairness condition, the impact of price fairness on value was mediated by perceived price (sacrifice). Under negative price fairness, the impact of price fairness on value was mediated by perceived quality. Positive price fairness had no impact on perceived quality; however, negative price fairness affected perceived quality significantly.

Consumers usually pick another consumer as the referent other, who paid a lower price, to perceive price unfairness. In the absence of such a comparative party or if such a party is not salient, consumers may engage in self/self comparisons (Xia, Monroe, and Cox 2004). A self/self comparison requires the consumer to compare the current actual price to a price at an earlier point in time. This earlier price is usually the consumers' prior experience with the same product (i.e., prices paid in the past). The possibility of a self/self comparison involving an earlier price paid by the consumer makes the reference price literature relevant to price fairness perceptions. Hence, the next section will examine reference price perceptions.

Reference Price Perceptions

Reference price formation has attracted considerable research interest. Consumers may form reference prices depending on their prior experiences and current contextual factors (Kalyanaram and Winer 1995). Some researchers conceptualized reference price as the average of

past prices (Rajendran and Tellis 1994). Lattin and Bucklin (1989) found that consumers may use promotions to adjust their reference prices downward over time. Kalwani et al. (1990) conceptualized reference price as expected price. They found that expected price was affected by past prices paid, store environment, individual differences, and frequency of promotions.

The main conceptual theory behind reference prices is the adaptation level theory (Helson 1964) that states that new stimuli at any given time are evaluated based on previously adapted levels. These new stimuli over time cause shifts in the adaptation level. If new stimuli are above their adaptation level, people adjust their adaptation level upward. If new stimuli are below their adaptation level, consumers lower their adaptation level. If a new external stimulus (actual selling price) is higher (lower) than the adaptation level (reference price), the reference price - after the consumer is exposed to the new high (low) actual price- will increase (decrease). As such, new prices shift this adaptation level over time. This adaptation level is considered as the reference price (Kalyanaram and Little 1994).

Scitovszky (1944, p. 101) argues that "consumers usually attribute two prices to products: (1) a traditional past price (the 'fair' or the 'normal' price) that denotes its worth and (2) the product's 'actual price'." In pricing research, this traditional past price often has been considered as the reference price. According to adaptation level theory (Helson 1964), the product's actual (selling) price (external stimulus) leads to changes in the adapted level (the product's traditional past price or worth). It is important to examine these changes because price fairness perceptions have a cognitive component that includes comparison of two different prices (Xia, Monroe, and Cox 2004). Because reference price changes over time, an individual may have two different reference prices for the same product at two different points in time. This difference in reference prices may be the result of discounts, promotions, etc. The impact of promotions on reference prices will be examined next.

Kalwani et al. (1990) researched the impact of expected price on brand choice using scanner data. They estimated that expected price was a function of past prices as well as past prices paid, store environment, individual differences, and frequency of promotions (R^2 = .28). They found that the average of last five prices paid explained most of the variance in their model. They determined that frequently promoted brands have lower expected prices and conjectured that the customers might expect promotions to be available during their future purchases. Consumers chose brands more when their actual price was below the consumers' expected price than when their actual price was above. Customers bought much less when their expected price was lower than the actual price as opposed to when an equivalent price difference existed in the opposite direction. This finding is also consistent with prospect theory (Kahneman and Tversky 1979), which postulates that losses loom larger than gains even though they are equal in magnitude.

Lattin and Bucklin (1989) investigated the effect of promotional activity on brand choice and consumers' reference prices after the promotional period. They used scanner data of competing coffee brands extending over two years. They concluded that the reference price decreased from $2.36 to $2.23 after consumers were exposed to a promotional activity, where the price of Folgers brand decreased from $2.49 to $1.99 for three weeks. This finding implies that discounts decrease consumers' reference price; however, not as much as the size of the actual discount (Kalwani et al. 1990; Lattin and Bucklin 1989).

Consumers' reference price is impacted by the actual sales price. If the sales price is lower than the reference price, the reference price decreases. If the sales price is higher than the reference price, the reference price increases. But the reference price is not perceived to be equal to the actual sales price. For instance, in Lattin and Bucklin's (1989) study, the price decreased from $2.49 to $1.99 (20%) but the reference price fell from $2.36 to $2.23 (5.5%).

Tsiros and Hardesty (2010) examined a pricing tactic, where sellers retracted a deep discount in steps. The subjects were exposed to three levels of prices for a PDA (personal digital assistant): First, respondents were informed that the retailer was offering the PDA, which was regularly sold at $499, for $349. But instead of retracting the promotion totally to charge the regular price ($499) as usually is the case for a hi-lo pricing tactic, the retailer increased the price of the PDA to $379. This type of decreasing promotions, which Tsiros and Hardesty call steadily decreasing discounts, interspersed over time resulted in higher revenues than the hi-lo pricing tactic. Tsiros and Hardesty explained their findings with inaction regret, which is the regret consumers feel for not acting and taking advantage of the larger deal sooner rather than the smaller deal later. The imminent scenario that the future actual price would be higher than the current one prompted consumers to calculate the advantage (the larger deal: $499 - $349) they had at present with the advantage (the smaller deal: $499 - $379) they would have in the future. They explained that when consumers knew that the price would increase in the future (next week), consumers felt this inaction regret and opted to purchase the product earlier. Tsiros and Hardesty (2010) argued that the previous price served as a reference price. As such, the reference price lagged behind the actual price increases. This change in reference price over time is consistent with adaptation level theory (Helson 1964).

The three studies reviewed above show that price reductions lead to either downward adjustment of reference prices (Kalwani et al. 1990; Lattin and Bucklin 1989) or upward (Tsiros and Hardesty 2010). Such adjustments are in line with the adaptation level theory (Helson 1964). These studies also show that reference price is internal to the individual and is not necessarily equal to external reference price. In addition to the impact of price reductions discussed in the three studies above, depth and frequency of price reductions may affect reference prices.

A study in support of the impact of promotion depth on reference prices was conducted by Kalwani and Yim (1992). They found that both depth and frequency of promotions reduced the price expectation or reference price.

Alba et al. (1999) examined how the frequency and depth of discounts impacted consumers' reference price perceptions. They asked subjects in a buying game to choose a brand of shampoo from two alternatives in a way to minimize their total cost over a period of 36 months. The subjects assumed that they have to use one shampoo per month. One of the shampoo brands was discounted frequently and shallowly (regular price: $2.49, discounted price: $2.34, 6% discount) but the other was discounted infrequently and deeply (regular price: $2.49; discounted price: $2.19; 12% discount). They found that deep discounts impacted reference price perceptions more than frequent discounts and led to lower reference price perceptions (as inquired by asking the average price of each shampoo brand) when the prices alternated between two levels: Regular and discounted price. Alba et al. (1999) also found that when the prices of the frequently discounted brand were between discounted and regular prices at more than two levels, more frequently discounted brand was perceived to have a lower price than the infrequently and deeply discounted brand.

Another study that examined reference prices depending on the depth and frequency of discounts was executed by Lalwani and Monroe (2005). They used two shampoo brands. One of the shampoo brands was discounted deeply (regular price: $2.09; discounted price: $1.09; 47% discount) and the other shallowly (regular price: $2.09; discounted price: $1.99; 5% discount). Lalwani and Monroe (2005) defended the numerical cognition explanation that asserted that the salience of either discount frequency or discount depth affected reference price perceptions.

The three studies reviewed above found that price reductions decreased reference prices. They all found that the deeper and the more frequent the price reductions were, the lower the

reference price was (Alba et al. 1999; Kalwani and Yim 1992; Lalwani and Monroe 2005). Although Alba et al. (1999) and Lalwani and Monroe (2005) argued that either frequency or depth of discounts decreased reference prices more than the other under certain conditions, both articles agree that frequent and deep discounts lead to lower reference prices. This summary shows that people perceive lower reference prices after discounts. However, remembering such discounts or former prices may be a problem for consumers. The memory for prices as shown in Sawyer and Dickson (1990) is less than perfect.

Lalwani and Monroe (2005) and Alba et al. (1999) asked respondents to state the average prices of the two brands after the experiment. However, remembering prices exactly is a challenging task for consumers. Dickson and Sawyer (1990) found that less than half (47.1%) of consumers, who just paid for their groceries at the register, remembered the exact prices. As Dickson and Sawyer (1990), Alba et al. (1999) and Lalwani and Monroe (2005) measured only the exact prices. However, research shows that consumers remember prices not just explicitly by recalling them exactly but implicitly by knowing (Monroe and Lee 1999).

Monroe and Lee (1999) argue that although consumers do not know the exact prices of items they just bought, they implicitly know what these prices are. They based their argument on the idea that memory works in two ways: Explicitly and implicitly. Monroe and Lee (1999, p. 214) argued that "remembering responses are closely related to conscious retrieval of information stored in memory while knowing responses are based on a familiarity that reflect the result of automatic or unconscious processing." While explicit recall is remembering the exact price of products, implicit memory ensures a familiarity with the price range, which is the basis for the reference price.

Reference price literature suggests that price reductions decrease reference prices. However, such a decrease in the reference price or even the actual price, which consumers paid recently, may not be explicitly and exactly known by the consumers (Dickson and Sawyer 1990).

Evidence suggests that reference price may be implicitly known by consumers (Monroe and Lee 1999). Such implicit knowledge about prices might stem from relevant contextual cues (Adaval and Monroe 2002). Adaval and Monroe (2002) found that when the contextual prices (prices of other related products) were higher than the focal product that was being evaluated, consumers judged the price of focal product as inexpensive. However, when the contextual prices were lower, the focal product was judged as expensive.

Reference price might also be affected by irrelevant contextual cues (Nunes and Boatwright 2004) or incidental prices. Nunes and Boatwright (2004) found that consumers' willingness to pay for a CD was influenced by an irrelevant product (a t-shirt, which the consumers' attention was not directed). When the price of the t-shirt was high ($80), the consumers were willing to pay $9 on average for the CD. On the other hand, when the price of the t-shirt was low ($10), consumers were willing to pay $7.29.

Adaval and Wyer (2011) found evidence in support of Nunes and Boatwright's (2004) findings. Adaval and Wyer (2011) found that incidental reference prices affected price judgments and also qualified the effect. They found that when consumers could identify where they obtained the reference price, they deliberated the features of the product and its price. Such a deliberation then activated the features that could be used as references to evaluate related products. Hence, the impact of the incidental reference price did not extend to unrelated products. However, when consumers could not identify which product the reference price belonged to, they evaluated subsequent unrelated products with respect to this reference. Hence, the impact of the incidental reference price extended across different product categories.

Although reference price literature provides less than concrete conclusions about consumers' memory for prices, the topic of this dissertation is less likely to be affected by consumers' memory problems for prices. As described in the opening example, Apple announced

the reduction in the price of the iPhone in a press release explicitly stating the former high and current reduced prices. Such information makes the consumers' memory problem for prices a less likely threat to the research issue of this dissertation. When consumers encountered the new price along with the initial price, they were more likely to know the two prices explicitly and exactly. Consumers used such precise knowledge of these two prices to make a self/self comparison. The new lower price (advertised selling price) (i.e., $399) and the higher price (advertised reference price) (i.e., $599) they paid in the past affected their price fairness perceptions.

Price fairness literature focused more on the price perceptions as a variable that explains the price fairness perceptions. Company reputation (brand strength) is also an important variable that can impact fairness perceptions (Campbell 1999b). Brand name has been shown to impact price perceptions in numerous studies (e.g., Grewal et al. 1998). Despite the intuitive appeal of brands as a factor that impact fairness perceptions, brand strength has received little attention in price fairness research. Brand strength in relation to price fairness perceptions will be examined next.

Brand Strength

Brand strength is defined as the associations held by customers (Lassar, Mittal, and Sharma 1995). These associations can be any notion that is related to the brand. A brand can be associated with prestige, high performance, trustworthiness, etc. Keller (1993) takes a brand strength perspective on the topic and defines brand equity as the differential effect of brand image and brand awareness on consumer responses to the marketing of the brand.

Brand strength includes many associations that the consumers have with a brand: Brand image, brand loyalty (Wood 2000), brand awareness, perceived quality, user satisfaction (Aaker

1996), and reputation (Motameni and Shahrokhi 1998). The more positive such associations are, the stronger the brand.

Many studies used brand name (or brand strength) as a variable but due to the breadth of it, operationalized in different ways. A strong and weak brand may mean a national and store brand (Richardson, Dick, and Jain 1994). While classifying national brands as strong and store brands as weak, Richardson, Dick, and Jain (1994) differentiated between the two using quality, appearance, and attractiveness. Dodds, Monroe, and Grewal (1991) used actual brand names to manipulate strong and weak brands. They differentiated between the two levels of brand strength in terms of brand quality, familiarity, and knowledge. Grewal et al. (1998) used actual brand names of bicycle brands to indicate strong and weak brands. They measured the difference between strong and weak brands in terms of brand image. They used the following two items: "My image of the _____ brand name is" and "I view the _____ brand name positively".

A big part of brand associations consists of reputation of a brand. Reputation of a firm indicates how reliable its actions and motives were in the past (Campbell 1999b). Company reputation was found to mitigate the effects of price increases on price unfairness perceptions (Campbell 1999a). A good reputation or a strong brand may positively impact price fairness perceptions. A good corporate reputation increases satisfaction, loyalty, trust, positive word of mouth, favorable product evaluations, purchase intentions, and purchase behavior (Brown 1998; Walsh and Beatty 2007). Campbell (1999b) found that a company with a good reputation incurred less price unfairness perceptions after a price increase. However, a company with a bad reputation did not benefit from this effect.

Brucks, Zeithaml, and Naylor (2000) found that consumers used price or brand name to infer different dimensions of quality. They identified that quality has six dimensions: Ease of use, versatility, durability, serviceability, performance, and prestige. They found that consumers did not

utilize price to infer quality when it was defined as performance. However, consumers used price and brand name to infer quality when it was defined as prestige.

Rao and Monroe (1989) performed a meta-analysis to examine price-perceived quality relationship. They found that single-cue studies employing only the price as independent variable do not produce weaker main effects than multi-cue studies employing price and brand name information. However, the difference between single and multi cue studies was not significant.

Miyazaki, Grewal, and Goodstein (2005) examined the price-quality relationship when multiple cues were present. They found that when other cues were not present, price was used to infer quality. However, in the presence of brand information, the use of price cue diminished. They identified that brand name and price interacted, such that higher prices meant higher perceptions of quality for stronger brands. However, price did not affect quality perceptions for weak brands.

Blattberg, Briesch, and Fox (1995) argued that consumers do not respond to strong brands the same as they do to weak ones. Stronger brands can attract more customers from other brands when discounted than can weaker brands. This increased attraction to stronger brands can be because of the impact the brand strength on consumers' perception of discounts.

Consumers may believe the information in advertisements depending on brand strength or reputation of the advertiser. Ford, Smith, and Swasy (1990) found that consumers believe advertising claims regarding search attributes more than experience and credence attributes. As such, discount claims are subject to consumers' own interpretation. This interpretation of advertised information may depend on advertiser reputation. Goldberg and Hartwick (1990) found that claims put forward by highly reputable advertisers were more believable than less reputable advertisers. For instance, they identified that products were evaluated more positively when the advertiser was highly reputable than when less reputable.

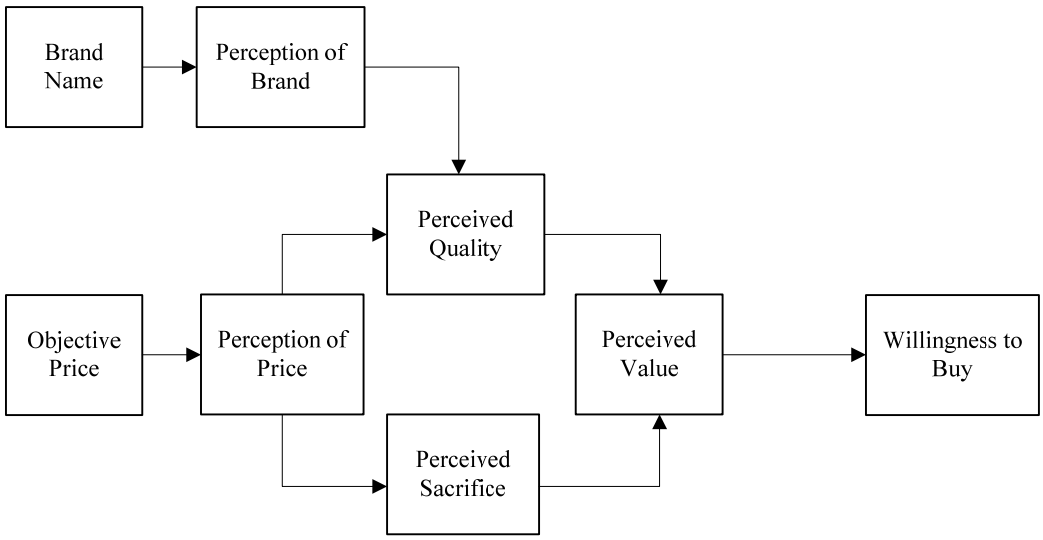
From the previous discussion, it is evident that brand strength affects the interpretation of discount claims. Gupta and Cooper (1992) found that consumers discount the discounts depending on their size. This finding is consistent with prior literature that found consumers discount exaggerated discount claims (Urbany, Bearden, and Weilbaker 1988). When consumers are faced with discount levels that are high, they do not disregard them but discount them to a more reasonable level. Gupta and Cooper (1992) found that perceived discount was usually smaller than the advertised discount. Moreover, when strong brands offered discounts, consumers did not discount such discounts as much as those offered by weak brands (Gupta and Cooper 1992). Assuming both strong and weak brands have the same price, this results in higher perceived discounts (or savings) for strong brands than weak brands even though the strong and weak brands offer the same percentage of discount. The reason for this result is that when strong brands offer discounts they are more believable than weak brands.

Grewal et al. (1998) found that brand name was positively but discounts were negatively associated with reference price. They found that discounts did not impact perceived brand quality. This finding that discounts do not affect perceived brand quality is consistent with Dodds, Monroe, and Grewal's (1991) findings indicating that price information impacted quality perceptions more strongly in the presence of brand name than the absence of brand name.

Dodds, Monroe, and Grewal (1991) extended the price quality-value model, which was examined over time by Bornemann and Homburg (2011), to include brand name. They found that brand name positively impacts perceived quality perceptions (Dodds, Monroe, and Grewal 1991). Hence, strong brands increase perceived value and willingness to purchase more than weak brands (see Figure 2).

Although brand strength was included in the extended price quality value model (see Figure 2), this model was extended later by Grewal, Monroe, and Krishnan (1998) by including two

different value perceptions: Acquisition value and transaction value. The next section will examine the acquisition-transaction value model.



Source: Adapted from Dodds, Monroe, and Grewal 1991

Figure 2: Extended Price-Quality-Value Model

Acquisition-Transaction Value Model

Grewal, Monroe, and Krishnan (1998) enriched perceived value by conceptualizing it more precisely: Acquisition and transaction values. In order to include these acquisition and transaction value concepts, Grewal, Monroe, and Krishnan (1998) defined two reference prices: Internal reference price and the external reference price. Internal reference price is defined as "a price (or price scale) in buyers' memories that serves as a basis for judging and comparing actual prices (Grewal, Monroe, and Krishnan 1998, p. 47)." Such internal reference price was frequently operationalized as the expected price (e.g., Kalwani et al. 1990). The previous section regarding the reference price focused on the internal reference price.

The external reference prices are the advertised reference and the advertised selling prices used in price comparison advertisements. The advertised reference price is usually the higher price stated in a price promotion and the lower price is the selling price (e.g., was $599 now $399 in iPhone's price reduction). Such price comparison advertisements influence the perception of the magnitude of the deal the consumer is getting. The larger the difference between the advertised reference price and the advertised selling price; the bigger the deal perceptions; and the more the pleasure obtained by the consumers. The advertisers state the former high reference price because they hope that consumers will use it as their (internal) reference price (Monroe 1990) or to increase their internal reference price. The difference between the internal reference price and the advertised selling price is the transaction value, which is defined as the perception of psychological satisfaction or pleasure obtained from taking advantage of the financial terms of the deal (Lichtenstein, Netemeyer, and Burton 1990; Thaler 1985).

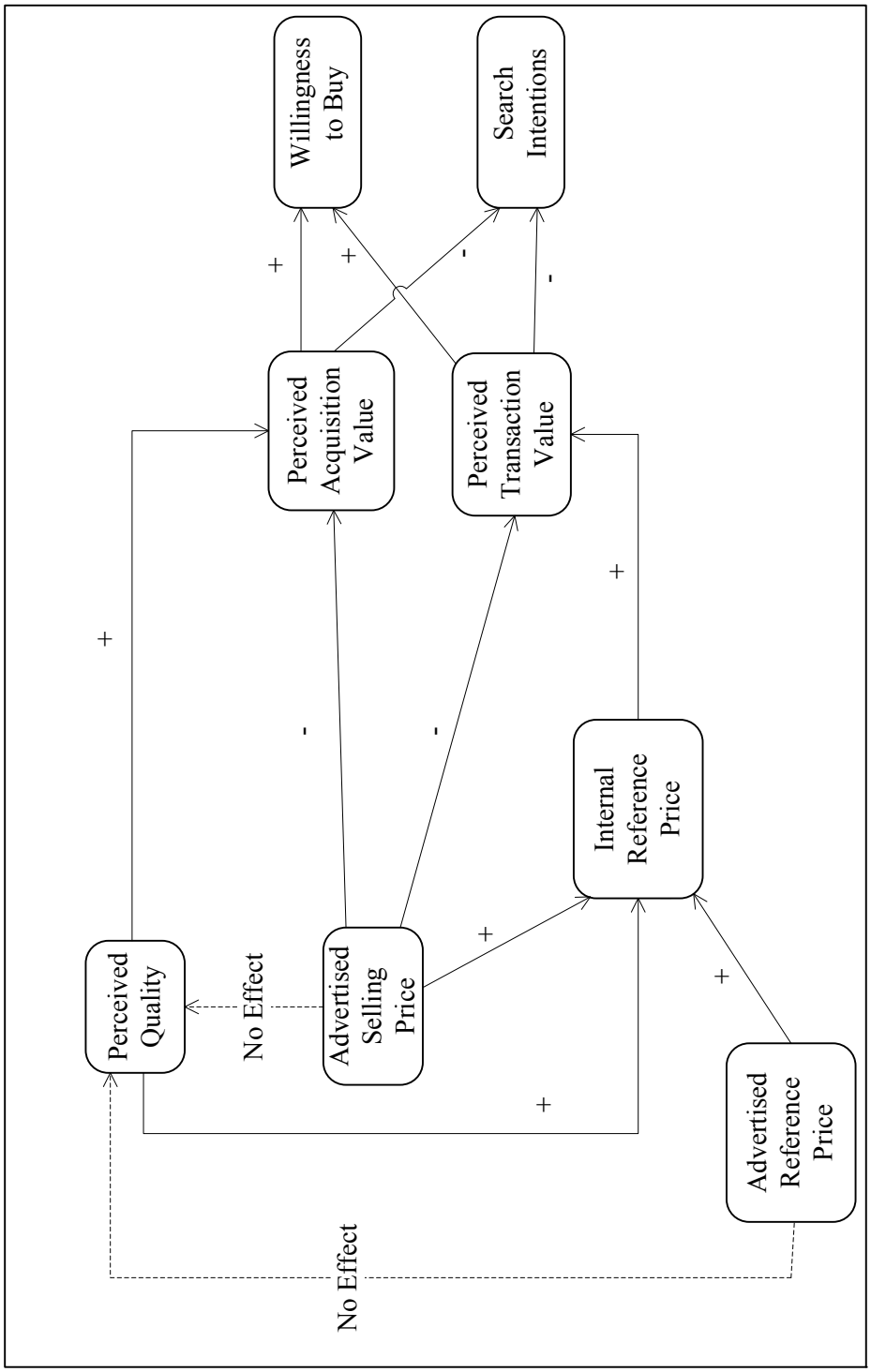
Xia and Monroe (2010) observed that when consumers figured out that they paid less than a friend (advantaged price inequality), they found the deal less fair than when they paid the same price. When the consumers figured out that they paid more than a friend (disadvantaged price inequality), they found the transaction to be less fair than when they paid the same price as a friend. Finally, consumers found a transaction to be less fair when they paid more than a friend (disadvantaged price inequality) than when a friend paid more than themselves (advantaged price inequality).

Xia and Monroe (2010, p. 886) argued that "perceptions of price fairness and perceptions of transaction value are similar in several respects. Both are price evaluations based on comparative judgments." Therefore, these concepts are likely to be correlated. A disadvantaged price inequality (i.e., a negative transaction value) is likely to be perceived as unfair. Xia and Monroe (2010) found that compared to an equal price situation, when a consumer paid more than his internal reference

price (a disadvantaged price inequality), he perceived more price unfairness and negative transaction value. They also found that transaction value is more influential on price fairness of the focal person (i.e., price I paid) than the fairness of other consumers' prices (i.e., price others paid) or the fairness of the prices of the store. Darke and Dahl (2003) found that high discounts led to higher price fairness perceptions. Grewal et al. (1998) found that discounts do not impact perceived brand quality negatively. Although discounts are less likely to impact perceived quality, they impact both the acquisition and transaction value perceptions through advertised selling price, which will be discussed next.

This transaction value used to be conceptualized as an independent construct impacting the behavioral intentions of consumers (Lichtenstein, Netemeyer, and Burton 1990; Zeithaml 1988); however, Grewal, Monroe, and Krishnan (1998) showed that the impact of the transaction value on behavioral intentions was mediated by acquisition value. The reason why perceived acquisition value and perceived transaction value are related is that advertised selling price impacts both (Grewal, Monroe, and Krishnan 1998).

Acquisition value is the perceived net gains associated with the products or services acquired (Dodds, Monroe, and Grewal 1991; Zeithaml 1988). In other words, acquisition value is what the consumer gets in return for what is sacrificed (Monroe 1990). In a price comparison advertisement setting, the difference between the perceived benefits of the product and the selling price is the acquisition value (Grewal, Monroe, and Krishnan 1998). The perceived benefits are often operationalized as the perceived quality of the product obtained (e.g., Zeithaml 1988).



Source: Grewal, Monroe, and Krishnan (1998)

Figure 3: Acquisition-Transaction Value Model

Having defined the concepts, the acquisition-transaction value model will be discussed in more detail (see Figure 3). Grewal, Monroe, and Krishnan (1998) found that perceived product quality, advertised selling price, and advertised reference price positively impact internal reference price. Perceived quality has a positive relationship with perceived acquisition value. Advertised selling price negatively impacts both perceived transaction and acquisition values. Internal reference price positively affects perceived transaction value. Both perceived acquisition value and perceived transaction value positively affect willingness to buy but negatively impact search intentions.

Section 2 Summary

The review in section two shows that price fairness research has produced considerable amount of information in the last three decades. Price fairness started receiving much attention after Kahneman, Knetsch, and Thaler's (1986) seminal work, which introduced dual-entitlement theory. According to dual entitlement theory, the seller is entitled to earn a fair profit whereas the consumer is entitled to a fair price. The empirical work to support this theory included a seller increasing price in an opportunistic way. Consequently, many studies employing the dual-entitlement theory considered situations, where prices were increased by sellers (e.g., Homburg, Hoyer, and Koschate 2005).

Another influential theory used in price fairness research is the equity theory (Adams 1965). Equity theory focuses on the proportionality of outputs/inputs of referent agents, who are similar enough to constitute references for comparison. As such, referent agents are usually consumers, who can be similar enough to be compared with each other to decide on the equity of their inputs and outputs. Many price fairness studies used other consumers as referent agents (e.g., Haws and Bearden 2006).

As summarized above, dual entitlement and equity theories specified conditions under which unfairness perceptions occur. Pricing research most of the time employed dual entitlement theory or equity theory. As a result the former (research using dual entitlement theory) focused on price increases by the sellers whereas the latter (research using equity theory) focused on lower prices paid by other customers. The literature grew on these two avenues. However, the other two conditions received limited attention: (1) price decreases by sellers or (2) higher prices paid by other customers. This dissertation is focusing on the first condition: The impact of brand strength and price decreases by sellers on price fairness perceptions.

This dissertation is employing acquisition-transaction value model (Grewal, Monroe, and Krishnan 1998) to predict changes in price fairness perceptions. Acquisition-transaction value model asserts that consumers perceive higher acquisition value when they obtain more than they sacrifice. Transaction value represents the satisfaction consumers obtain from getting a deal.

Other notable findings from the literature review are (1) deep discounts lead to lower reference price perceptions than shallow discounts, (2) price discounts offered by strong brands lead to lower selling and internal reference prices than those offered by weak brands (assuming both brands had the same price to start with), (3) deeper post-purchase discounts lead to more price unfairness perceptions, (4) deep discounts proximal to past purchases lead to more price unfairness than distant or shallow ones, and (5) consumers have higher internal reference prices for strong brands than those for weak brands.

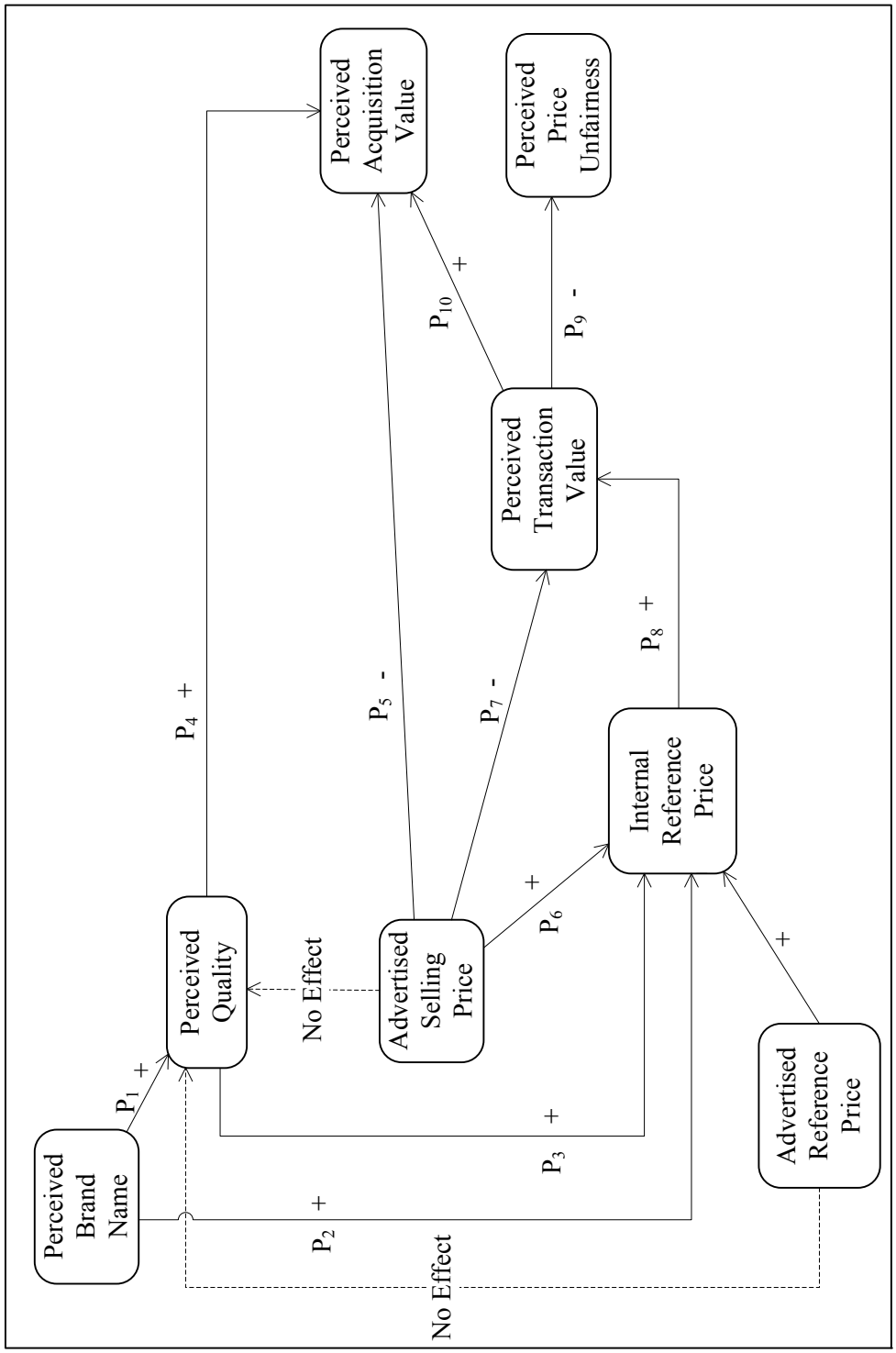
Chapter 3: Conceptual Framework

Introduction

This chapter builds the conceptual framework upon acquisition-transaction value model and construal level theory. The literature review in chapter two suggests that the combination of brand strength, the acquisition-transaction value model (Grewal, Monroe, and Krishnan 1998) and construal level theory (Trope and Liberman 2010) may be employed to predict price fairness perceptions over time depending on brand strength and depth of discounts. Acquisition-transaction value model will be extended to include brand strength first. However, this extended acquisition-transaction value model will be for pre-purchase situations because the supporting literature focused on pre-purchase situations. Then, construal levels of the components of this extended acquisition-transaction value model for pre-purchases will be discussed to place them in the framework of construal level theory. The model that this dissertation relies upon, acquisition-transaction value model for post-purchases, will be developed. Lastly, the implications of post-purchase evaluations on price unfairness perceptions will be discussed and hypotheses will be presented.

Extended Acquisition-Transaction Value Model for Pre-Purchases

To have a comprehensive model to examine the impact of brand strength on price unfairness perceptions, brand strength has to be placed into the acquisition-transaction value model. How acquisition-transaction value model can be extended to include brand strength will be discussed and the elements in Figure 4 will be defined for pre-purchase situations.



Source: Adapted from Grewal, Monroe, and Krishnan (1998)

Figure 4: Extended Acquisition-Transaction Value Model For Pre-Purchases

The acquisition-transaction value model offers the conceptual basis to examine the impact of price reductions on price unfairness perceptions. The literature suggests that transaction value and price unfairness are related (Xia and Monroe 2010). The previous literature also suggests that perceived quality may be affected by perceptions of brand name (Dodds, Monroe, and Grewal 1991) and strong brands may be perceived to have higher quality than weak brands (Sivakumar and Raj 1997). Brand name and perceived quality were found to be frequently positively linked in a meta-analysis (Rao and Monroe 1989). In the presence of brand information, the use of price to infer quality is stronger than when only price is present (Dodds, Monroe, and Grewal 1991). Researchers sometimes opted to integrate brand image and perceived quality under the concept of brand quality (e.g., Grewal et al. 1998). Hence, the acquisition-transaction value model may benefit from the inclusion of brand strength.

The perceived benefits of an acquisition can be affected by brand strength. Accordingly, the basic value model (see Figure 1), which conceptualizes value as the quality the consumer gets for their sacrifice, was expanded to include brand name or brand strength by Dodds, Monroe, and Grewal (1991). Dodds, Monroe, and Grewal (1991) found that brand name positively affected perceived quality (see Figure 2). Perceived quality is a component of what consumers get out of an exchange. Hence, the increased perceived quality positively impacts acquisition value. Strong brands are likely to represent a higher benefit level to consumers and provide a higher acquisition value than their weak counterparts because strong brands signal higher quality than weak brands (Dawar and Parker 1994).

Researchers proposed brand strength measures that combine price premium, satisfaction/loyalty, perceived quality/leadership, association differentiation (perceived value, personality, organization's reputation, differentiation), awareness, market behavior (market share, price and distribution indices) (Aaker 1996). Keller defined brand equity (strength) as "the

differential effect of brand knowledge on consumer response to the marketing of the brand" (Keller 1993, p.2) and proposed a measure that consists of brand awareness (brand recognition and brand recall) and brand image (type, favorability, strength, and uniqueness of brand associations). The pricing literature that this dissertation is positioned in found that brand name and quality perceptions were usually positively correlated with each other (Rao and Monroe 1989). Grewal et al. (1998) differentiated between strong and weak brands in terms of their image. Reputation of a brand has also been used in price fairness research to differentiate between strong and weak brands (Campbell 1999b). Therefore, this dissertation defines perceived brand strength or brand name as the positive associations consumers have in their minds regarding a brand's image and reputation.

Advertised reference price is the high price in a price comparison advertisement. For instance, advertised reference price (i.e., $599) is the past price consumers had to pay to purchase the iPhone. Advertised selling price is the price that the company lets consumers know what the price for the product is. For instance, advertised selling price was the new low price (i.e., $399) Apple advertised as the reduced price.

The internal reference price is defined as "a price (or a price scale) in buyers' memories that serves as a basis for judging and comparing actual prices" (Grewal, Monroe, and Krishnan 1998, p. 47). This memory of prices may stem from the past prices of products (Kalyanaram and Winer 1995; Rajendran and Tellis 1994). This dissertation defines internal reference price as a price in buyers' memories that serves as a basis for judging and comparing actual prices.

Transaction value is defined as "the perception of psychological satisfaction or pleasure obtained from taking advantage of the financial terms of the deal" (Lichtenstein, Netemeyer, and Burton 1990, p. 56; Thaler 1985). The reference price literature suggests that consumers are likely to use (internal) reference price as a basis to judge the magnitude (attractiveness) of the deal (advertised selling price) they are getting (Kalwani et al. 1990; Tsiros and Hardesty 2010). If the

selling price of a product was below consumers' internal reference price, the deal seemed more attractive to consumers than when it was above or closer to their internal reference price. Kalwani et al. (1990) found that consumers bought less when the selling price was higher than their reference price than when the selling price was lower than their reference price. This dissertation operationalizes transaction value as the difference between internal reference price and the advertised selling price (Grewal, Monroe, and Krishnan 1998).

Acquisition value is defined as "the perceived net gains associated with the products or services acquired" (Dodds, Monroe, and Grewal 1991; Zeithaml 1988, p. 14). The perceived net gains may stem from perceived product quality (Dodds, Monroe, and Grewal 1991). Following Grewal, Monroe, and Krishnan (1998), this dissertation operationalizes acquisition value as the difference between the perceptions of quality and advertised selling price.

Price fairness is defined as "a consumer's assessment and associated emotions of whether the difference (or lack of difference) between a seller’s price and the price of a comparative other party is reasonable, acceptable, or justifiable" (Xia, Monroe, and Cox 2004, p. 3). In the context of this dissertation, price reductions do not have to be accompanied by other sellers' prices for consumers to perceive price unfairness. In the opening example, Apple reduced its price without obviously visible competitor pressure and there was no similar product on the market. But consumers still perceived price unfairness by engaging in a self/self comparison. To engage in a self/self comparison, consumers compare their internal reference price regarding a product they bought to its current advertised selling price after the price reduction. In the case of iPhone price reduction, this internal reference price was most likely influenced by the purchase price (advertised reference price) of the consumers prior to the price reduction because there was no similar product to iPhone. Therefore, this dissertation defines price unfairness as a consumer's assessment and

associated emotions regarding whether a price reduction is reasonable, acceptable or justifiable. This definition is valid for both pre and post-purchase situations.

Having defined the elements of the extended acquisition transaction model for pre-purchases, the relationships among these elements will be discussed. Grewal, Monroe, and Krishnan's (1998) acquisition-transaction value model examined the relationships among its components in a pre-purchase context. It is expected that the relationships among the elements of the extended acquisition-transaction model will be in line with their findings for pre-purchase situations. Therefore, the relationships proposed in Figure 4 are applicable to only pre-purchase situations. Hypotheses for such pre-purchase situations will not be formed but propositions for completeness of the research and to show how this dissertation maps into previous research. The model will be developed and the hypotheses will be presented for a post-purchase situation, which is the focus of this dissertation, later in the chapter.

Brand Strength

Dodds, Monroe, and Grewal (1991) found that perceived quality may be affected by brand name. Rao and Monroe (1989) found that brand strength and perceived quality were positively linked in a meta-analysis. Hence, there is a positive relationship between perceived brand strength and perceived quality.

P_1: The stronger the perceived strength of the brand, the higher the perceived quality in a pre-purchase situation.

Grewal et al. (1998) found that brand name positively impacted internal reference price. That is the stronger the brand, the higher the internal reference price. In a pre-purchase situation, consumers would be willing to pay their internal reference price for a brand. In the iPhone example, consumers were willing to pay $599 for a new untried product partly because Apple is a strong

brand. Consumers most likely formed their internal reference price based on this $599 prior to their purchase because there was no similar product on the market to the iPhone. There were no discounts offered at the time of the purchase either. Hence, consumers' internal reference price and advertised selling price were the same ($599) causing perceived transaction value $_t$ to be zero.

For consumers to purchase the iPhone, they most likely perceived only positive acquisition value in a pre-purchase situation but not transaction value due to the lack of a discount offer. However, Apple being a strong brand, consumers were willing to pay the relatively high price of $599 to the new iPhone although it was a new and untested product. Hence, there is a positive relationship between brand name and internal reference price.

P_2: The stronger the brand name, the higher the internal reference price in a pre-purchase situation.

Perceived Quality

Grewal, Monroe, and Krishnan (1998) found that perceived quality was positively related to internal reference price. In the iPhone example, consumers examined the product prior to their purchase and evaluated its quality. Due to the new iPhone being an industry changing innovation, consumers most likely evaluated the brand based on Apple's brand image and reputation. Consumers must have perceived iPhone to have high quality to pay $599 for the product. Such a high price most likely served as their internal reference price. Hence, there is a positive relationship between perceived quality and internal reference price.

P_3: The higher the perceived quality, the higher the internal reference price in a pre-purchase situation.

Grewal, Monroe, and Krishnan (1998) found that perceived quality was positively related to acquisition value. In the iPhone example, consumers perceived zero transaction value prior to

their purchase because Apple offered no price reduction. However, when consumers examined the product, they evaluated it positively, leading to positive perceived acquisition value when they compared the benefits of the product to its price ($599). Such a positive acquisition value led the consumers to purchase the iPhone at full price. Hence, there is a positive relationship between perceived quality and perceived acquisition value.

P_4: The higher the perceived quality, the higher the perceived acquisition value in a pre-purchase situation.

Depth of Price Reduction (Advertised Selling Price)

The difference between the advertised reference price and the advertised selling price is defined as the depth of the price reduction. The bigger the difference, the deeper the price reduction. There are two ways to increase the depth of discount: Either by increasing advertised reference price or by decreasing advertised selling price. An increase in the advertised reference price is a deceptive tactic that may destroy the meaning of regular price, lessen consumer trust, and invite government intervention (Urbany, Bearden, and Weilbaker 1988). Therefore, the viable way for companies to offer deeper discounts is to decrease the advertised selling price.

Grewal, Monroe, and Krishnan (1998) found that advertised selling price and perceived acquisition value are negatively related. In the iPhone example, there were no price reductions prior to the purchase. Therefore, consumers used the initial selling price ($599) to perceive acquisition value. Despite the high selling price, consumers must have evaluated the benefits of the iPhone more valuable than the selling price to perceive positive acquisition value and purchase the product. However, if the selling price were higher than $599, consumers might have perceived lower acquisition value. Hence, there is a negative relationship between advertised selling price and perceived acquisition value.

P_5: The higher the advertised selling price, the lower the perceived acquisition value in a pre-purchase situation.

A reduction in the advertised selling price entails increasing the depth of the discount for the consumers. Internal reference price literature found that deep discounts lead to lower internal reference price than shallow discounts (Grewal et al. 1998; Kalwani and Yim 1992; Lalwani and Monroe 2005). That means lower advertised selling prices lead to lower internal reference price, creating a positive relationship between them. Accordingly, Grewal, Monroe, and Krishnan (1998) found that advertised selling price positively impacted internal reference price. In the iPhone example, there was no similar product to iPhone on the market prior to its launch. Therefore, consumers most likely used the advertised selling price $_t$ of $599 as their internal reference price $_t$ to evaluate their value perceptions prior to their purchase. If the initial advertised selling price of the iPhone were lower, consumers would have used that price to form their internal reference price. Hence, there is a positive relationship between advertised selling price and internal reference price.

P_6: The lower the advertised selling price, the lower the internal reference price in a pre-purchase situation.

Perceived Transaction Value

Perceived transaction value is defined as "consumers' perceptions of the psychological satisfaction or pleasure from taking advantage of a price deal" (Xia and Monroe 2010, p. 884) and operationalized as the difference between internal reference price and the advertised selling price. When consumers have a high internal reference price in their memories than a product's current advertised selling price before a purchase, that means the product is offering positive perceived transaction value. As per the definition, for transaction value to exist, consumers must perceive that the product is offered on a deal. Hence, the most common way of offering transaction value is to

offer discounts. In the iPhone example, Apple did not offer any discounts prior to consumers' purchase. Therefore, transaction value was zero.

A low advertised selling price (deep discount) increases the difference between internal reference price and advertised selling price more than a high advertised selling price (shallow discount) in a pre-purchase context. Such an increase in difference increases the perception of transaction value. Hence, low advertised selling prices lead to higher transaction value perceptions than high advertised selling prices prior to a purchase. Accordingly, Grewal, Monroe, and Krishnan (1998) found that advertised selling price and perceived transaction value were negatively related. Hence, there is a negative relationship between advertised selling price and perceived transaction value prior to a purchase.

P_7: The lower the advertised selling price, the higher the perceived transaction value in a pre-purchase context.

The other variable that impacts transaction value is internal reference price. If the internal reference price in consumers' memories is high, then the product is likely to be perceived to have high transaction value. The reason for this is that the difference between the high internal reference price and the advertised selling price will be perceived to be higher than when the internal reference price is low. In the iPhone example, consumers most likely used the advertised selling price before their purchase as their internal reference price because there was no similar product to the iPhone on the market. However, there was no discount offered to consumers prior to their purchase. Hence, the transaction value was zero. Moreover, Grewal, Monroe, and Krishnan (1998) found that internal reference price and perceived transaction value are positively related. Hence, there is a positive relationship between internal reference price and perceived transaction value.

P_8: The lower the internal reference price, the lower the perceived transaction value in a pre-purchase situation.

Price Unfairness Perceptions

Price evaluations are based on comparative judgments (Monroe 1990) so are price fairness perceptions. For price fairness perceptions to occur, the person perceiving the (un)fairness has to engage in a comparison (Xia, Monroe, and Cox 2004). A price comparison to perceive transaction value may initiate an assessment of the fairness of the deal as well.

Xia and Monroe (2010) found a positive relationship between perceived transaction value and price fairness, however, they did not argue or test for whether perceptions of price fairness precede perceptions of transaction value or vice versa. Xia, Monroe, and Cox (2004) conceptualized that price fairness perceptions precede transaction value but did not empirically test this conceptualization. The literature is tightly knit to indicate that advertised selling price and internal reference price impact perceived transaction value (e.g., Grewal, Monroe, and Krishnan 1998; Grewal et al. 1998). Xia and Monroe (2010) found that when consumers perceived negative transaction value, they find the deal unfair. Therefore, it can be argued that advertised selling and internal reference price influence perceived transaction value, which in turn leads to perceptions of price unfairness.

P_9: The higher the perceived transaction value, the lower the price unfairness perceptions in a pre-purchase situation.

Perceived Acquisition Value

Previous research assumed that transaction value and acquisition value were independent of each other (e.g., Lichtenstein, Netemeyer, and Burton 1990). However, the independence of these two constructs were not the subject of investigation in the literature. The reason why acquisition value and transaction value may be dependent on one another is that both are impacted by advertised selling price. A reduction in the advertised selling price of a product increases

transaction value perceptions for pre-purchase situations. The same reduction increases the acquisition value by reducing the cost of the item relative to its benefits (Grewal, Monroe, and Krishnan 1998). Hence, transaction value and acquisition value are likely to be correlated. Moreover, Grewal, Monroe, and Krishnan (1998) found that the impact of transaction value on willingness to buy was mediated by acquisition value. Therefore, there is a positive relationship between perceived transaction value and perceived acquisition value.

> *P_{10}: The higher the perceived transaction value, the higher the perceived acquisition value in a pre-purchase situation.*

Construal Levels of the Elements of the Extended Acquisition-Transaction Value Model

The literature review in chapter 2 will be drawn upon briefly to demonstrate how temporal distance impacts the construal levels (high or low) of the elements in the extended acquisition-transaction value model. The purpose of examining how temporal distance affects the elements of this model is to integrate construal level theory into the extended acquisition-transaction value model in the next section. Once construal level theory is integrated into the extended acquisition-transaction value model, the impact of brand strength and depth of discounts on value and price unfairness perceptions can be analyzed over time.

When evaluating products, consumers construe core benefits of the product at high levels, but costs associated with purchasing and using a product are construed at low levels (Liberman, Trope, and Wakslak 2007). As such, price related information (i.e., a discount) will be a low level construal. Consumers construe feasibility concerns, which include costs, at low levels (Liberman, Trope, and Wakslak 2007; Liberman and Trope 1998).

However, brand related information, according to Lee, Keller, and Sternthal (2010), is a high level construal. They argue that a brand's heritage, which can signal high quality, is a high-level construal.

Bornemann and Homburg (2011) showed that for proximal purchases in the future, low-level construals (i.e., sacrifice) are dominant and gain priority over high-level construals (i.e., quality). Hence, the salience of perceived sacrifice relative to perceived quality reduced perceived value for proximal purchases in comparison to purchases or evaluations at a distant future in time. However, for distant purchases, perceptions of quality were more important than perceptions of sacrifice (cost). Hence, the salience of quality perceptions over sacrifice increased value perceptions for distant purchases in the future. After this brief review, the construal levels of the elements in the extended acquisition-transaction value model will be discussed.

Brand Name

This dissertation conceptualizes brand name as a brand's image, and reputation. Brand name is considered a high level construal (Kim and John 2008; Lee, Keller, and Sternthal 2010).

Perceived Quality

The literature suggests that quality perceptions are high level construals (Bornemann and Homburg 2011; Trope, Liberman, and Wakslak 2007). Hence, perceived quality is likely to be a high level construal.

Advertised Selling Price

Cost, price, or sacrifice perceptions are low level construals (Bornemann and Homburg 2011; Liberman, Trope, and Wakslak 2007). Hence, prices are likely to be construed at low levels. The consumers tend to perceive the price that they will pay as the sacrifice or cost of the product.

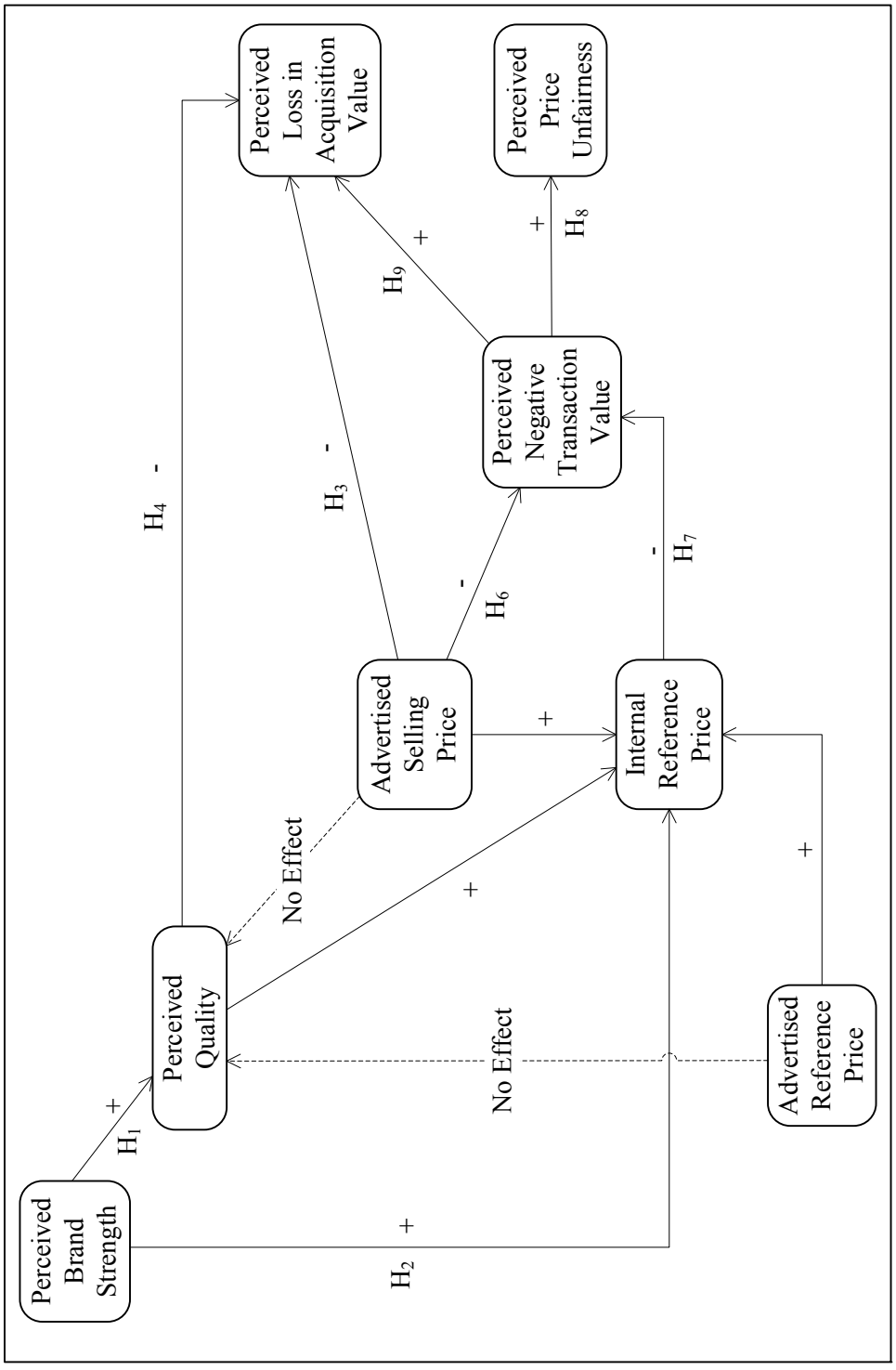
This price, in a price comparison advertisement, is the advertised selling price. Hence, advertised selling price is likely to be construed at a low level.

Extended Acquisition-Transaction Value Model for Post-Purchase Price Reductions

The relationships between the elements of the extended acquisition-transaction value model differ between pre-purchase and post-purchase situations. Propositions were formed to indicate the possible relationships among the elements of the extended acquisition-transaction value model for pre-purchases (see Figure 4). This section will focus on the differences between the pre and post-purchase situations. A price reduction in a post-purchase situation is likely to lead to perceived negative transaction value and loss in perceived acquisition value. Hence, these terms will be defined for post-purchase situations. In addition to differences, the impact of especially perceived brand name, perceived quality, and advertised selling price on value and price fairness perceptions over time will be discussed. Hence, the relationships that may change direction from pre to post-purchase situations will be discussed and related hypotheses will be presented (see Figure 5).

Perceived Strength of Brand Name

The literature strongly supports the idea that perceived strength of brand name and perceived quality are positively related (Dodds, Monroe, and Grewal 1991; Rao and Monroe 1989). It was shown that strong brand names signal higher quality than weak brands (Dawar and Parker 1994). This relationship was supported for pre-purchases in the literature. The same relationship is likely to hold after the purchase or after a discount. Consumers are likely to perceive that the strong brand they purchased is a high quality brand after their purchase. Even if they encounter price reductions, consumers are unlikely to perceive changes in brand strength and quality because price reductions do not impact perceived quality (Grewal, Monroe, and Krishnan 1998).



Adapted from Grewal, Monroe, and Krishnan (1998)

Figure 5: Extended Acquisition-Transaction Value Model for Post-Purchases

Moreover, Sivakumar and Raj (1997) argue that strong brands are perceived to have higher quality than weak brands. They find that a strong brand benefits from a price reduction more than a weak brand when their prices are reduced by the same percentage. They call this effect asymmetric competition between brands. Sivakumar and Raj (1997) also argue that such asymmetric competition occurs because when a strong brand offers a discount, it is more than just a substitution of one brand with another. They argue that consumers perceive the price reduction from a strong brand as an opportunity to switch from the weak brand to the strong brand which offers higher quality than the weak brand. Hence, there is a positive relationship between perceived strength of brand name and perceived quality.

> *H_1: The higher the perceived strength of a brand name, the higher the perceived quality in a post-purchase context.*

The literature supports the notion that the perceived strength of a brand name and internal reference price are positively related (Grewal et al. 1998). Sivakumar and Raj (1997) argue that strong brands are perceived to have higher quality than weak brands. Strong brands command higher prices in the marketplace. As such, consumers will have a higher internal reference price for strong brands than weak brands. In the iPhone example, consumers probably formed their internal reference price $_t$ for the new iPhone at $599 prior to their purchase probably because it was manufactured by Apple, which is a strong brand. This $599 was a quite high price for a cell phone in 2007. Consumers' internal reference price for the iPhone is likely to stay the same after their purchase as well. Hence, there is a positive relationship between perceived brand name and internal reference price.

> *H_2: The higher the perceived strength of a brand name, the higher the internal reference price in a post-purchase situation.*

Perceived Loss in Acquisition Value, Perceived Quality, and Advertised Selling Price

If the consumer is exposed to information about a reduction in the price of a product s/he owns, s/he may reevaluate the quality and benefits of the product relative to the reduced advertised selling price $_{t+1}$ and perceive acquisition value $_{t+1}$ after the post-purchase price reduction. When Apple reduced the price of its iPhone from $599 (advertised selling price $_{t}$) to $399 (advertised selling price $_{t+1}$), consumers reacted negatively. When consumers own a product, reductions in its advertised selling price $_{t+1}$ may lead them to perceive lower acquisition value $_{t+1}$ than the acquisition value $_{t}$ they perceived before the price reduction because they are likely to compare the acquisition value they got with that of referent others (Xia, Monroe, and Cox 2004). Hence, consumers are likely to perceive a loss in the acquisition value after the post-purchase discount compared to prior to the discount. This effect can be called as the perceived loss in acquisition value. Perceived acquisition value is operationalized as the difference between perceived quality and advertised selling price. Perceived loss in acquisition value is operationalized as the difference in acquisition value $_{t}$, which is perceived at the time of the purchase, and acquisition value $_{t+1}$, which is perceived at time of the price reduction.

For the consumers to perceive a loss in acquisition value, they may engage in a self-self comparison in which they compare the acquisition value $_{t}$ they perceived when they bought the item with perceived acquisition value $_{t+1}$ when the price is reduced. The perceived quality of the product is unlikely to change; however, the advertised selling price $_{t}$ is higher than advertised selling price $_{t+1}$. This means that the acquisition value $_{t}$ is lower than acquisition value $_{t+1}$ because the consumer imagines that s/he could have obtained the same product for a lower price. The consumer is likely to feel disappointed that s/he missed the price reduction.

The other way the consumer may perceive a loss in acquisition value is by comparing his/her outcome with that of other consumers. If the consumer paid a higher price (advertised

selling price $_t$) to acquire the product than the new low advertised selling price $_{t+1}$ (post-purchase price reduction), the consumer, who owns the product, will perceive lower acquisition value (perceived quality - advertised selling price $_t$) than acquisition value offered to prospective consumers (perceived quality - advertised selling price $_{t+1}$). Such a difference will be perceived as a disadvantaged price inequality (Xia and Monroe 2010) and perceived as a loss. Such a loss is likely to lead consumers to perceive a reduction in acquisition value. Under these conditions, consumers are more likely to agree with statements, such as, "After the discount, I feel that I did not get my money's worth as much as I did before the discount."; "After the discount, I feel that I did not get good value for the money I spent as much as I did before the discount." Hence, advertised selling price and perceived loss in acquisition value are negatively related in a post-purchase setting.

H_3: The lower the advertised selling price (post-purchase price reduction), the higher the perceived loss in acquisition value in a post-purchase situation.

In a post-purchase situation, if the perceived quality of a brand decreases maybe because it did not function as it was supposed to or received unfavorable reviews, the perceived loss in acquisition value will increase assuming that the advertised selling price is constant. That means perceived quality $_t$ is higher than perceived quality $_{t+1}$. When the consumer engages in a self-self comparison, the perceived quality $_t$ s/he got from the product for advertised selling price $_t$ is more than the current perceived quality $_{t+1}$ for the same price. The difference between perceived quality $_t$ and advertised selling price $_t$ will be higher than the difference between perceived quality $_{t+1}$ and advertised selling price $_{t+1}$ in a post-purchase situation. Hence, the consumer is likely to feel that the brand is losing its quality, leading to higher perceived loss in acquisition value.

H_4: The lower the perceived quality, the higher the perceived loss in acquisition value in a post-purchase situation.

Perceived Loss in Acquisition Value over Time

Bornemann and Homburg (2011) showed that for proximal purchases in the future, low-level construal (i.e., sacrifice) is dominant and gain priority over high-level construal (i.e., quality). Hence, the salience of perceived sacrifice relative to perceived quality reduced perceived value for proximal purchases in comparison to purchases or evaluations at a distant future time. However, for distant purchases, perceptions of quality were found to be more important than perceptions of sacrifice (cost). Hence, the salience of quality perceptions over sacrifice increased value perceptions for distant purchases in the future.

Bornemann and Homburg (2011) measured product evaluations or perceived value adapted from Suri and Monroe's (2003) article. In Suri and Monroe's article, the items that measure perceived value overlap with acquisition value items in Grewal, Monroe, and Krishnan's (1998) study. Prior to Grewal, Monroe and Krishnan's (1998) value perceptions were not termed precisely as acquisition and transaction value. Hence, findings from Bornemann and Homburg's (2011) study are applicable to changes in perceived acquisition value over time.

According to construal level theory (Trope and Liberman 2010), people construe both the future and past events at high levels when they are distant. People also construe proximal events in the past and future at low levels. Same relationship should hold true when events in the past influence current evaluations just like future events affect current evaluations as shown by Bornemann and Homburg (2011). Hence, quality perceptions are likely to be influential in the distant past whereas cost or sacrifice concerns (advertised selling price) are likely to be influential in the proximal past. Therefore, Bornemann and Homburg's (2011) findings regarding quality and sacrifice perceptions that influence value perceptions at present should hold true for past quality and sacrifice perceptions that influence current perceived loss in acquisition value.

In the proximal past condition, a reduction in the advertised selling price $_{t+1}$ will be more influential than quality perceptions, leading to higher perceived loss in acquisition value than the distant past condition. In the distant past condition, quality perceptions are likely to be more salient than advertised selling price. Considering that perceived quality is likely to be the same even after a discount because price changes are unlikely to impact perceived quality (Grewal, Monroe, and Krishnan 1998), the change in perceived loss in acquisition value will be minimal. In the distant past condition, the perceived loss in acquisition value will be lower than the proximal past condition in a post-purchase situation.

H_{5a}: In the proximal past condition, a reduction in the advertised selling price $_{t+1}$ is likely to influence perceived loss in acquisition value $_{t+1}$ more than perceived quality, leading to higher perceived loss in acquisition value than the distant past condition in a post-purchase situation.

H_{5b}: In the distant past condition, perceived quality is likely to influence perceived loss in acquisition value more than advertised selling price $_{t+1}$, leading to lower levels of perceived loss in acquisition value perception than the proximal past condition in a post-purchase situation.

Advertised Selling Price, Internal Reference Price, and Perceived Negative Transaction Value

In the opening example, consumers were initially exposed to an advertised selling price $_t$ of $599. They most likely based their internal reference price $_t$ for the iPhone on $599 because there was no similar product on the market. Consumers decided to purchase the iPhone, if they thought that the brand offered more quality than its advertised selling price $_t$. Consequently, the initial purchase situation offered positive perceived acquisition value based on the difference between the perceived quality of the product and advertised selling price $_t$. In the absence of a discount, perceived transaction value (the difference between the internal reference price $_t$ and advertised selling price $_t$) was zero.

When consumers encounter a price reduction after their purchase, they perceive negative transaction value. This dissertation defines negative transaction value as consumers' perceptions of psychological dissatisfaction and related negative emotions caused by missing a price reduction in a post-purchase setting. Perceived negative transaction value is operationalized as the difference between transaction value $_{t}$, which is perceived at the time of the purchase, and transaction value $_{t+1}$, which is perceived at time of the price reduction.

When Apple offered the discount by lowering the advertised selling price $_{t+1}$ to the new lower price (i.e., $399), the advertised reference price $_{t+1}$ still persisted at $599. The internal reference price $_{t+1}$ most likely was reduced. For the sake of giving an example, let's assume that the internal reference price $_{t+1}$ was reduced to $549. Consumers, who purchased the iPhone before the price reduction, use their internal reference price $_{t+1}$ ($549) to judge the attractiveness of the deal for prospective consumers. Such a price reduction will lead consumers, who already own the product, to reevaluate the deal they received in comparison with the current advertised selling price $_{t+1}$ offered to prospective consumers. When consumers own a product, a reduction in selling price implies that they could have acquired the product at a lower price. Therefore, a reduction in the advertised selling price of a product indicates that they got a worse deal (perceived transaction value $_{t}$ = $0) than what prospective consumers will get (internal reference price $_{t+1}$ - advertised selling price $_{t+1}$= $549 - $399 = $150). Getting a bad deal or a disadvantaged price inequality indicates that consumers perceive negative transaction value (i.e., $0 - $150 = - $150). Such a (numerical) difference between intertemporal transaction values that the consumer got and the prospective consumers will get is likely to cause perceptions of price unfairness (Xia and Monroe 2010). A post-purchase reduction in the price of a product (advertised selling price) indicates that the perceived transaction value is increasing for prospective consumers in a pre-purchase context but decreasing for consumers who already own the product in a post-purchase situation.

Another way consumers may perceive this negative transaction value is by engaging in a self-self comparison. But this time, the consumer is unlikely to use the advertised selling price $_{t+1}$ as a reference price because the price s/he paid for the product can't change retrospectively. The basic tenet of the transaction value is to compare the internal reference price to the cost (sacrifice) of the product. In this situation, the consumer is likely to use the price s/he paid (advertised selling price $_{t}$) to compare with his/her internal reference price $_{t+1}$ to estimate the present transaction value $_{t+1}$. In a self-self comparison, the consumer compares his/her previous situation with that of present. In the initial purchase, the consumer estimates his/her transaction value $_{t}$: Internal reference price $_{t}$ - advertised selling price $_{t}$ = \$0 (\$599-\$599). Then the consumer estimates what his/her transaction value would have been after the reduction in his/her internal reference price: Internal reference price $_{t+1}$ - advertised selling price $_{t}$ = -\$50 (\$549 - \$599), which is transaction value $_{t+1}$. Then the consumer compares the initial transaction value $_{t}$ of \$0 to transaction value $_{t+1}$ of -\$50. The consumer realizes that s/he is worse off after the discount and perceives -\$50 of negative transaction value $_{t+1}$.

This analysis shows that as the advertised selling price decreases, (numerical) negative transaction value decreases (becomes more negative) regardless of which referent other the consumer uses, either a prospective consumer or him/herself in the past. As the transaction value gets more negative, consumers are more likely to agree with statements such as "I feel that I was cheated out of my money after the price reduction". Therefore, there is a negative relationship between advertised selling price and perceived negative transaction value.

> *H_6: The lower the advertised selling price, the higher the perceived negative transaction value in a post-purchase price reduction situation.*

The other variable that impacts perceived negative transaction value is internal reference price. In a post-purchase situation, consumers already own the product and any change to their

internal reference price $_{t+1}$ for the product will impact their perceived transaction value $_{t+1}$. Such an impact might stem from a self-self comparison.

If the consumer engages in self-self comparison after his/her internal reference price for the product is reduced, s/he arrives at negative transaction value, assuming that the advertised selling price is constant. In the iPhone example, the price s/he paid (advertised selling price $_t$) was $599 and now the product s/he owns lost its value to $549 (internal reference price $_{t+1}$). This constitutes a negative transaction value of -$50 (internal reference price $_{t+1}$ - advertised selling price $_t$ = $549-$599) after the self-self comparison. Hence, the reduction in the internal reference price will increase perceived negative transaction value.

As the internal reference price decreases, the (numerical) negative transaction value will decrease. As the (numerical) negative transaction value decreases (becomes more negative), consumers are more likely to agree with statements, such as "I feel that I lost money on this product". This means that perceived negative transaction value is increasing as the internal reference price is decreasing. This discussion indicates that there is negative relationship between internal reference price and perceived negative transaction value.

H_7: The lower the internal reference price, the higher the perceived negative transaction value in a post-purchase context.

Perceived Negative Transaction Value and Price Unfairness Perceptions

A price reduction prior to purchase induces perceptions of positive acquisition and transaction value for prospective consumers. However, when a consumer is evaluating such reductions in prices of products that s/he already owns, the same price reduction will constitute a disadvantage. There are two ways a price reduction will be perceived as a disadvantage. According to Xia and Monroe (2010), consumers perceive price unfairness in a post-purchase situation after

comparing two socially comparative parties' prices: The price they paid (internal reference price $_{t}$) and the price another consumer will pay (advertised selling price $_{t+1}$). If the price paid by the consumer is higher than the one that will be paid by a prospective consumer, it is a disadvantaged price inequality. A consumer may perceive price unfairness without a socially comparative other by comparing the advertised selling price $_{t+1}$ with the price s/he paid (internal reference price $_{t}$) before. Such a price comparison is called a self/self comparison (Xia, Monroe, and Cox 2004). If a consumer paid a price (advertised selling price $_{t}$) that is higher than the advertised selling price $_{t+1}$, then the price reduction may be perceived as disadvantaged and unfair. If the consumer uses advertised selling price $_{t+1}$ as a reference price, then the advertised selling price is less than the price paid (internal reference price $_{t}$), leading to negative transaction value and price unfairness (Xia and Monroe 2010). If consumers agree with the statement "This transaction hurts my finances", they are likely to agree with the statement "The price I paid was unfair". An increase in perceived negative transaction value indicates that the negative transaction value is decreasing (becoming more negative). Such an increase in the perceived negative transaction value leads to higher perceived price unfairness. Therefore, there is a positive relationship between perceived negative transaction value and perceptions of price unfairness.

H_8: The higher the perceived negative transaction value, the higher the price unfairness perceptions in a post-purchase setting.

Perceived Loss in Acquisition Value

Grewal, Monroe, and Krishnan (1998) found that perceived transaction value was an antecedent of perceived acquisition value. The reason for this assertion is that perceived acquisition value and perceived transaction value are both influenced by advertised selling price. When advertised selling price is reduced in a post-purchase situation, the perceived negative transaction

value increases as hypothesized in H_6 and perceived loss in acquisition value increases as hypothesized in H_3. Hence,

> *H_9: Perceived negative transaction value and perceived loss in acquisition value are positively related in a post-purchase situation.*

Brand Strength on Negative Transaction Value and Price Unfairness Perceptions

In the previous section, it was hypothesized that brand strength would positively impact perceived quality (H_1) and internal reference price (H_2) in a post-purchase situation. This means that strong brands have higher perceived quality and higher internal reference prices than weak brands. The implications of these hypotheses will be discussed for strong and weak brands next.

A strong brand has a higher internal reference price than a weak one (Grewal et al. 1998). However, after a price reduction, the consumer is likely to re-evaluate his/her purchase decision in light of this new information (Jonas et al. 2001). A price discrepancy between what the consumer paid (internal reference price $_t$) and the new lower advertised selling price $_{t+1}$ leads to negative transaction value perceptions (Xia and Monroe 2010). Because the consumer could have paid a lower price for the benefits of the strong brand (higher internal reference price) than a weak one (lower internal reference price), a price reduction in the price of a strong brand represents a larger negative transaction value than that of a weak brand. For instance, if consumers perceived Apple as a strong brand and formed their internal reference price $_t$ at \$899 for their iPhones after purchasing it, the reduction in the advertised selling price $_{t+1}$ (i.e., \$399), would have led to a lower negative transaction value of - \$500 (i.e., \$399 - \$899) than when they had the internal reference price $_{t+1}$ of \$599 (- \$200 = \$399 - \$599 negative transaction value). Consumers are likely to agree with statements such as "This transaction hurts my finances", indicating higher perceived negative transaction value.

If consumers perceived Apple as a weak brand and formed their internal reference price at $499 for their iPhones after purchasing it, the reduction in the advertised selling price $_{t+1}$ (i.e., $399), would have led to a higher numerical negative transaction value of - $100 (i.e., $399 - $499) than when they had the internal reference price $_{t+1}$ of $599 (- $200 = $399 - $599 negative transaction value).

This example shows that consumers perceive strong brands as having (numerically) lower negative transaction value (-$500) than weak brands (-$100). Hence, the consumer is more likely to perceive more price unfairness (Xia and Monroe 2010) for the strong brand than the weak brand.

H_{10}: A price reduction by a strong brand is likely to lead to higher perceived negative transaction value and higher price unfairness perceptions than that of a weak brand.

Temporal Distance on Negative Transaction Value and Price Unfairness Perceptions

Brands offering a deep post-purchase discount or a low advertised selling price will be perceived to have (numerically) lower negative transaction value (more negative) than when they offer a shallow post-purchase discount. For instance, if Apple had decided to offer a discount of $50, the advertised selling price would have been $549, internal reference price $_t$ $599, hence the post-purchase negative transaction value would have been -$50 (i.e., $549 - $599). When Apple offered a $200 discount (advertised selling price of $399), the negative transaction value was -$200 ($399-$599). Perceptions of such low negative transaction value may lead to price unfairness perceptions (Xia and Monroe 2010). Hence, the perceptions of negative transaction value and price unfairness would have been higher after a $200 discount than those after a $50 discount.

However, temporal distance between the purchase and the subsequent discount may influence how transaction value and the subsequent price unfairness perceptions will be perceived. Mazumdar, Raj, and Sinha (2005) argue that while forming (internal) reference prices, consumers

weigh proximal purchases (prices paid in the recent past) more heavily than distant past purchases. This is in line with the predictions of construal level theory because price related information is a low level construal (Trope and Liberman 2010). As such, at proximal distance, discounts will be more influential on consumers' value judgments than in the distant past. The comparison of internal reference price $_{t}$ and advertised selling price $_{t+1}$ will lead to higher perceived negative transaction value (more negative) and higher price unfairness perceptions at proximal temporal distance than at far temporal distance. Haws and Bearden (2006) found that a deep discount proximal to a past purchase led to more price unfairness perceptions than a distant or shallow one. The interaction between depth of price reductions and temporal distance was significant in their study.

> *H_{11a}: At proximal distance, a deep discount (low advertised selling price) will lead to higher perceived negative transaction value and higher price unfairness perceptions than a shallow discount (high advertised selling price).*

At far temporal distance, high level construals will gain importance (Trope and Liberman 2010). Hence, perceptions of negative transaction value are less likely to be affected by reductions in advertised selling price, which is a low level construal, at far temporal distance. This means that perceptions of price unfairness are unlikely to be significantly different when the brand offers a deep discount than when it offers a shallow one at far temporal distance.

> *H_{11b}: At far temporal distance, a deep discount (low advertised selling price) is unlikely to impact perceived negative transaction value and perceived price unfairness differently than a shallow discount (high advertised selling price).*

Brand Strength and Temporal Distance on Negative Transaction Value and Price Unfairness Perceptions

At proximal temporal distance, the low level construal (i.e. advertised selling price) will be salient and gain priority over high level ones (i.e. brand name and perceived quality) (Trope and

Liberman 2010). The literature supports the prediction that high level construals are not effective at proximal temporal distance. For instance, Trope and Liberman (2000) did not find differences in consumers' satisfaction when they made choices regarding a product's primary feature, which is construed at high levels, for the proximal temporal distance. In their study, the primary feature was the sound quality and the secondary feature was the clock in a radio. Hence, brand strength is less likely to impact internal reference price; or perceived quality is less likely to affect perceived loss in acquisition value at proximal temporal distance as hypothesized in H_{5a}. Because price related (concrete) information will dominate consumers' judgments, a deep price reduction will have a larger impact than the shallow price reduction condition (as hypothesized in H_{11a}) for both the strong and weak brands. The impact of advertised selling price will lead to higher perceived loss in acquisition value and higher perceived negative transaction value at the proximal temporal distance.

> *H_{12a}: At proximal temporal distance, a deep price reduction (low advertised selling price) offered by both weak and strong brands will lead to higher perceptions of negative transaction value and higher perceived loss in acquisition value, and will be perceived more unfair than a shallow price reduction in a post-purchase situation.*

At far temporal distance, the brand name and perceived quality (high level construal) will be more dominant than advertised reference price (low level construal) (Trope and Liberman 2010). A strong brand's discount will also represent a larger difference between a consumer's internal reference price and advertised selling price $_{t+1}$ than that of the weak brand for the consumer, who already owns the product because the internal reference price for a strong brand is higher than that for a weak one as hypothesized in H_2. Such differences in prices may lead to higher perceived negative transaction value as hypothesized in H_{10} and price unfairness perceptions (Xia and Monroe 2010). Hence, the strong brand will suffer from more negative transaction value and price unfairness perceptions than the weak brand in the distant past condition.

H_{12b}: At far temporal distance, discounts offered by strong brands will lead to higher perceived loss in acquisition value and higher price unfairness perceptions than those offered by weak brands in a post-purchase price reduction situation.

Chapter 4: Experiment 1

Introduction

This chapter will introduce the study to develop the measurement scales for the concepts presented in the third chapter. First, the study design, procedure, and manipulations will be discussed. Second, four scales, internal reference price, perceived negative transaction value, perceived loss in acquisition value, and perceived price unfairness, that are suitable for a post-purchase price reduction context will be developed. The results of exploratory and confirmatory factor analyses along with validation of the scales will be presented. Lastly, finalized scales will be presented and data will be analyzed using structural equations modeling.

Design

A 2 (Depth of price reduction: Shallow vs. Deep) x 2 (Temporal Distance: Proximal vs. Far) x 2 (Brand Strength: Weak vs. Strong) between subjects experiment was conducted. Internal reference price, perceived price unfairness, perceived loss in acquisition value, and perceived negative transaction value will be measured as dependent variables. A sample size of 100 subjects (around 12 responses per cell) is estimated to be enough to provide the required statistical power for developing the scales and testing the model initially. The data collection instrument includes the dependent variables and manipulation checks regarding a fictitious company.

Manipulations and Procedure

Based on previous studies or pre-tests that simulated a high tech post-purchase price reduction, eight scenarios for a fictitious company called Comtech were prepared. A pre-test revealed that the most relevant high tech product to students, who will respond to this study, is a laptop.

Brand name, temporal distance and depth of price reduction manipulations were determined based on pre-tests. Another pre-test (N = 35) revealed that the price students were willing to pay for a moderate quality and high quality laptop was around $1000 (Moderate quality $668, high quality $1434). Two versions of the experiment can be found in appendices 1 and 2.

The respondents were informed that their laptop broke down either one day (proximal temporal distance) or four months before (far temporal distance) the current date and they are/were in the market for a new one. They were told that they found an article about a high tech company in a local newspaper. The newspaper article depicted the strong brand as having excellent reputation, quality, and image; and informed the respondents that it was recently chosen as the most valuable brand in the world. Weak brand had average reputation, quality, and image; and was chosen as the 91st most valuable brand in the world.

Respondents were directed to a fictitious web page featuring a laptop on Amazon.com to examine its specifications. They were informed that they purchased this product for $1000. They answered questions about perceived brand strength, internal reference price, and perceived quality after their purchase but before the price reduction. To ensure that temporal distance did not differently impact present perceptions of quality, brand strength, and internal reference price before the price reduction, t-tests were run between the proximal and far temporal distance conditions. The results showed no significant difference for perceived brand strength ($p = .973$), perceived quality ($p = .448$), and internal reference price ($p = .209$) between the proximal and far temporal distance conditions before the discount.

In the far temporal distance condition, the respondents completed a filler task after which they were informed that the company reduced the price of the laptop they bought to either $600 (deep discount) or to $950 (shallow discount). In the proximal temporal distance condition, the

respondents were informed about the discount instantly. Then they were directed to the questions regarding post-purchase perceptions.

The respondents answered questions that measured perceived negative transaction value, perceived quality, internal reference price, perceived loss in acquisition value, and perceived price unfairness along with manipulation checks. Lastly, they answered questions related to demographics.

Data Description and Screening

One hundred and eighteen undergraduate students participated in the experiment for modest course credit on qualtrics.com. Eleven people were excluded from the sample due to unengaged or random responses. As a result one hundred and seven (33% males) usable responses (median age = 21) were obtained across eight conditions (see Table 1). The minimum cell size was 12. The data were checked for univariate skewness and kurtosis. No variable violated the univariate normality assumption because the absolute values of skewness and kurtosis statistics of all the items were below 2 (Kim 2013).

Table 1: Cell Sizes of Experiment 1

Cell	Frequency	Percent	Valid Percent	Cumulative Percent
1	15	14	14	14
2	13	12.1	12.1	26.2
3	12	11.2	11.2	37.4
4	12	11.2	11.2	48.6
5	12	11.2	11.2	59.8
6	12	11.2	11.2	71
7	16	15	15	86
8	15	14	14	100
Total	107	100	100	

Manipulation Checks

Perceived brand strength, depth of discount, and temporal distance manipulations were checked using scales ranging from 1: Totally disagree to 7: Totally (see Appendix 5). The items in each manipulation check scale loaded on three different factors in an exploratory factor analysis using principal components with a promax rotation. The relevant items loaded on the appropriate factors with a minimum loading of .75 across all the items. There was no cross loading higher than .3. Reliability analyses were performed on these three scales. The minimum Cronbach's alpha coefficient was .861.

Three t-tests regarding the mean differences between experimental conditions showed that the manipulations succeeded in creating the intended effects. The depth of discount manipulation had a significant difference between the deep and shallow price reductions ($\mu = 5.5$ vs. 4.1, $t_{105} = -6.3$, $p < .01$). The perceived brand strength manipulation had a significant effect between strong and weak brand conditions ($\mu = 4.9$ vs. 3.5, $t_{105} = -5.5$, $p < .01$). The temporal distance manipulation had a significant effect between proximal and far temporal distance conditions ($\mu = 5.5$ vs. 4.2, $t_{105} = -4.7$, $p < .01$).

Dependent Variables

Dependent variables were adapted from established scales. Perceived price unfairness scale was adapted from Grewal et al.'s (2004) study. Perceived loss in acquisition value, perceived quality, and internal reference price scales were adapted from Grewal, Monroe, and Krishnan's (1998) study. Perceived negative transaction value scale measures the negative portion of the transaction value scale developed by Grewal, Monroe, and Krishnan (1998). Advertised reference price and advertised selling prices were measured with the following questions respectively: The price I paid for my laptop was: $_____, Comtech reduced my laptop's price to: $ _____.

Advertised reference price, advertised selling price, and internal reference price scales measured the absolute dollar values. The other scales were anchored at 1: Strongly Disagree 7: Strongly Agree (see appendix 6).

Exploratory Factor Analysis

An exploratory factor analysis was conducted on the five dependent constructs: Perceived quality, internal reference price, perceived loss in acquisition value, perceived negative transaction value, and perceived price unfairness with 29 items in total (see appendix 6). In the initial analysis, 29 items loaded on seven factors with price unfairness items loading on three different factors. The exploratory factor analysis was conducted using maximum likelihood extraction method with a promax rotation. After removing the items with lowest loadings, the analysis resulted in five factors whose eigenvalues were higher than 1. The five factors explained 74% of the variance in the data with 23 items (see Table 2). The KMO and Bartlett's test showed a 90% sampling adequacy. The goodness of fit test was significant.

Analysis Plan

Directional hypotheses (H_1 through H_9 except H_{5a} and H_{5b}) will be tested within a causal structural equations model. Overall fit of the model and the significance of related paths in the model will be checked to evaluate the hypotheses.

A MANOVA with perceived negative transaction value and perceived price unfairness as the dependent variables and brand strength as the independent variable will be run to test H_{10}.

Table 2: Rotated Pattern Matrix

	Factor				
	1	2	3	4	5
LossAcqVal5: After the discount, the price I paid did NOT convey good value, compared to the maximum price I would have been willing to pay for this laptop as much as it did before the discount.	0.94				
LossAcqVal3: After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount.	0.85				
LossAcqVal4: After the discount, acquiring this laptop did NOT seem to meet both my high quality and low price requirements as much as it did before the discount.	0.81				
LossAcqVal1: After the discount, I feel that I did NOT get my money's worth as much as I did before the discount.	0.75				
LossAcqVal7: After the discount, this laptop did NOT seem like a worthwhile acquisition as much as it did before the discount.	0.74				
LossAcqVal2: After the discount, I feel that I did NOT get a good quality laptop for a reasonable price as much as I did before the discount.	0.72				
LossAcqVal6: After the discount, I did NOT value this laptop as much as I did before the discount.	0.71				
NegTransVal3: I feel that I paid more than I should have for this laptop.		0.86			
NegTransVal1: I feel that I lost money on this laptop.		0.83			
NegTransVal2: I feel that I wasted money on this laptop.		0.83			
NegTransVal4: I feel that I was cheated out of my money after the price reduction.		0.81			
NegTransVal5: I should have paid a much lower price for this laptop.		0.78			
NegTransVal6: This transaction hurts my finances.		0.67			
PriceUnfair3: This price reduction was unacceptable.			0.99		
PriceUnfair2: This price reduction was unreasonable.			0.86		
PriceUnfair4: This price reduction was unjustifiable.			0.84		
PriceUnfair1: This price reduction was unfair.			0.69		
Quality2: My Comtech laptop appears to be…-durable.				0.94	
Quality3: My Comtech laptop appears to be…-reliable.				0.93	
Quality1: My Comtech laptop appears to be…-good quality.				0.9	
IntRefPri1: This Comtech laptop should be valued at $_____.					0.88
IntRefPri3: What price would you consider as fair for this laptop? $_____.					0.86
IntRefPri2: My estimate of the market price for this laptop is $_____.					0.77

A multi-group (far and proximal temporal distance conditions) moderation analysis will be conducted to test H_{5a}, H_{5b}, H_{11a}, and H_{11b}. Temporal distance will be included as a categorical moderator variable in the structural equations model to examine how temporal distance impacts different causal relationships in the model. A multi-group moderation analysis requires the constructs at both the proximal and far temporal distance conditions of the moderator variable to be equivalent. Therefore, invariance between the far and proximal temporal distance groups will be assessed.

An ANOVA analysis, where perceived negative transaction value is the dependent and the three manipulations are the independent variables, will be conducted and the significance of the three way interaction term will be checked to test H_{12a} and H_{12b}.

Confirmatory factor analysis and invariance test will be presented next. The scales will be validated in terms of convergent and discriminant validity and composite reliabilities will be reported in the scale validation section. Multivariate assumptions will be checked; directional hypotheses will be tested; and the multi-group moderation analysis will be carried out. The chapter will conclude with discussion of experiment one.

Confirmatory Factor Analysis

Twenty three items (see Table 2) obtained in the exploratory factor analysis were used to run a confirmatory factor analysis to validate the scales. The confirmatory factor analysis indicated that perceived negative transaction value 5 and 6 did not load adequately on the construct. Perceived loss in acquisition value 5 did not load adequately as well. Five constructs could be measured effectively with 20 items in total (see Table 3).

Table 3: Finalized Scales and Standardized Items

	Factor				
	1	2	3	4	5
LossAcqVal3: After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount.	0.87				
LossAcqVal4: After the discount, acquiring this laptop did NOT seem to meet both my high quality and low price requirements as much as it did before the discount.	0.87				
LossAcqVal1: After the discount, I feel that I did NOT get my money's worth as much as I did before the discount.	0.91				
LossAcqVal7: After the discount, this laptop did NOT seem like a worthwhile acquisition as much as it did before the discount.	0.88				
LossAcqVal2: After the discount, I feel that I did NOT get a good quality laptop for a reasonable price as much as I did before the discount.	0.87				
LossAcqVal6: After the discount, I did NOT value this laptop as much as I did before the discount.	0.86				
NegTransVal3: I feel that I paid more than I should have for this laptop.		0.81			
NegTransVal1: I feel that I lost money on this laptop.		0.84			
NegTransVal2: I feel that I wasted money on this laptop.		0.95			
NegTransVal4: I feel that I was cheated out of my money after the price reduction.		0.92			
PriceUnfair3: This price reduction was unacceptable.			0.97		
PriceUnfair2: This price reduction was unreasonable.			0.95		
PriceUnfair4: This price reduction was unjustifiable.			0.91		
PriceUnfair1: This price reduction was unfair.			0.86		
Quality2: My Comtech laptop appears to be…-durable.				0.95	
Quality3: My Comtech laptop appears to be…-reliable.				0.97	
Quality1: My Comtech laptop appears to be…-good quality.				0.92	
IntRefPri1: This Comtech laptop should be valued at $_____.					0.87
IntRefPri3: What price would you consider as fair for this laptop? $_____.					0.91
IntRefPri2: My estimate of the market price for this laptop is $_____.					0.81

The analysis showed that the model fit the data adequately: CMIN/DF = 1.145 (p = .10), GFI = .858, CFI = .990, PCFI = .823, RMSEA = .037, and PCLOSE = .804. The recommended fit levels are CMIN/DF < 3, GFI > .90 , CFI > .90, PCFI > .80, RMSEA < .08, and PCLOSE > .05 (Hair et al. 2010, pp. 647-651). GFI is recommended to be over .90 (Hair et al. 2010, pp.647-651) but it is also known that GFI is sensitive to sample size in that small sample sizes around 100 produce a GFI value around .8 (Sharma et al. 2005). Sharma et al. (2005) also recommend using .07 or .08 for RMSEA as the cutoff value when using small sample sizes around 100**.** Keeping in mind that the sample size is 107, GFI can be considered acceptable (Sharma et al. 2005). The rest of the fit statistics are within recommended ranges for a good fit.

An examination of correlations among the constructs indicates that the signs of the correlations are as expected by the hypotheses (see Figure 6): H_4, perceived quality and loss in acquisition value (-.29); H_7, internal reference price and perceived negative transaction value (-.48); H_8, perceived negative transaction value and perceived price unfairness (.55); H_9, perceived negative transaction value and perceived loss in acquisition value (.76). Although not hypothesized, a positive correlation between perceived quality and internal reference price is expected according to the literature (.35). When considered along with other correlations, a very low correlation (-.07) between perceived quality and perceived price unfairness might be considered as an indication of nomological validity for the other constructs.

Invariance Test

Configural invariance was tested by running the confirmatory factor analysis with two groups (N_{far} = 55 vs. $N_{proximal}$ = 52). The fit statistics were satisfactory when far and proximal temporal distance conditions were estimated in the same model: X^2 = 425.1 (df = 316), CMIN/DF = 1.345 (p = .00), GFI = .750, CFI = .954, PCFI = .793, RMSEA = .057, and PCLOSE = .197.

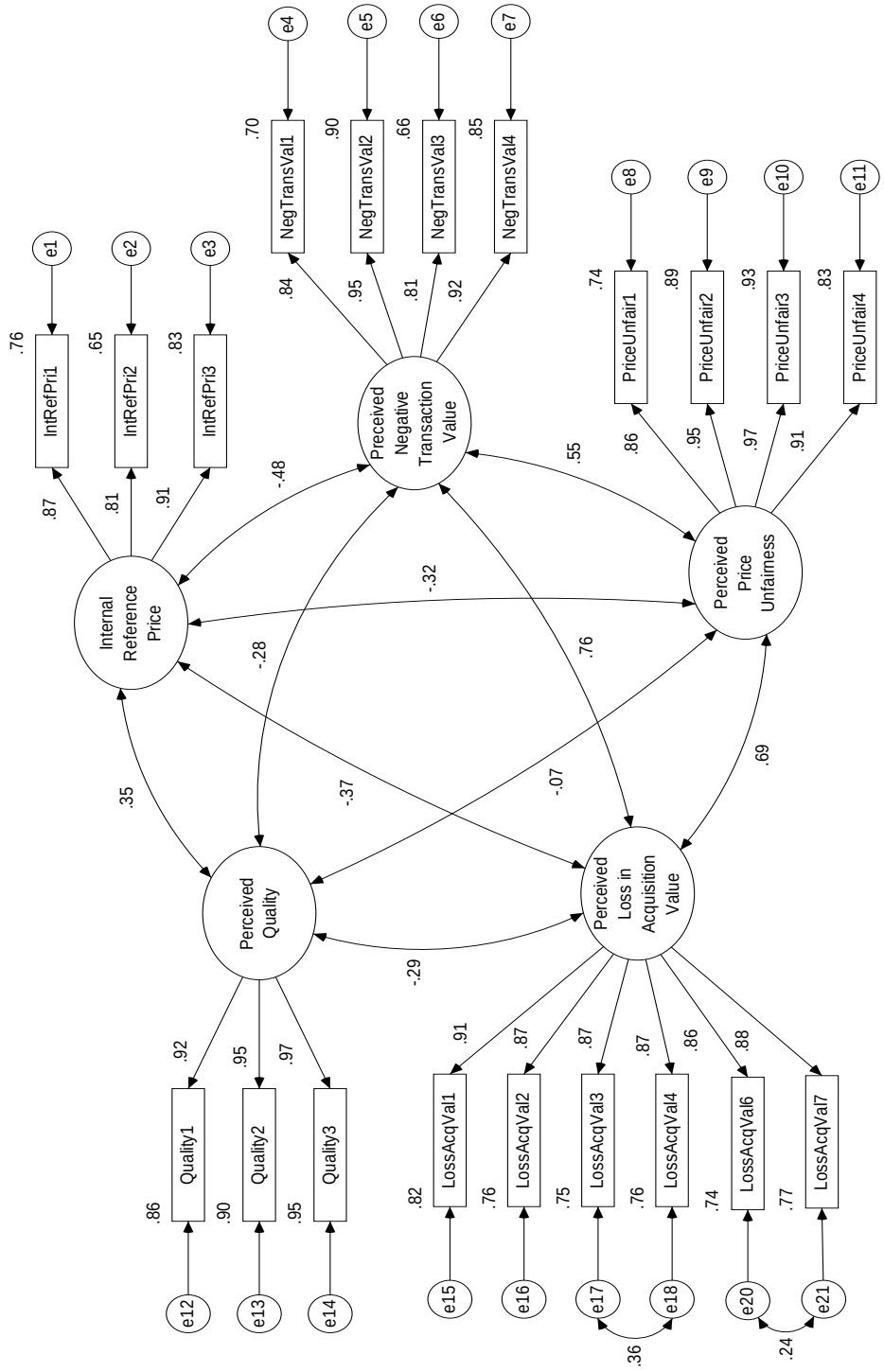


Figure 6: Confirmatory Factor Analysis

Metric invariance was examined using a X^2 difference test. The X^2 value (425.1, df = 316) of the unconstrained model where the two groups were estimated freely above and the X^2 value (451.7, df = 336) of the constrained model where the variance of latent variables were fixed and the factor loadings of items were forced to be equal across far and proximal conditions were compared. The result of the X^2 difference test ($26.6_{(20)}$, p = .147) was not significant, indicating that the two groups had metric invariance.

The results of the configural and metric invariance tests indicated that the model measured the same constructs in both far and proximal temporal distance conditions. As such, invariance was achieved and temporal distance moderation can be carried out.

Validation of Scales

The scales were validated following Gerbing and Anderson (1988); Churchill (1979); and Fornell and Larcker (1981). The minimum composite reliability among the five scales was .898, indicating a good internal consistency (see Table 4). When reliability of a scale, which is a measure of internal consistency, is above .7, the scale is considered as measuring a single construct (Gerbing and Anderson 1988). So each construct is measuring a single factor. Composite reliability higher than .7 is recommended (Fornell and Larcker 1981; Hair et al. 2010, p. 647). The loadings of all the items in the CFA model were higher than .80, indicating convergent validity. The average variance extracted for each scale was higher than .5 (actually minimum .745), which is an indication for good convergent validity (Hair et al. 2010, p. 673). The average shared variance by each scale with other scales was lower than the average variance extracted from each construct, indicating discriminant validity (Fornell and Larcker 1981). The average variance extracted from each scale was higher than even the maximum shared variance of the same scale with any other scale, indicating strong discriminant validity. Only two constructs, perceived loss in acquisition value and perceived negative transaction value, had a maximum shared variance of .578 with each other.

However, a moderate shared variance between perceived loss in acquisition value and perceived negative transaction value was expected because advertised selling price impacted both of these constructs. Grewal, Monroe, and Krishnan (1998) showed that perceived transaction value and perceived acquisition value were related.

Table 4: Validation of Scales

	Composite Reliability	Average Variance Extracted	Maximum Shared Variance	Average Shared Variance	Internal Reference Price	Perceived Price Unfairness	Perceived Quality	Perceived Loss in Acquisition Value	Perceived Negative Transaction Value
Internal Reference Price	0.898	0.745	0.234	0.148	**0.863**				
Perceived Price Unfairness	0.958	0.851	0.475	0.22	-0.316	**0.922**			
Perceived Quality	0.964	0.9	0.125	0.072	0.353	-0.066	**0.949**		
Perceived Loss in Acquisition Value	0.952	0.767	0.578	0.317	-0.365	0.689	-0.286	**0.876**	
Perceived Negative Transaction Value	0.933	0.778	0.578	0.298	-0.484	0.55	-0.279	0.76	**0.882**

Assumptions

Linear, logarithmic, inverse, quadratic, cubic compound, power, s, growth, exponential, logistic curves between the constructs of interest in the model were fit to check for the linearity assumption. The coefficients of the linear curves were highly ($p < .01$) significant for all the linear relationships hypothesized in the model. The explanatory power of the linear relationships based on F-statistic were the largest or at least 85% of the highest F-statistic value of the coefficient of the best fitting non-linear curve for all the hypothesized relationships. This shows that the constructs of

interest are sufficiently linearly related to be analyzed using structural equations modeling, which assumes linearity.

Multivariate normality of the data was checked depending on Mardia's coefficient 11.469 > 1.96, which indicated significant non-normality (Gao, Mokhtarian, and Johnston 2008). Andreassen et al. (2006) suggest using maximum likelihood estimations, which may distort the parameter estimates, regardless of the multivariate normality of the data, but suggest correcting for such distortion later with a bias correction method, which can be a bootstrap analysis (Bollen and Stine 1990).

Multicollinearity between the exogenous variables were checked by running three regressions, each of which had one of the exogenous variables as the dependent and the remaining two as the independents. The variance inflation factors of the pairs of independent variables were temporal distance (1.011) and depth of discount (1.011); depth of discount (1) and brand strength (1); and brand strength (1) and temporal distance (1). The VIFs were all smaller than ten, which indicate no multicollinearity issue with the data (Hair et al. 2010, p.201).

Testing the Directional Hypotheses

The causal model was run with three groups: First group included respondents exposed to the far temporal distance condition; the second proximal temporal distance condition; and the third included all the respondents in the experiment. Brand strength and advertised selling price were standardized and included in the model as exogenous variables. The model fit was deemed acceptable: CMIN/DF=1.377 (p=.000), GFI=.775, CFI=.953, PCFI=.821, RMSEA=.042, and PCLOSE= .968 (Hair et al. 2010).

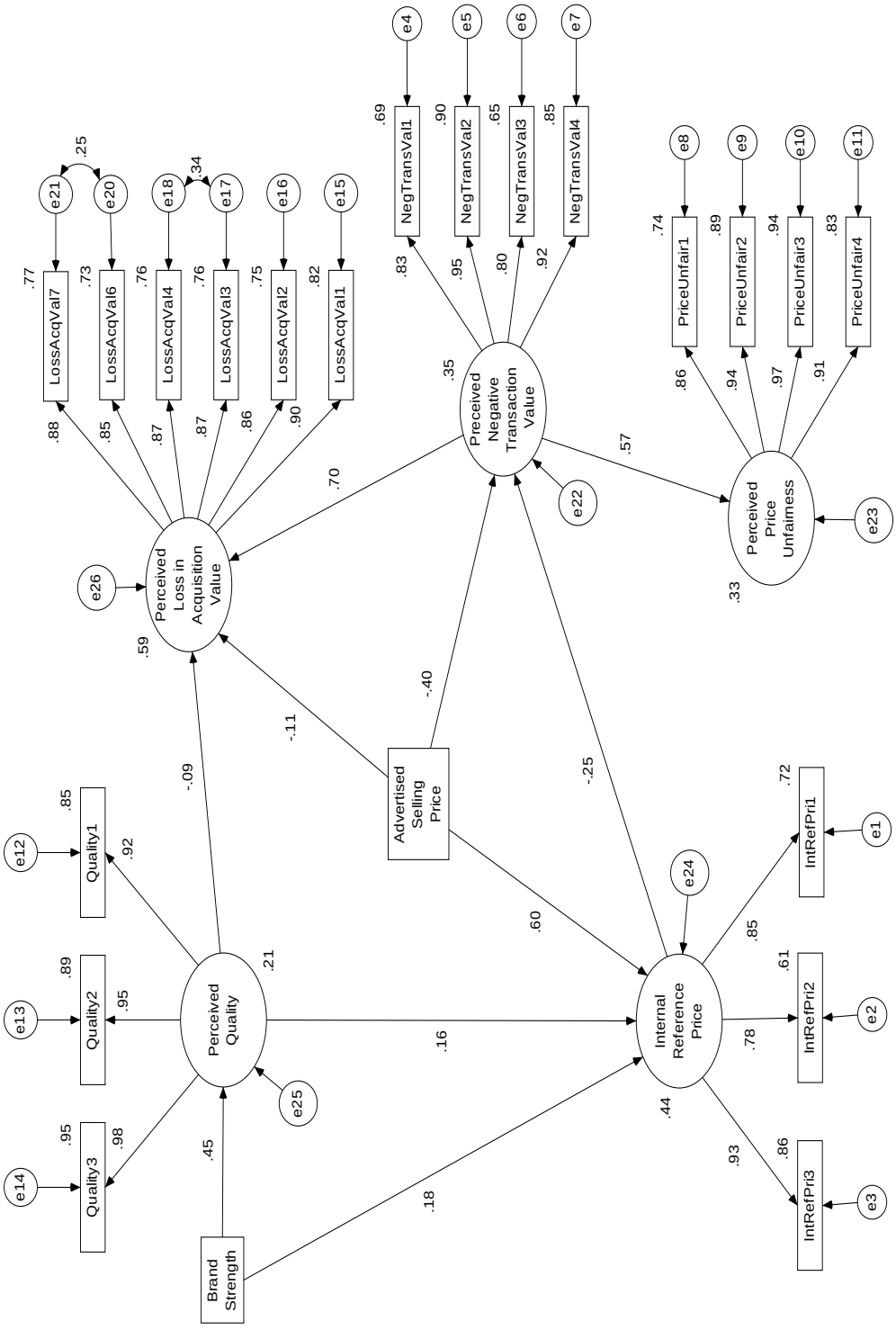


Figure 7: Causal Model Estimated Using the Entire Sample

The analysis in the previous section indicated that multivariate normality assumption was violated. Bootstrapping can be applied to overcome the bias in parameter estimates (Bollen and Stine 1990). Bollen-Stine bootstrap is suitable to use in this setting because Bollen-Stine bootstrap is a stringent method that tends to reject misspecified models even with small samples (N = 107) (Enders 2002). A Bollen-Stine bootstrap analysis was conducted with 1000 resamples in AMOS ($p = .465 > .05$), indicating that the model is acceptable even when corrected for multivariate non-normality (Bollen and Stine 1992).

A bootstrap with 5000 resamples was run to estimate bias corrected 90% confidence intervals. The result of the bootstrap analysis was not different in terms of the signs and the significance levels of the relationships estimated using the single sample data. So the non-normality of the data was not significantly biasing the parameter estimates and their significance in the model. Hence, the single sample estimates without the bootstrap can be used to analyze the data further.

Almost all the parameters of the model were significant when all the data were included in the calculations supporting most of the hypotheses (see Figure 7). When all the data were used, all the hypothesized relationships were significant except H_4, perceived quality to perceived loss in acquisition value ($ß = -.09$, $p = .237$) and H_3, advertised selling price to perceived loss in acquisition value ($ß = -.11$, $p = .189$) (see Table 5).

Table 5: Regression Weights and Critical Ratios for the Causal Model Estimated Using the Entire Sample

DV	IV	Estimate	S.E.	C.R.	p	Hypotheses
Perceived Quality	Perceived Brand Strength	0.575	0.114	5.027	0.000	H_1
Internal Rerefence Price	Perceived Quality	21.170	12.107	1.749	0.080	Not hypothesized
Internal Rerefence Price	Perceived Brand Strength	29.920	14.958	2.000	0.045	H_2
Internal Rerefence Price	Advertised Selling Price	97.481	14.067	6.930	0.000	Not hypothesized
Perceived Negative Transaction V	Internal Rerefence Price	-0.002	0.001	-2.215	0.027	H_7
Perceived Negative Transaction V	Advertised Selling Price	-0.548	0.152	-3.611	0.000	H_6
Perceived Loss in Acquisition V	Perceived Quality	-0.100	0.085	-1.182	0.237	H_4 (not supported)
Perceived Loss in Acquisition V	Advertised Selling Price	-0.164	0.125	-1.313	0.189	H_3 (not supported)
Perceived Loss in Acquisition V	Perceived Negative Transaction V	0.763	0.113	6.754	0.000	H_9
Perceived Price Unfairness	Perceived Negative Transaction V	0.651	0.107	6.067	0.000	H_8

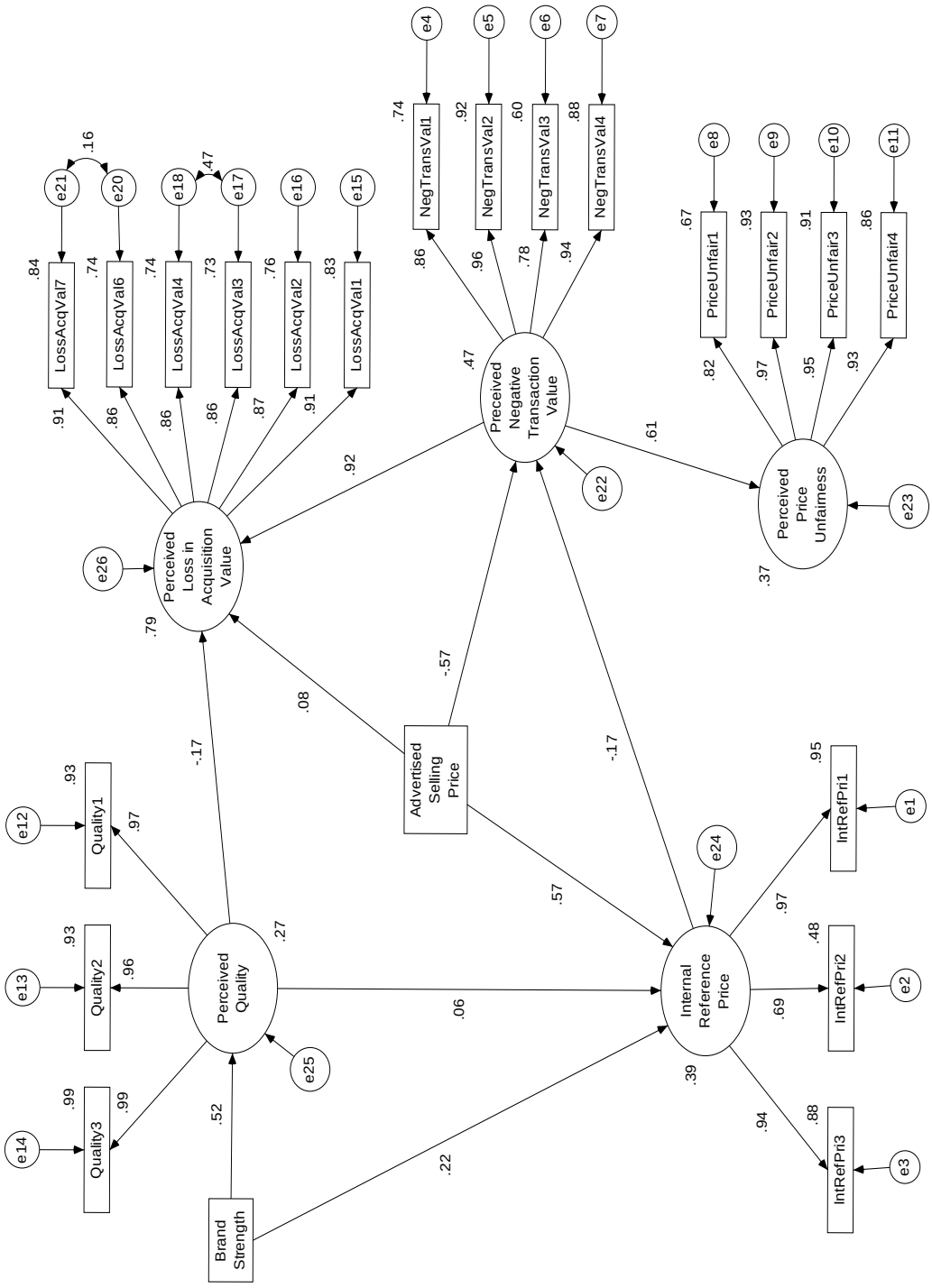


Figure 8: Causal Model Estimated for Far Temporal Distance Condition

Although H_3 and H_4 were not significant, these relationships were hypothesized to be moderated by temporal distance in H_{5a} and H_{5b}. Temporal distance moderation will be analyzed next.

A quick examination of the coefficients showed that in the far temporal distance condition, perceived quality (ß = -.17, p = .033) impacted perceived loss in acquisition value significantly when advertised selling price (ß = .08, p = .448) did not (see Figure 8), supporting H_{5b}. A t-test was run to test the difference in loss in perceived acquisition value between the far and proximal conditions. There was a significant difference between the far and proximal groups ($\mu = 4.23$ vs. $\mu = 4.83$, $t_{(105)} = 2.01$, $p < .05$). In the far temporal distance the mean was lower than that of the proximal condition, therefore the assertion that the perceived loss in acquisition value in the far temporal distance condition would be lower than in the proximal temporal distance condition in H_{5b} was supported.

In the proximal temporal distance condition, perceived quality (ß = .02, p = .895) did not significantly impact perceived loss in acquisition (see Figure 9). However, advertised selling price (ß = -.23, p = .078 < .10) did not impact the perceived loss in acquisition value significantly. This means that H_{5a} was partially supported. The assertion about the means of perceived loss in acquisition value was already supported for H_{5b} hence the same was supported in H_{5a}. Considering that sample size is 52 for the proximal condition, advertised selling price and perceived loss in acquisition value relationship might have been significant with a larger sample size. Advertised selling price and perceived quality relationship approached the .05 significance level.

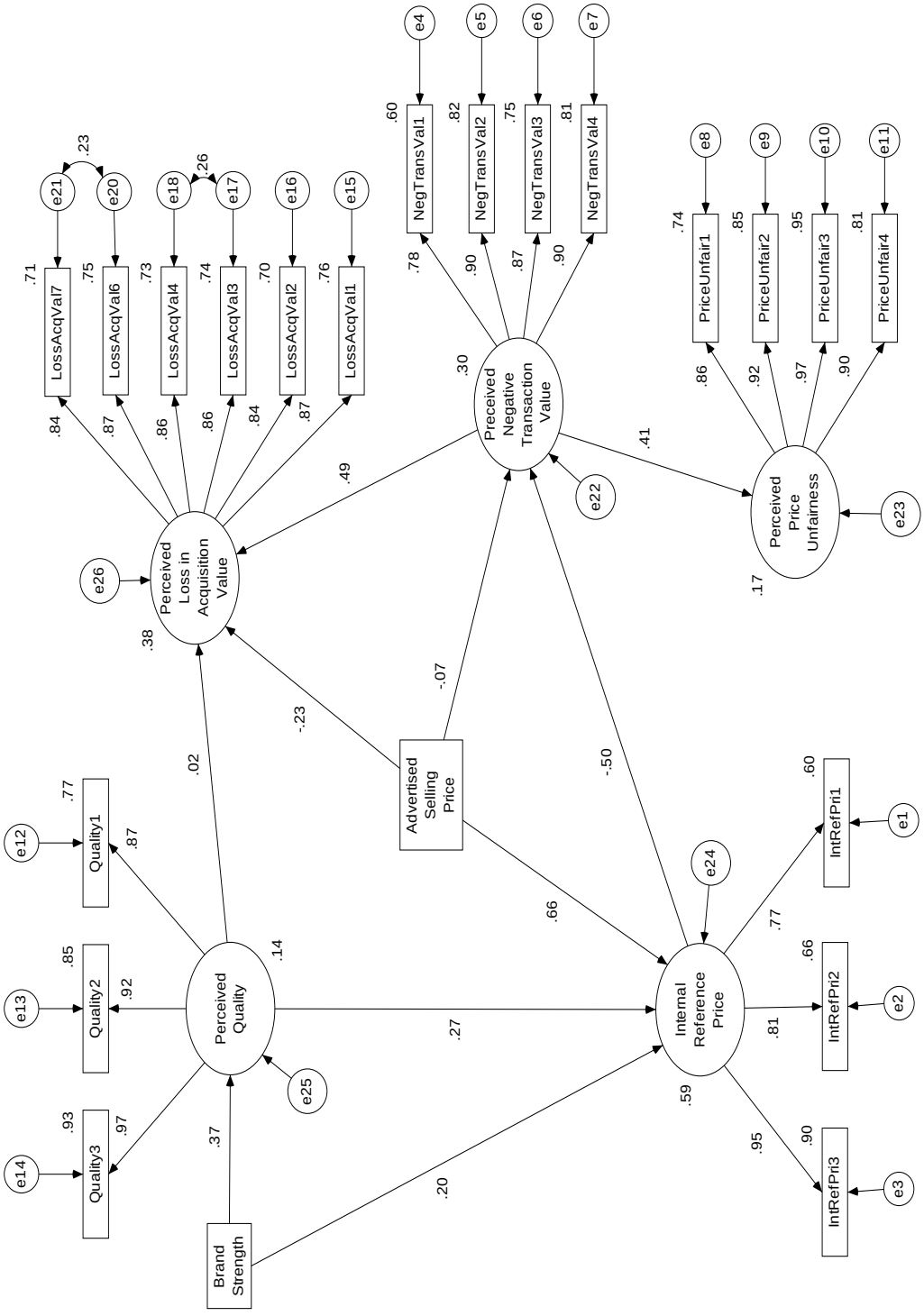


Figure 9: Causal Model Estimated for Proximal Temporal Distance Condition

Brand Strength

In H_{10}, it was hypothesized that a price reduction from a strong brand would lead to higher perceived negative transaction value and higher perceived price unfairness. A MANOVA was conducted with perceived negative transaction value and perceived price unfairness as the dependent variables and brand strength as the independent variable. Brand strength was insignificant ($p = .088$). Hence, H_{10} was not supported. But the power was inadequate (.49). A significant difference may be detected with a large enough sample.

Temporal Distance

In $H_{11,}$ it was asserted that advertised selling price would be more effective at the proximal temporal distance but not at far temporal distance in impacting perceived negative transaction value. At far temporal distance advertised selling price (ß = -.57, $p = .00$) significantly impacted perceived negative transaction value (see Figure 8). But it was hypothesized that this relationship would not be significant in the proximal temporal distance condition. Hence H_{11b} was not supported. In the proximal temporal distance condition, this relationship became insignificant (ß = -.07, $p = .695$) (see Figure 9). It was hypothesized that this relationship would be significant in the proximal condition, thus H_{11a} is not supported.

An ANOVA was conducted with perceived negative transaction value as the dependent; depth of discount and temporal distance as independents. The results showed that there might be an interaction ($p = .069 < .10$) but also there was limited power (.466). The interaction showed that at proximal distance, deep and shallow price reductions create more similar effects (μ proximalxshallow = 4.95 vs. μ proximalxdeep = 6.12) on perceived negative transaction value than at far temporal distance (μ farxshallow = 3.74 vs μ farxdeep = 5.81). Although there might have been an interaction, the data showed the opposite of the predictions of H_{11a} and H_{11b}.

Brand Strength and Temporal Distance

An ANOVA analysis, where perceived negative transaction value was the dependent variable and the three manipulations were the independent variables, was conducted to test H_{12a} and H_{12b}. The results of the ANOVA matched those of the SEM analysis such that the main effects were significant but interaction effects were insignificant at a 90% confidence level except between temporal distance and depth of discount ($p = .058$, power = .475). But the power levels of insignificant interactions were all below .10, indicating that there was not enough power to detect significant effects. Therefore, such effects, if any, may be detected with a larger sample. The three way interaction among brand strength, depth of discount, and temporal distance was insignificant ($p = .827$), indicating that H_{12a} and H_{12b} were not supported.

Directionality of the Relationship between Negative Transaction Value and Price Unfairness Perceptions

Perceived negative transaction value was found to impact perceived price unfairness positively (H_8). Xia, Monroe, and Cox (2004) argued that the price unfairness perceptions precede value perceptions. However, they did not empirically test this relationship. Xia and Monroe (2010) argued that price inequity causes perceptions of negative transaction value and price unfairness. They measured both the constructs and showed that they are related but did not empirically test which preceded the other.

One of the contributions of this dissertation is checking the direction of this relationship by using structural equations modeling, which can check the fit of the entire model ($X^2 = 821.9$, df = 597). To test its directionality, the relationship between perceived negative transaction value and perceived price unfairness was reversed, making perceived price unfairness an exogenous variable. The fit of the model got worse assessed by the increase in the X^2 value ($X^2 = 850.7$, df = 597).

Although this is not an indication of true causality, the data supported the relationship from perceived negative transaction value to perceived price unfairness more than it supported the other way around.

Discussion of Experiment 1

The results of the first experiment supported the directional relationships as hypothesized. The relationships of the extended acquisition-transaction model were shown to hold in a post-purchase situation for the first time.

The focus of this dissertation, brand strength, was shown to impact perceived quality positively (H_1) in a post-purchase situation. Moreover, brand strength positively impacted internal reference price in a post-purchase setting, supporting H_2. These hypotheses were supported in line with the theoretical framework developed by relying on the literature. These results showed that brand strength could be integrated into the acquisition-transaction value model successfully to analyze the impact of post-purchase price reductions on value and price unfairness perceptions.

Moreover, four new scales were developed for a post-purchase price reduction setting: Perceived loss in acquisition value, perceived negative transaction value, internal reference price, and perceived price unfairness. The causal relationships were all supported except the variables hypothesized to interact with temporal distance. The directional results did not support the predicted relationships from perceived quality (H_4) and advertised selling price (H_3) to perceived loss in acquisition value. However, the temporal distance (H_{5a} and H_{5b}) partially moderated these relationships. When the temporal distance was far, perceived quality significantly impacted perceived loss in acquisition value but advertised selling price did not. When the temporal distance was proximal, perceived quality was not significant but advertised selling price approached significance ($p < .10$). These findings are in line with the predictions of construal level theory

(Trope and Liberman 2010). Perceived quality was shown to be dominant in the far temporal distance and sacrifice perceptions to be dominant in the proximal temporal distance in effecting perceived value at present by Bornemann and Homburg (2011). This moderation effect showed that the predictions of construal level theory holds not only for future events impacting current value perceptions but also for past events affecting present value perceptions.

Advertised selling price (H_6) and internal reference price (H_7) impacted perceived negative transaction value negatively as hypothesized. Perceived negative transaction value and perceived loss in acquisition value (H_9) were positively related in a post-purchase setting as hypothesized.

Perceived negative transaction value was found to impact perceived price unfairness positively (H_8). The data supported the causation from perceived negative value to perceive price unfairness more than the reverse. The fit of the model got worse assessed by the increase in the X^2 value when perceived price unfairness led to perceived negative transaction value.

After discussing what worked as expected, some of the problems with the experiment and possible solutions can be discussed. The interaction hypotheses were not supported except between temporal distance and advertised selling price in addition to perceived quality to impact perceived loss in acquisition value. However, this could be due to lack of power and inadequate sample size.

Although new scales could be developed and validated, checking the loadings of the scale items revealed that one of the items in the internal reference price was causing the model to fit poorer than it could have. Without the internal reference price scale, the CFA fit of the other four scales was perfect (CFI = 1, RMSEA = 0). The internal reference price scale was developed based on the two item scale developed by Grewal, Monroe, and Krishnan (1998) by adding a third item. There was a typo in the following scale item: My estimate of the market price for this laptop is, whereas "average" should have preceded market price. The third item was loading sufficiently and

behaving well. So correcting the typo and refining the internal reference price scale might yield a better fit for the model. Perceived negative transaction value 1 and 3 have low loadings. Improving the perceived negative transaction value scale might produce a better fit for the model.

Chapter 5: Experiment 2

Introduction

This chapter aims to replicate the findings in the first experiment on a large non-student sample with a different product in order to increase the generalizability of the findings. The second experiment will be conducted using the qualtrics survey system with respondents recruited on Mturk. The scales initially developed in the first study will be refined in this chapter, especially; the validity and reliability of internal reference price and perceived negative transaction value scales will be improved. Exploratory and confirmatory factor analyses results will be presented along with revalidation of the four scales. The scales will be finalized and the data will be analyzed using structural equations modeling for proximal and far temporal distance conditions in the same way as the first experiment.

Pre-test

In order to determine the product type a pre-test was conducted where thirty respondents were asked to enumerate five of their important products. They were recruited on MTurk for 50 cents payment and responded to the pre-test on qualtrics.com (see Table 6).

There were one hundred and fifty responses in total for the product type. The first 117 of them are displayed in the table. The rest had a frequency of one. The most frequently cited product type was a TV (16 times, 10.7%). People considered their vehicle important on 12 occasions. The third most frequently mentioned product was a pair of shoes (8 times). The results showed that respondents on MTurk considered their TVs as the most relevant item for them.

Table 6: Frequency of Product Types

The most important product (except your cell phone or laptop) for me is my:			
	Frequency	Percent	Cumulative Percent
TV	16	10.7	10.7
Vehicle	12	8.0	18.7
Shoes	8	5.3	24.0
Watch	8	5.3	29.3
Camera	7	4.7	34.0
Game Console	6	4.0	38.0
Music Player	6	4.0	42.0
Bed	5	3.3	45.3
Coffee Maker	4	2.7	48.0
E-book Reader	4	2.7	50.7
Purse	4	2.7	53.3
Refrigerator	4	2.7	56.0
Bike	3	2.0	58.0
Pants	3	2.0	60.0
Ring	3	2.0	62.0
Tablet	3	2.0	64.0
Backpack	2	1.3	65.3
CD Player	2	1.3	66.7
DVD Player	2	1.3	68.0
Guitar	2	1.3	69.3
Hat	2	1.3	70.7
Makeup	2	1.3	72.0
Microwave	2	1.3	73.3
Printer	2	1.3	74.7
Toaster Oven	2	1.3	76.0
BabyBook	1	.7	76.7
Bed quilt	1	.7	77.3
Blanket	1	.7	78.0
Total	117	78.0	

The pre-test also inquired about the price ranges of the products that were deemed important by the respondents. Sixteen people, who regarded their TVs as important, reported that they paid $916 on average for their TVs. The price respondents were willing to pay for a similar TV manufactured by the best brand was $795 on average. People were willing to pay on average $455 for a similar TV manufactured by a mediocre brand. Four people who bought a TV encountered the first price reduction of 12.5% on average after their purchase. These same four people encountered the price reductions after 6.25 months on average after their purchase.

The pre-test also inquired about a hypothetical situation where a price reduction happened after the respondents' purchase. Sixteen people, who deemed TV as an important product, reported that a price reduction up to 14.69% would not bother them. But a price reduction over 26.8% would bother them a lot. They also indicated that they would get mad if they saw even the smallest percentage of price reduction within 23.4 days of their purchase. They would not mind a large price reduction, such as 50%, after 6.75 months after their purchase. Four out of sixteen people indicated that the brand of their TV was Samsung. The second mostly cited brand was Sony (three times).

To sum up, the pre-test results show that a price reduction within the same week of their purchase would bother people but a price reduction after 7 months would not. A price reduction below 10% is unlikely to bother people whereas a reduction over 30% certainly would regardless of when the price reduction took place. Accordingly, a TV set will be used in the second experiment. The price level was chosen to be $800. A shallow discount can be $25 (3%) whereas a high discount $300 (37.5%). The proximal temporal distance can be one day and the far temporal distance can be eight months.

Design

A 2 (Depth of Price Reduction: Shallow vs. Deep) x 2 (Temporal Distance: Proximal vs. Far) x 2 (Brand Strength: Weak vs. Strong) between subjects experiment was conducted. Perceived price unfairness, perceived loss in acquisition value, internal reference price, perceived quality, and perceived negative transaction value were measured as the dependent variables.

Data Description and Screening

Five hundred and eleven people responded to the experiment for 77 cents payment on MTurk.com. The data were collected on qualtrics.com. Eight people were excluded from the sample due to unengaged or random responses. As a result 503 (41.4% males) usable responses (mean age = 36.3) were obtained in 8 conditions (see Table 7). The responses were distributed across experimental conditions fairly evenly (minimum cell size 59 vs. the maximum 66).

Table 7: Cell Sizes of Experiment 2

Cell	Frequency	Percent	Valid Percent	Cumulative Percent
1	65	12.9	12.9	12.9
2	63	12.5	12.5	25.4
3	59	11.7	11.7	37.2
4	64	12.7	12.7	49.9
5	66	13.1	13.1	63.0
6	63	12.5	12.5	75.5
7	61	12.1	12.1	87.7
8	62	12.3	12.3	100.0
Total	503	100.0	100.0	

The items were checked for univariate skewness and kurtosis. No item has an absolute skewness value over 2. This show that the data is not skewed. All the items that were measured on a 7 point scale have absolute kurtosis values below 2. Internal reference price items and advertised selling price questions were measured in dollars. The absolute kurtosis values of internal reference price and advertised selling price items were below 7, which can be considered a cutoff value for sample sizes over 300 (Kim 2013). Therefore, no item violated the univariate normality assumption.

Manipulations and Procedure

Eight scenarios for a fictitious company called Comtech were prepared, just like in the first experiment. These scenarios manipulated brand strength (strong vs. weak), temporal distance (one day vs. eight months) and depth of price reduction (advertised selling price at $775 vs. $500) for an HDTV, which was priced at $800. Two versions of the experiment can be found in appendices 3 and 4.

The respondents were informed that their TV broke down either one day (proximal temporal distance) or eight months ago (far temporal distance) and they are/were in the market for a new one. They were told that they found an article about a high tech company in the Wall Street Journal. The newspaper article depicted the strong brand as having excellent reputation, quality, and image and informed the respondents that it was recently chosen as the most valuable brand in the world. Weak brand had average reputation, quality, and image and was chosen as the 91st most valuable brand in the world.

Respondents were directed to a fictitious web page featuring an HDTV on Amazon.com to examine its specifications. They were informed that they purchased this product for $800 either a day or eight months before the price reduction (one day after their TV broke down). Then they

answered questions about their current perceived brand strength, internal reference price, perceived quality, and repurchase intentions after their purchase but before the price reduction. To check whether the temporal distance between the time of the purchase and present time differently impacted present perceptions of quality, brand strength, internal reference price, and repurchase intentions before the price reduction, t-tests were run between the proximal and far temporal distance conditions. The results showed no significant difference for perceived brand strength ($p = .218$), perceived quality ($p = .455$), internal reference price ($p = .235$), and repurchase intentions ($p = .838$) between the far and proximal temporal distance conditions before the discount.

In the far temporal distance condition, the respondents completed a filler task first and then were informed that the company reduced the price of the HDTV they bought to either $500 (deep discount) or to $775 (shallow discount). In the proximal temporal distance condition, the respondents were informed about the discount instantly. Then the respondents were directed to the questions regarding post-purchase perceptions.

The respondents answered questions regarding perceived negative transaction value, perceived quality, internal reference price, perceived loss in acquisition value, and perceived price unfairness along with manipulation check questions. Lastly, they answered questions related to demographics.

Manipulation Checks

Perceived brand strength, depth of discount, and temporal distance manipulations were checked using scales anchored at (1) Strongly Disagree, (2) Disagree, (3) Somewhat Disagree, (4) Neither Disagree not Agree, (5) Somewhat Agree, (6) Agree, (7) Strongly Agree. The items in each manipulation check scale loaded on three different factors in an exploratory factor analysis extracted using maximum likelihood with a promax rotation (see Appendix 7). The relevant items

loaded on the appropriate factors with a minimum loading of .55 across all the items. Temporal distance 4 had .55 loading and the next lowest was depth of discount 3 with .768. There was no cross loading higher than .3. Reliability analyses were performed on these three scales. Depth of discount had the minimum Cronbach's alpha coefficient of .893 among the three scales.

Three t-tests regarding the mean differences between the experimental conditions showed that the manipulations succeeded in creating the intended effects. The depth of discount manipulation had a significant difference between the deep and shallow price reduction conditions (μ = 6.2 vs. 4.1, t_{501} = -21.324, p = .000). The perceived brand strength manipulation had a significant effect between strong and weak brand conditions (μ = 5.1 vs. 4.1, t_{501} = -8.586, p = .000). The temporal distance manipulation had a significant effect between proximal and far temporal distance conditions (μ = 6.1 vs. 3.3, t_{501} = -23.418, p = .000).

Dependent Variables

Dependent variables were adapted from established scales. Perceived price unfairness scale was adapted from Grewal et al.'s (2004) study. Perceived loss in acquisition value, perceived quality, and internal reference price scales were adapted from Grewal, Monroe, and Krishnan's (1998) study. Perceived negative transaction value scale measures the negative component of the transaction value scale developed by Grewal, Monroe, and Krishnan (1998). Perceived price unfairness, perceived quality, and perceived loss in acquisition value scales contain the same finalized items as in experiment one. One new item was added to the finalized internal reference price scale and four new items were added to the finalized perceived negative transaction value scale developed in experiment one to refine the scales further by increasing their reliability and validities. Repurchase intention was measure with the following item: "I am likely to purchase a product made by Comtech at my next purchase occasion." Advertised reference price and advertised selling price were measured with the following questions respectively: The price I paid

for my Comtech HDTV was: $_____, and Comtech reduced the price of my HDTV to: $_____. Advertised reference price, advertised selling price, and internal reference price scales measured the absolute dollar values. The other scales were anchored at (1) Strongly Disagree, (2) Disagree, (3) Somewhat Disagree, (4) Neither Disagree not Agree, (5) Somewhat Agree, (6) Agree, (7) Strongly Agree (see appendix 8).

Database Split

The database was split into two to enhance the reliability of the findings by re-testing the model on different participants. 40% of the subjects were used to refine the scales and 60% of the responses were used as the holdout sample to re-test the causal model. The scale refinement database had 197 responses for exploratory factor analysis, confirmatory factor analysis, invariance test, and scale validation. The holdout sample with 306 responses was used to re-test the causal model, and run the multi-group moderation analysis.

Analysis Plan

Directional hypotheses (H_1 through H_9 except H_{5a} and H_{5b}) will be tested within a causal structural equations model. Overall fit of the model and the significance of related paths in the model will be checked to evaluate the hypotheses. The holdout sample will be used for these analyses.

A MANOVA with perceived negative transaction value and perceived price unfairness as the dependent variables and brand strength as the independent variable will be run to test H_{10} using the holdout sample.

A multi-group (far and proximal temporal distance conditions) moderation analysis will be employed to test H_{5a}, H_{5b}, H_{11a}, and H_{11b}. Temporal distance will be included as a categorical

moderator variable in the structural equations model to examine how temporal distance impacts different causal relationships in the model. A multi-group moderation analysis requires the constructs at both the proximal and far temporal distance conditions of the moderator variable to be equivalent. Therefore, invariance between the far and proximal temporal distance groups will be assessed.

An ANOVA analysis will be conducted and the significance of the three way interaction term will be checked to test H_{12a} and H_{12b}, using the holdout sample.

Confirmatory factor analysis and invariance test will be presented next using the scale refinement sample with 197 responses. The scales will be validated and refined in terms of convergent and discriminant validity and composite reliabilities, which will be reported in the scale validation section. Multivariate assumptions will be checked; directional hypotheses will be tested; and the multi-group moderation analysis will be carried out later using the holdout sample with 306 responses. The chapter will conclude with discussion of experiment 2.

Exploratory Factor Analysis

An exploratory factor analysis was conducted on the dependent variables: Perceived quality, internal reference price, perceived loss in acquisition value, perceived negative transaction value, and perceived price unfairness with 26 items in total (see appendix 8). The scale refinement database with 197 responses was used for this exploratory factor analysis. In the initial analysis, 26 items loaded on five factors as expected. The factor analysis was conducted using maximum likelihood extraction method with a promax rotation. Negative transaction value 8 was removed due to crossloading. The remaining 25 items loaded on five constructs as expected (see Table 8). The five factors explained 85% of the variance in the data with 25 items. The KMO and Bartlett's test showed a 94% sampling adequacy. The goodness of fit test was significant.

Table 8: Rotated Pattern Matrix for Experiment 2

	Factor				
Items	1	2	3	4	5
PLAV5: After the discount, the price I paid did NOT convey good value, compared to the maximum price I would have been willing to pay for this HDTV as much as it did before the discount.	.989				
PLAV1: After the discount, I feel that I did NOT get my money's worth as much as I did before the discount.	.955				
PLAV2: After the discount, I feel that I did NOT get a good quality HDTV for a reasonable price as much as I did before the discount.	.943				
PLAV3: After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount.	.932				
PLAV4: After the discount, acquiring this HDTV did NOT seem to meet both my high quality and low price requirements as much as it did before the discount.	.864				
PLAV7: After the discount, this HDTV did NOT seem like a worthwhile acquisition as much as it did before the discount.	.796				
PLAV6: After the discount, I did NOT value this HDTV as much as I did before the discount.	.778				
PNTV4: I feel that I was deceived after the price reduction.		.945			
PNTV6: I feel that I Comtech took money out of my pocket after the price reduction.		.942			
PNTV5: I feel that I was betrayed after the price reduction.		.883			
PNTV3: I feel that I was cheated out of my money after the price reduction.		.880			
PNTV7: I feel that Comtech conned me out of my money after the price reduction.		.878			
PNTV1: I feel that I lost money on this HDTV.		.565			
PNTV2: I feel that I wasted money on this HDTV.		.557			
PPU2: This price reduction was...-unreasonable.			.949		
PPU4: This price reduction was...-unjustifiable.			.941		
PPU3: This price reduction was...-unacceptable.			.865		
PPU1: This price reduction was...-unfair.			.776		
IRP4: What would be a normal price for this HDTV on average? $_____				.954	
IRP2: My estimate of the average market price for this HDTV is $_____.				.949	
IRP1: My Comtech HDTV should be valued at: $_____				.820	
IRP3: What price would you consider as fair for this HDTV? $_____.				.794	
PQ3: My Comtech HDTV appears to be…-reliable.					.978
PQ2: My Comtech HDTV appears to be…-durable.					.967
PQ1: My Comtech HDTV appears to be…-good quality.					.922

Table 9: Finalized Scales and CFA Standardized Item Loadings for Experiment 2

	Factor				
Items	1	2	3	4	5
PLAV1: After the discount, I feel that I did NOT get my money's worth as much as I did before the discount.	.951				
PLAV2: After the discount, I feel that I did NOT get a good quality HDTV for a reasonable price as much as I did before the discount.	.946				
PLAV3: After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount.	.958				
PLAV4: After the discount, acquiring this HDTV did NOT seem to meet both my high quality and low price requirements as much as it did before the discount.	.955				
PLAV7: After the discount, this HDTV did NOT seem like a worthwhile acquisition as much as it did before the discount.	.933				
PNTV4: I feel that I was deceived after the price reduction.		.949			
PNTV6: I feel that I Comtech took money out of my pocket after the price reduction.		.964			
PNTV5: I feel that I was betrayed after the price reduction.		.972			
PNTV3: I feel that I was cheated out of my money after the price reduction.		.897			
PPU2: This price reduction was...-unreasonable.			.970		
PPU4: This price reduction was...-unjustifiable.			.977		
PPU3: This price reduction was...-unacceptable.			.963		
PPU1: This price reduction was...-unfair.			.958		
IRP4: What would be a normal price for this HDTV on average? $_____				.836	
IRP2: My estimate of the average market price for this HDTV is $_____.				.801	
IRP1: My Comtech HDTV should be valued at: $_____				.871	
IRP3: What price would you consider as fair for this HDTV? $_____.				.963	
PQ3: My Comtech HDTV appears to be…-reliable.					.981
PQ2: My Comtech HDTV appears to be…-durable.					.948
PQ1: My Comtech HDTV appears to be…-good quality.					.933

Confirmatory Factor Analysis

Twenty five items obtained from the exploratory factor analysis were used to run a confirmatory factor analysis to validate the scales. The confirmatory factor analysis indicated that perceived negative transaction value 1, 2, and 7 did not load adequately on the construct. Perceived loss in acquisition value 5, and 6 did not load adequately as well. Five constructs could be measured effectively with 20 items in total (see Table 9). Seven outliers, which had the highest manahobilis distance scores, were removed from the database leaving the scale refinement database with 190 responses.

The analysis showed that the model fits the data adequately (see Table 9): CMIN/DF = 1.628 (p = .000), GFI = .893, CFI = .983, PCFI = .776, RMSEA = .058, and PCLOSE = .166. The recommended fit levels are CMIN/DF < 3, GFI > .90 , CFI > .90, PCFI > .80, RMSEA < .08, and PCLOSE > .05 (Hair et al. 2010, pp. 647-651). GFI is recommended to be over .90 but 89.3 is acceptable when evaluated with the rest of the parameters.

An examination of correlations among the constructs indicated that the signs of the correlations (see Figure 10) were as expected by the hypotheses: H_4, perceived quality and perceived loss in acquisition value (-.42); H_7, internal reference price and perceived negative transaction value (-.42); H_8, perceived negative transaction value and perceived price unfairness (.80); H_9, perceived negative transaction value and perceived loss in acquisition value (.75). Although not hypothesized, a positive correlation between perceived quality and internal reference price fit what was expected according to the literature (.31).

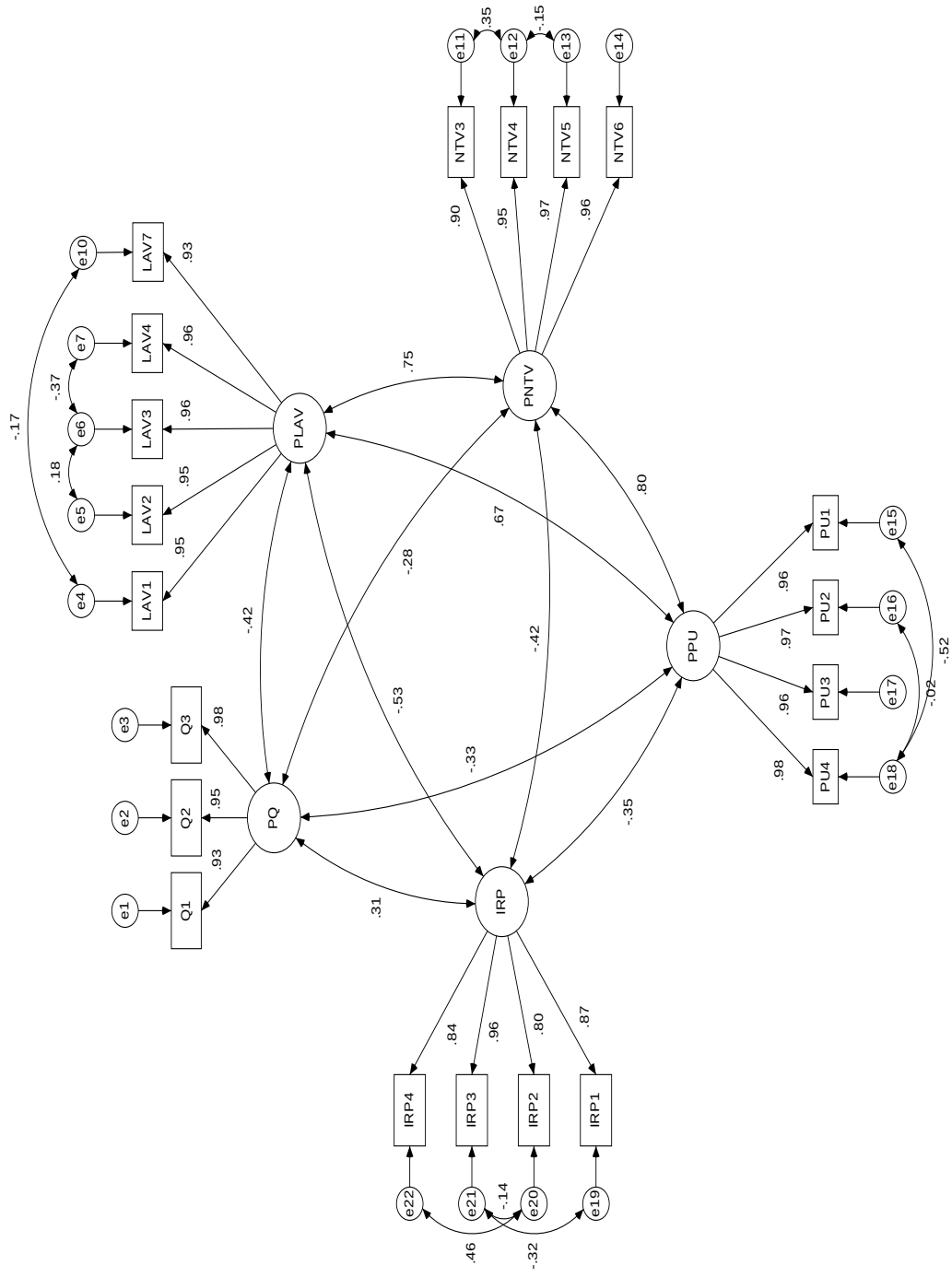


Figure 10: Confirmatory Factor Analysis for Experiment 2

Table 10: Validation of Scales in Experiment 2

	CR	AVE	MSV	ASV	PQ	PPU	IRP	PNTV	PLAV
PQ	0.968	0.911	0.179	0.115	0.954				
PPU	0.983	0.935	0.637	0.330	-0.333	0.967			
IRP	0.925	0.757	0.278	0.169	0.308	-0.352	0.870		
PNTV	0.971	0.895	0.637	0.364	-0.276	0.798	-0.423	0.946	
PLAV	0.978	0.900	0.563	0.367	-0.423	0.669	-0.527	0.750	0.949

Invariance Test

Configural invariance was tested by running the CFA model with two groups (N_{far} = 93, $N_{proximal}$ = 97). The fit statistics were satisfactory when far and proximal temporal distance conditions were estimated in the same model: CMIN/DF = 1.234 (p = .004), GFI = .851, CFI = .988, PCFI = .769, RMSEA = .035, and PCLOSE = .984.

Metric invariance was examined using a X^2 difference test. The X^2 value (365.3, df = 296) of the unconstrained model where the two groups were estimated freely above and the X^2 value (389.1, df = 316) of the constrained model where the variance of latent variables were fixed and additionally the factor loadings of items were forced to be equal across far and proximal conditions were compared. The X^2 difference test ($23.8_{(20)}$, p = .251) was not significant, indicating that the two groups had metric invariance.

The results of the configural and metric invariance tests confirmed that the model was measuring the same constructs at both far and proximal temporal distance conditions. As such, invariance was achieved and temporal distance moderation could be carried out.

Validation of Scales

The scales were validated following Gerbing and Anderson (1988); Churchill (1979); and Fornell and Larcker (1981). The minimum composite reliability among the five scales was .925 (internal reference price), indicating good internal consistency (see Table 10). When reliability of a scale, which is a measure of internal consistency, is above .7, the scale is considered as measuring a single construct (Gerbing and Anderson 1988). So each construct is measuring a single factor. Composite reliability higher than .7 is recommended (Fornell and Larcker 1981; Hair et al. 2010, p. 647). The loadings of all the items in the confirmatory factor analysis model were higher than .80, indicating convergent validity. The average variance extracted for each scale was higher than the

recommended .5 level (actually minimum .757, internal reference price), which is an indication for good convergent validity (Hair et al. 2010, p. 673). The average shared variance by each scale with other scales was lower than the average variance extracted from each construct, indicating discriminant validity (Fornell and Larcker 1981). The average variance extracted from each scale was higher than even the maximum shared variance of the same scale with any other scale, indicating strong discriminant validity. Perceived loss in acquisition value and perceived negative transaction value had a maximum shared variance of .563 with each other. However, a moderate shared variance between perceived loss in acquisition value and perceived negative transaction value is expected because advertised selling price impacted both of these constructs. Grewal, Monroe, and Krishnan (1998) showed that perceived acquisition value and perceived transaction value were related. Perceived price unfairness and perceived negative transaction value had a maximum shared variance of .637, which was a high shared variance, but this dissertation hypothesized a positive relationship between these constructs and some shared variance was expected. At the same time these constructs had average variance extracted above .90, which was considerably higher than their maximum shared variance, ensuring discriminant validity.

Assumptions

Linear, logarithmic, inverse, quadratic, cubic compound, power, s, growth, exponential, logistic curves between the constructs of interest in the model were fit to check the linearity assumption using the holdout sample, which will be employed for the rest of the analyses in this chapter. The coefficients of the linear curves were highly ($p = .000$) significant for all the linear relationships hypothesized in the model except the relationship between internal reference price and brand strength ($p = .046$). Quadratic or cubic curves could explain significantly more variation than the linear relationship between brand strength and internal reference price but the linear relationship was still significant. This showed that the constructs of interest were sufficiently

linearly related to be analyzed using structural equations modeling, which assumes linear relationships between variables.

Multicollinearity between the exogenous variables was checked by running three regressions, each of which had one of the exogenous variables as the dependent and the remaining two as the independents. The variance inflation factors of the pairs of independent variables were all equal to 1 indicating no multicollinearity (Hair et al. 2010, p.204).

Multivariate normality of the data was checked based on Mardia's coefficient in the causal model 51.024 > 1.96, which indicated that there was significant multivariate non-normality in the data (Gao, Mokhtarian, and Johnston 2008). Forty one outliers were deleted to reduce multivariate non-normality. Deleting more cases did not decrease Mardia's coefficient (23.558) further, leaving the holdout sample with 265 responses. Andreassen et al. (2006) suggest using maximum likelihood estimations, which may distort the parameter estimates, regardless of the multivariate non-normality of the data, but suggest correcting for the distortion in the parameter estimates later with a bias correction method, which is a bootstrap analysis (Bollen and Stine 1990).

Testing the Directional Hypotheses

The causal model was run with three groups: First group included respondents exposed to the far temporal distance condition; the second proximal temporal distance condition; and the third included all the respondents in the experiment. Brand strength and advertised selling price were standardized and included in the model as exogenous variables (see Figure 11). The model fit was acceptable: CMIN/DF=1.327 (p=.000), GFI=.891, CFI=.988, PCFI=.817, RMSEA=.025, and PCLOSE=.1000 (Hair et al. 2010).

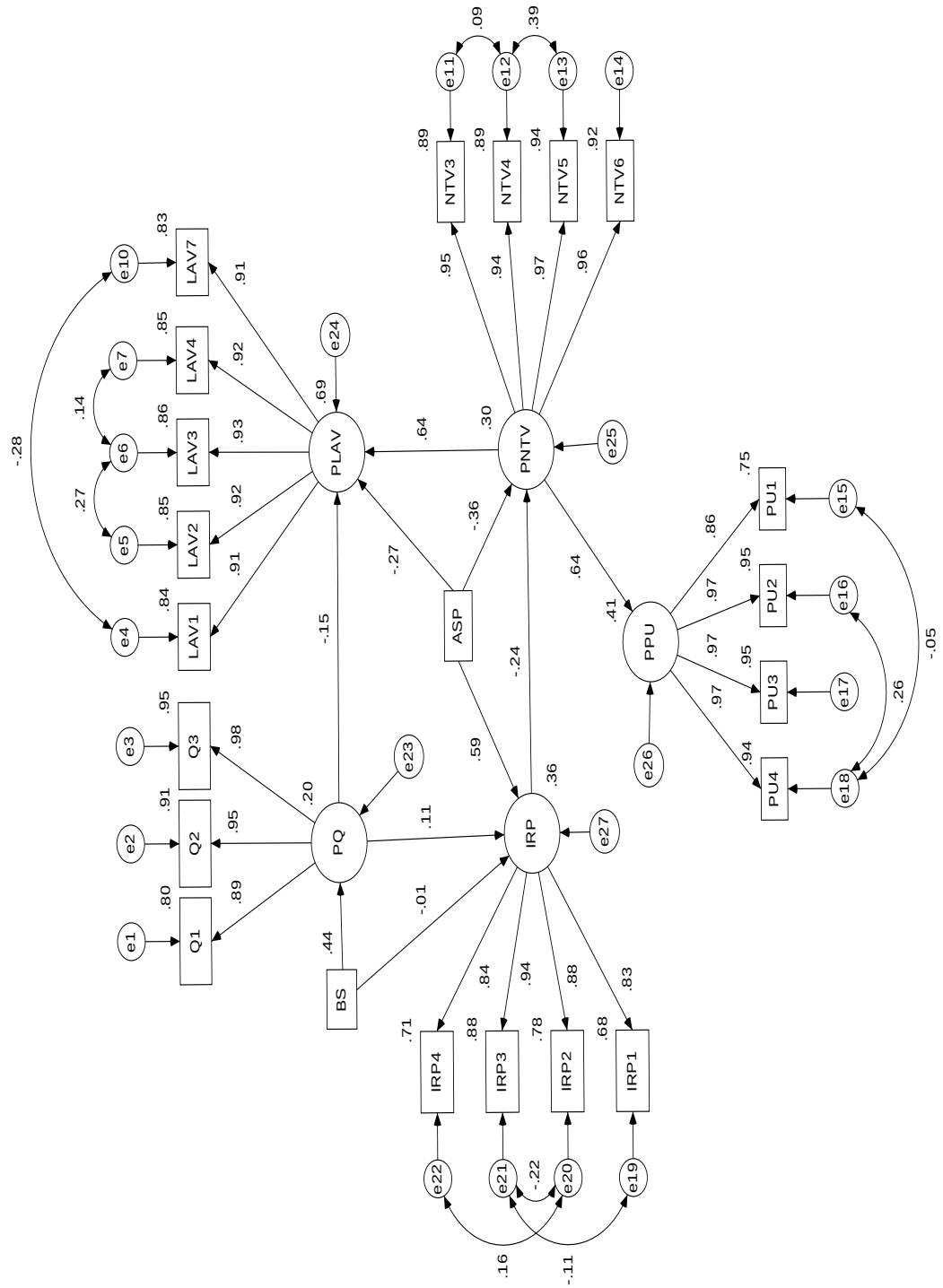


Figure 11: Causal Model Estimated Using the Entire Holdout Sample

The test of assumptions indicated that the multivariate normality assumption was violated in the previous section. Bootstrapping can be applied to correct for the bias in parameter estimates (Bollen and Stine 1990). Bollen-Stine bootstrap was chosen because Bollen-Stine bootstrap is a stringent method that tends to reject misspecified models even with small samples (Enders 2002). A Bollen-Stine bootstrap analysis with 1000 samples in AMOS was conducted ($p = .063 > .05$), indicating that the model was acceptable when corrected for multivariate non-normality (Bollen and Stine 1992).

A bootstrap with 5000 resamples was conducted to estimate bias corrected 99% confidence intervals. The result of the bootstrap analysis was significantly different than the signs and the significance levels of the relationships when the model was estimated using the single sample data. Hence, the non-normality of the data was significantly biasing the parameter estimates and their significance in the model. The analyses will utilize the bootstrap estimations from this point on.

Almost all the parameters of the model (see Table 11) were significant when all the data were included in the calculations supporting all the hypothesized relationships except H_2, perceived brand strength to internal reference price relationship ($ß = 4.398$, $p = .566$). When the assumptions were checked, perceived brand strength to internal reference price relationship was more related with a quadratic or cubic curve more than a linear one. Hence, it was expected that this directional link may not be significant. Next section will report multi-group moderation analysis.

Table 11: Bootstrap Results for the Regression Weights and Critical Ratios
for the Causal Model Estimated Using the Entire Holdout Sample

DV	IV	Estimate	S.E.	C.R.	p	Hypotheses
Perceived Quality	Perceived Brand Strength	0.460	0.060	7.688	0.000	H_1
Internal Reference Price	Advertised Selling Price	78.183	7.744	10.096	0.000	Not hypothesized
Internal Reference Price	Perceived Quality	18.831	7.767	2.424	0.015	Not hypothesized
Internal Reference Price	Perceived Brand Strength	4.389	7.644	0.574	0.566	H_2 (not supported)
Perceived Negative Transaction V	Advertised Selling Price	-0.504	0.127	-3.960	0.000	H_6
Perceived Negative Transaction V	Internal Reference Price	-0.004	0.001	-4.082	0.000	H_7
Perceived Price Unfairness	Perceived Negative Transaction V	0.591	0.045	13.194	0.000	H_8
Perceived Loss in Acquisition V	Perceived Quality	-0.241	0.064	-3.746	0.000	H_4
Perceived Loss in Acquisition V	Perceived Negative Transaction V	0.633	0.043	14.896	0.000	H_9
Perceived Loss in Acquisition V	Advertised Selling Price	-0.420	0.072	-5.862	0.000	H_3

Table 12: Bootstrap Results for the Regression Weights and Critical Ratios for the Causal Model Estimated for the Proximal Temporal Distance Condition of the Holdout Sample

DV	IV	Estimate	S.E.	C.R.	p	Hypotheses
Perceived Quality	Perceived Brand Strength	0.443	0.080	5.528	0.000	H_1
Internal Reference Price	Advertised Selling Price	80.081	11.219	7.138	0.000	Not hypothesized
Internal Reference Price	Perceived Quality	14.690	11.427	1.286	0.199	Not hypothesized
Internal Reference Price	Perceived Brand Strength	-0.827	10.966	-0.075	0.940	H_2 (not supported)
Perceived Negative Transaction V	Advertised Selling Price	-0.625	0.163	-3.831	0.000	H_{11a} (supported)
Perceived Negative Transaction V	Internal Reference Price	-0.003	0.001	-2.364	0.000	H_7
Perceived Price Unfairness	Perceived Negative Transaction V	0.542	0.066	8.212	0.000	H_8
Perceived Loss in Acquisition V	Perceived Quality	-0.229	0.081	-2.829	0.005	H_{5a} (not supported)
Perceived Loss in Acquisition V	Perceived Negative Transaction V	0.575	0.061	9.499	0.000	H_9
Perceived Loss in Acquisition V	Advertised Selling Price	-0.421	0.093	-4.515	0.000	H_{5a} (supported)

Temporal Distance

H_{5a}, H_{5b}, H_{11a}, and H_{11b} were tested by comparing the significance of the relationships between the hypothesized relationships for proximal and far temporal distance conditions. In the proximal temporal distance condition, advertised selling price was expected to be significantly influential on perceived loss in acquisition value (ß = -.421, p = .000) according to H_{5a} but at the same time perceived quality was expected not to be significantly related to perceived loss in acquisition value (ß = -.229, p = .005) according to H_{5a} (see Table 12). Therefore H_{5a} was not supported. Advertised selling price was expected to be significantly influential on perceived negative transaction value (ß = -.625, p = .000) according to H_{11a} (supported).

In the far temporal distance condition, perceived quality was expected to be significantly influential on perceived loss in acquisition value (ß = -.231, p = .022) according to H_{5b} but advertised selling price was not expected to be significantly related to perceived loss in acquisition value (ß = -.437, p = .000). Therefore H_{5b} was not supported (see Table 13). Advertised selling price was expected not to influence perceived negative transaction value significantly (ß = -.305, p = .075) according to H_{11b} (supported).

H_{11} asserted that advertised selling price would be more effective at the proximal temporal distance but would not be effective at far temporal distance in impacting perceived negative transaction value. At the same time, this hypothesis asserted that perceived negative transaction and perceived price unfairness would be higher after a deep discount than after a shallow discount. A MANOVA was conducted with perceived negative transaction value and perceived price unfairness as the dependents; depth of discount and temporal distance as independents.

Table 13: Bootstrap Results for the Regression Weights and Critical Ratios for the Causal Model Estimated for the Far Temporal Distance Condition of the Holdout Sample

DV	IV	Estimate	S.E.	C.R.	p	Hypotheses
Perceived Quality	Perceived Brand Strength	0.487	0.089	5.447	0.000	H_1
Internal Reference Price	Advertised Selling Price	74.492	10.793	6.902	0.000	Not hypothesized
Internal Reference Price	Perceived Quality	23.471	10.325	2.273	0.023	Not hypothesized
Internal Reference Price	Perceived Brand Strength	8.669	10.487	0.827	0.408	H_2 (not supported)
Perceived Negative Trans V	Advertised Selling Price	-0.305	0.171	-1.781	0.075	H_{11b} (supported)
Perceived Negative Trans V	Internal Reference Price	-0.005	0.001	-4.264	0.000	H_7
Perceived Price Unfairness	Perceived Negative Trans V	0.639	0.067	9.583	0.000	H_8
Perceived Loss in Acquisition V	Perceived Quality	-0.231	0.101	-2.290	0.022	H_{5b} (supported)
Perceived Loss in Acquisition V	Perceived Negative Trans V	0.647	0.067	9.682	0.000	H_9
Perceived Loss in Acquisition V	Advertised Selling Price	-0.437	0.111	-3.957	0.000	H_{5b} (not supported)

Contrary to the results of the structural equations modeling analysis, the results of the MANOVA showed that there was no interaction effect ($p = .19$). The price unfairness (μ proximalxshallow = 2.84 vs. μ proximalxdeep = 3.70) and negative transaction value perceptions (μ proximalxshallow = 3.56 vs. μ proximalxdeep = 5.26) were higher when the discount was deep than when the discount was shallow. But the difference between the deep and shallow conditions did not get significantly smaller at the far condition: Price unfairness (μ farxshallow = 2.84 vs. μ farxdeep = 3.24) and negative transaction value perceptions (μ farxshallow = 2.55 vs. μ farxdeep = 4.01).

Brand Strength

In H_{10}, it was hypothesized that a price reduction from a strong brand would lead to higher perceived negative transaction value and higher perceived price unfairness. A MANOVA with perceived negative transaction value and perceived price unfairness as the dependent variables and brand strength as the independent variable was conducted. Brand strength was insignificant ($p = .812$). So H_{10} was not supported.

Brand Strength and Temporal Distance

An ANOVA, where perceived negative transaction value was the dependent variable and the three manipulations were the independent variables, was conducted to test H_{12a} and H_{12b}. Temporal distance ($p = .000$) and depth of discount ($p = .000$) were influential on perceived negative transaction value but brand strength ($p = .872$) was not. None of the interaction effects including the three way interaction was significant ($p = .634$). Hence, H_{12a} and H_{12b} were not supported.

Directionality of the Relationship between Negative Transaction Value and Price Unfairness Perceptions

One of the contributions of this dissertation was checking the direction of the relationship from perceived negative transaction value and perceived price unfairness by using structural equations modeling, which can compare the fit of competing models by checking the X^2 values. The causal model, where perceived negative transaction value led to perceived price unfairness, had a $X^2 = 760.3$ and df = 573. In the competing model, the directionality of this relationship was reversed, where perceived price unfairness led to perceived negative transaction value, making perceived price unfairness an exogenous variable. The fit of the second model was worse assessed by the increase in the X^2 value ($X^2 = 831.3$, df = 573). Although this is not an indication of true causality, the data supported the relationship from perceived negative transaction value to perceived price unfairness more than it supported the reverse.

Discussion of Experiment 2

The results of the second experiment supported all the directional relationships hypothesized in this dissertation except one. Considering that this was a post-purchase model, the relationships of the extended acquisition-transaction model were shown to hold for a new context.

The focus of this dissertation, brand strength was shown to impact perceived quality positively (H_1) in a post-purchase situation. However, brand strength did not significantly impact internal reference price in a post-purchase setting as hypothesized in H_2. But this was where the relationship between brand strength and internal reference price was more quadratic or cubic than linear. This was an interesting finding that requires further inquiry.

Four new scales were refined and validated for post-purchase price reductions: Perceived loss in acquisition value, perceived negative transaction value, internal reference price, and perceived price unfairness. The causal relationships were all supported except H_2.

The directional results supported the predicted relationships from perceived quality (H_4) and advertised selling price (H_3) to perceived loss in acquisition value. However, the temporal distance did not moderate the relationship from perceived quality and advertised selling price to perceived loss in acquisition value (H_{5a} and H_{5b}).

Advertised selling price (H_6) and internal reference price (H_7) impacted perceived negative transaction value negatively as hypothesized. Perceived negative transaction value and perceived loss in acquisition value (H_9) were positively related in a post-purchase setting as hypothesized.

Perceived negative transaction value was found to impact perceived price unfairness positively (H_8). The directionality of this relationship from perceived negative transaction value to perceived price unfairness was confirmed. When perceived price unfairness was modeled to cause perceived negative transaction value, the fit of the model got worse assessed by the increase in the X^2 value. This showed that the data supported the relationship from perceived negative transaction value to perceived price unfairness more than it supported the reverse.

H_{10}, which asserted that a discount from a strong brand would lead to more negative transaction value perceptions than a weak brand, was not supported.

It was shown that temporal distance interacted with advertised selling price (H_{11}) to impact perceived negative transaction value. Advertised selling price was more influential when the price reduction was proximal to the purchase than when it was far. These findings were in line with construal level theory (Trope and Liberman 2010). This moderation effect showed that the

predictions of construal level theory holds not only for future events impacting current value perceptions but also for past events affecting present value perceptions.

Chapter 6: General Discussion and Conclusions

General Discussion

This dissertation examined acquisition-transaction value model in a post-purchase setting as opposed to a pre-purchase situation that was more frequently addressed in the literature. The main purpose of this dissertation was to add temporal distance between purchases and subsequent price reductions as a variable into the acquisition-transaction value model at the same time incorporating brand strength into the same model. Four new scales had to be developed and refined to fit the post-purchase price reduction context in two experiments: Perceived loss in acquisition value, perceived negative transaction value, perceived price unfairness, and internal reference price. The scales were initially developed in the first experiment, which was conducted on a student sample. In order to refine the scales and increase the generalizability of the findings further, a second experiment was conducted with a different product on a non-student sample. The results of these two studies showed that construal level theory can be used to predict changes in value and price unfairness perceptions over time retrospectively.

The major findings of this dissertation are:

1) Post-purchase price reductions caused consumers to perceive negative transaction value. A deep price reduction (low advertised selling price) after a purchase caused consumers to perceive more negative transaction value than a shallow price reduction (high advertised selling price). In addition to causing negative transaction value perceptions, a deep post-purchase discount also led to higher price unfairness perceptions than a shallow discount.

2) Temporal distance impacted how consumers perceived negative transaction value. Regardless of its size, a post-purchase price reduction caused higher perceived negative transaction

value and perceived price unfairness when it was proximal to the purchase than when it was further away from the purchase.

3) Both studies revealed that perceived brand strength positively impacted perceived quality. But the relationship between brand strength and internal reference price was not significant in the second experiment.

4) Temporal distance moderated the appropriate relationships in the model in line with the predictions of construal level theory. In the first experiment, temporal distance and advertised selling price along with quality perceptions interacted to impact perceived loss in acquisition value. In the proximal temporal distance condition, the advertised selling price was influential on perceived loss in acquisition value but at far temporal distance perceived quality was influential on perceived loss in acquisition value. In the second experiment, advertised selling price impacted perceived negative transaction value significantly at proximal temporal distance but not at far temporal distance.

However, these findings can be criticized because of the following issues.

1) This dissertation developed four scales to fit the post-purchase price reduction context. Perceived loss in acquisition value and perceived negative transaction value scales aimed to measure the negative perceptions opposite to perceived acquisition value and perceived transaction value. This dissertation did not check whether the newly created scales purportedly measuring negative perceptions were moving in the opposite direction of their positive counterparts.

2) One item in the internal reference price scale was printed erroneously in the first study. The omission of the word "average" from the second question might have impacted the results of the first experiment, especially the impact of this scale on perceived negative transaction value. The first experiment did not find a temporal distance and advertised selling price interaction that

impacted perceived negative transaction value. Instead, the first experiment revealed a perceived quality and advertised selling price interaction to impact perceived loss in acquisition value. This shift in the findings is cause for concern although the findings fit the expectations of the construal level theory such that a high level construal was influential at far temporal distance and a low level construal at proximal temporal distance.

Contributions and Implications for Theory and Practice

This study developed four new scales, namely, perceived loss in acquisition value, perceived negative transaction value, internal reference price, and price unfairness perceptions in the context of post-purchase price reductions. These new scales can be used to examine value perceptions following a post-purchase price reduction.

This dissertation showed that not only future events (Bornemann and Homburg 2011) but also past events impacted present price perceptions. By manipulating temporal distance retrospectively, this dissertation showed that high level construals (perceived quality) in the past were more influential at far temporal distance than low level construals (advertised selling price) in impacting current perceptions (perceived loss in acquisition value). On the other hand, this dissertation showed that low level construals (advertised selling price) were more influential at proximal temporal distance in the past in determining present perceptions (perceived negative transaction value) than at far temporal distance. To the best of my knowledge, this is the first study that evaluated construal level theory retrospectively.

The implication for theory is that this dissertation is enlarging the domain of pricing research to post-purchase price reductions. Additional research can be carried out to examine constructs, such as dissatisfaction, complaining behavior, and negative word of mouth, that can be associated with post-purchase price reductions. Moreover, price reductions can be analyzed

retrospectively with respect to temporal distance that impact current price perceptions using the framework of this dissertation.

Practitioners try to mitigate the impact of post-purchase price reductions by offering price matching guarantees usually for a month after the purchase. This dissertation is pointing out to the link between perceived negative transaction value and perceived price unfairness, which may have detrimental influence on repatronage intentions (Campbell 1999b). More research in the domain of post-purchase price reductions can establish the impact of post-purchase price reductions, and brand strength on repatronage intentions.

Additional Findings

Although not hypothesized in the conceptual framework, repurchase intention was measured with a single item twice: First, after the purchase but before the discount, second after the discount. The question inquired "I am likely to purchase a product made by Comtech on my next purchase occasion" on a scale from one to seven anchored at (1) Strongly Disagree, (2) Disagree, (3) Somewhat Disagree, (4) Neither Disagree not Agree, (5) Somewhat Agree, (6) Agree, (7) Strongly Agree. A paired sample t-test revealed a significant difference between the pre and post-discount repurchase intentions (μ = 4.71 vs. 4.01, t_{502} = 12.259 p = .000). Respondents indicated that they were less likely to repurchase products of a company after a price reduction on an item they owned compared to prior to the price reduction.

Another interesting finding is that AMOS had a modification index to link internal reference price and perceived loss in acquisition value in experiment 2. A consumer can perceive loss in acquisition value as follows. If the consumers compared their outcome at the time of the purchase (perceived quality $_t$ - advertised selling price $_t$, which was supposedly equal to internal reference price in the fictitious scenario) with that of prospective consumers (perceived quality $_{t+1}$ -

advertised selling price $_{t+1}$), it was expected that internal reference price might have had some impact on perceived loss in acquisition value in a post-purchase price reduction context. Therefore, internal reference price and perceived loss in acquisition value link makes sense in a post-purchase price reduction context. More research is required to determine the conditions under which internal reference price might influence perceived loss in acquisition value.

AMOS also produced a modification index that suggested linking the perceived loss in acquisition value to perceived price unfairness in experiment one but only in the proximal temporal distance condition. This also makes sense because these two constructs are highly related as depicted in Figure 6. The correlation between perceived price unfairness and perceived loss in acquisition value was .69. The correlation between perceived price unfairness and perceived negative transaction value was .55. So future research can investigate the relationship between perceived price unfairness and perceived loss in acquisition value.

Limitations

The impact of brand strength on perceived quality was significant as expected but its impact on internal reference price was not significant in experiment 2. This dissertation used a fictitious brand and manipulated the brand strength. The brand strength manipulation might be not strong enough to impact internal reference price. Real brand names classified as strong and weak may be more useful in detecting the impact of brand strength on internal reference price and the other constructs in the acquisition-transaction value model for post-purchases. Another explanation why brand strength impacted internal reference price in experiment one but not experiment two can be because of the product type and the range of prices in the market. Laptop prices seem to have a larger range of prices between brands whereas HDTV market may be perceived to have a smaller range of prices. Such small range of prices between brands might have caused the relationship between brand strength and internal reference price to be insignificant.

Future Research

This is an initial attempt to create new scales to measure the impact of post-purchase price reductions on value perceptions specifically employing high priced items. Therefore, the scales created here must be tested for different promotion types and at different price levels.

Only high involvement electronic products were used in this dissertation to test the hypothesized effects. Lower priced products might not elicit similar responses to those used in the two studies in this dissertation. The effects observed in these studies may be due to the absolute price difference ($400 in study one and $300 in study 2) or the percentage discounts (40% in study one and 37.5% in study 2). More research is needed to understand whether low priced items discounted deeply can cause negative transaction value perceptions or can high priced items discounted shallowly lead to negative transaction value perceptions similar to those detected in this dissertation.

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Appendices

Appendix 1

This scenario includes the weak brand, far temporal distance, and shallow discount manipulations. The data for this experiment were collected between February 5th and 7th 2014. The dates reflect that the respondent bought a laptop four months before the actual data collection.

On September 26th, 2013, your laptop broke down and you decided to buy a new one. You started searching for information about laptops.

You came across the following article about Comtech in Philly Inquirer:

Comtech is now the 91st most valuable and voted as an average brand in the world

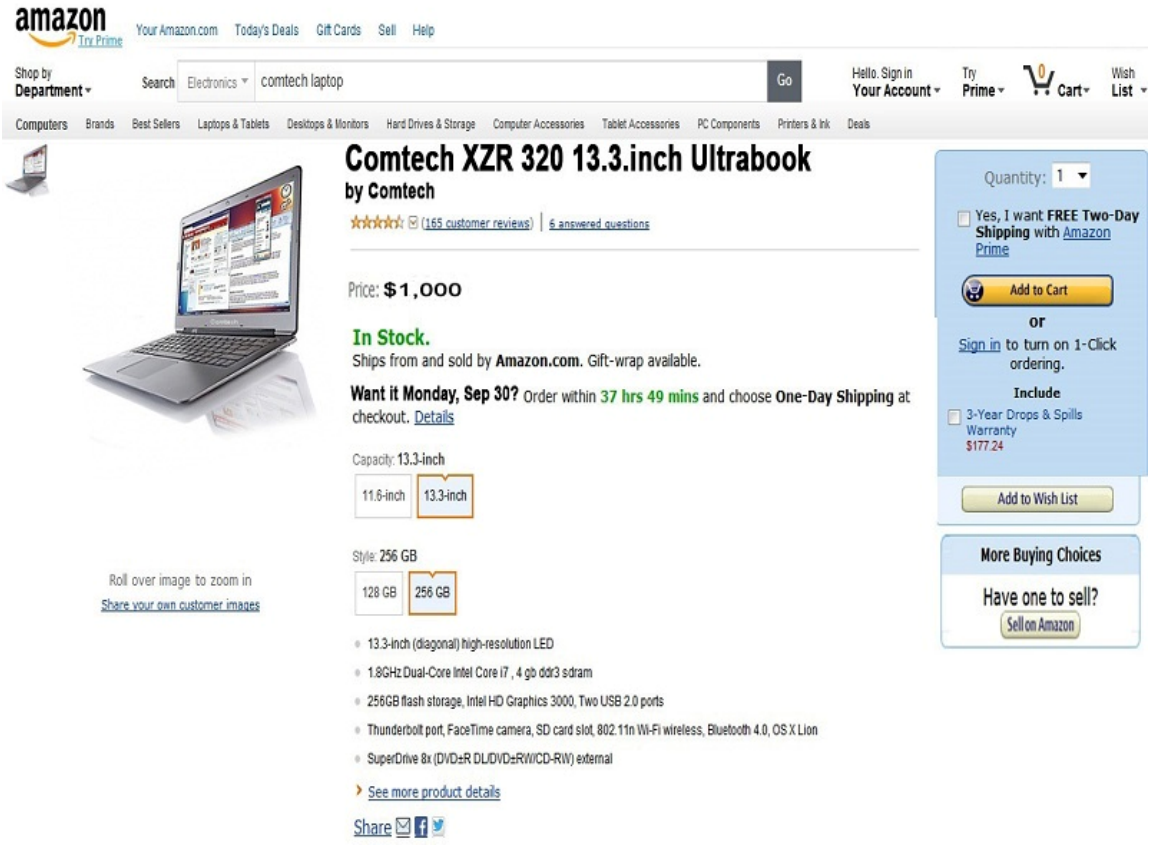
Comtech is the 91st most valuable brand in the world, according to a closely followed annual report. The report is from Interbrand, a corporate identity and brand consulting company owned by the Omnicom Group that has been compiling what it calls the Best Global Brands report since 2000. The previous No. 1 brand, Coca-Cola, fell to No. 3. Google is at second place and Apple is the new No. 1.

In addition to being the 91st most valuable brand in the world, Comtech was chosen as one of the average brands according to a study by Forrester Research. According to Forrester's research, 75% of consumers knew about the Comtech brand, 78% thought that Comtech has average reputation, 82% thought that Comtech has mediocre quality products, 79% thought that Comtech has an average image, 41% stated that they trust Comtech, and 44% stated that they admire and respect Comtech.

by Erica Fowler.

September 27, 2013.

You went on Amazon to check out your options. Comtech started to catch your attention especially the model XZR 320. Here are the specs and consumer reviews on Amazon.



SEPTEMBER 2013						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

On September 27th, 2013, you bought Comtech model XZR 320 ultrabook for $1000.

Please circle the appropriate response.

I feel Comtech has a good reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech is a strong brand.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I have a high opinion about Comtech.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech is a valuable brand.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
My Comtech laptop should be valued at $_____.	$_____
My estimate of the market price for this laptop is $_____.	$_____
What price would you consider as fair for this laptop? $_____.	$_____
My Comtech laptop appears to be…	
…good quality.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…durable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…reliable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Please read the following for a few minutes.

When you go to a restaurant to have dinner with friends, the host or the hostess asks:
Do you have a reservation?
The host or hostess will take you to your table with one of these phrases:
Would you like me to take your jackets for you?
And then they say goodbye:
Rebecca will be your server tonight.
Enjoy your meal.
Then the waiter or waitress will usually start off by introducing him- or herself:
Welcome to D'Angelo's. My name is Rebecca.
If the restaurant has daily specials, the server will tell you about them:
Let me tell you about our specials today. We have a miso-glazed Chilean Sea Bass with a side of mashed sweet potatoes and sauteed spinach.
Then you're expected to order drinks:
Can I get you something to drink?
They'll go around the table to each person, using phrases like these:
And for you sir?
And for you miss?
I'll be right back with your drinks.
When the waiter or waitress returns, he or she will ask you to order your food:
Are you ready to order?
If the dish you order has a choice of side dishes, they'll offer to let you choose:
That comes with either fries or a baked potato. Which would you prefer?
Would you like fries with that, or a baked potato?
If you ask for something, the server will say:
Certainly.
But if you ask for something that's not available, you'll hear:
Oh, I'm sorry. We're all out of the salmon.
When the waiter or waitress brings you your food, they'll probably ask:
Can I get you anything else?
After you're finished eating everything, someone will come to collect your dishes:
Would you like me to take that?
Then the server will come out to ask about your meal and offer dessert:
How was everything?
Can I interest you in our dessert menu?
When you're finished with your meal, they'll offer to bring you the check:
I'll bring the check right out.

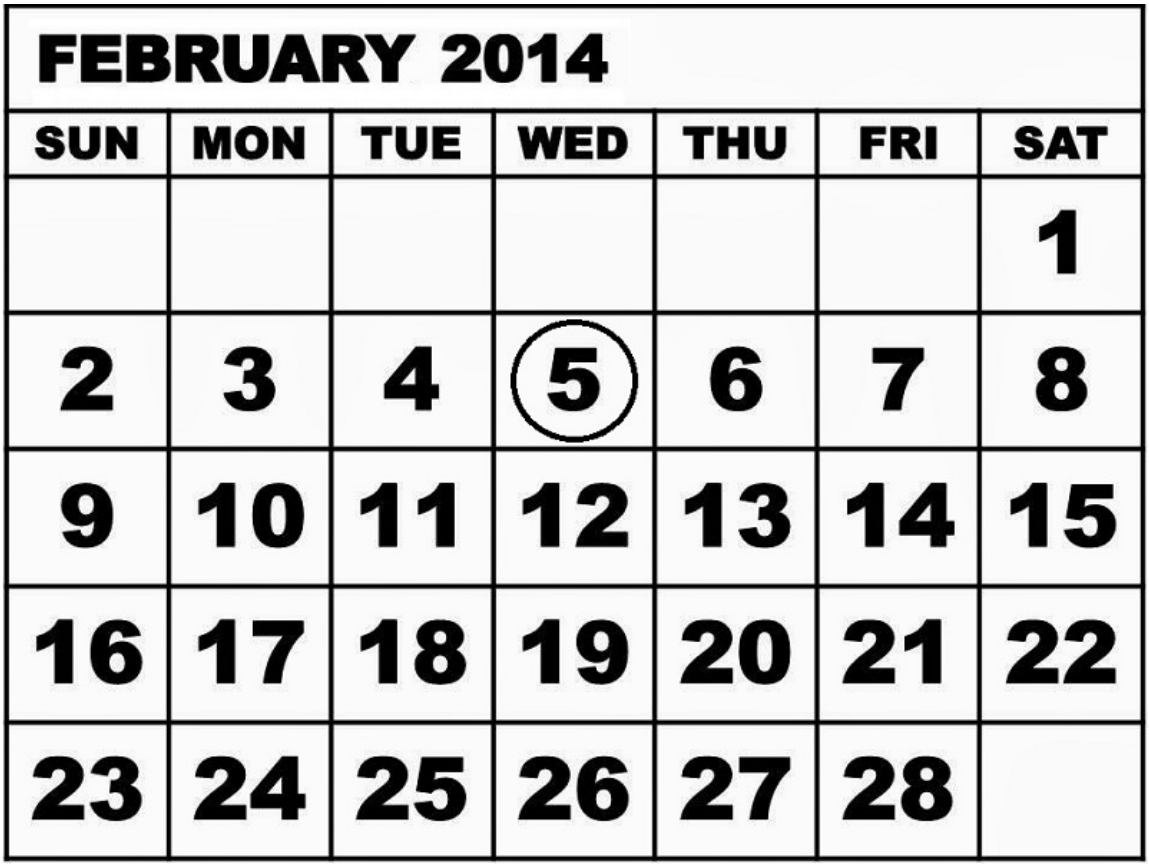
Please summarize what you just read above.

_____

_____

_____

_____



FEBRUARY 2014						
SUN	MON	TUE	WED	THU	FRI	SAT
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

4 months after your purchase, this week, Comtech announced a price reduction.

Comtech announced that XZR 320 will be sold at $950 from now on.

Please circle the appropriate response.

The price I paid for my laptop was:	$_____
Comtech reduced my laptop's price to:	$_____
I feel that I lost money on this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel that I wasted money on this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel that I paid more than I should have for this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel that I was cheated out of my money after the price reduction.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I should have paid a much lower price for this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This transaction hurts my finances.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel that my laptop became less valuable after the price reduction.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, I feel that I did NOT get my money's worth as much as I did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, I feel that I did NOT get a good quality laptop for a reasonable price as much as I did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, acquiring this laptop did NOT seem to meet both my high quality and low price requirements as much as it did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, the price I paid did NOT convey good value, compared to the maximum price I would have been willing to pay for this laptop as much as it did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, I did NOT value this laptop as much as I did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, this laptop did NOT seem like a worthwhile acquisition as much as it did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

This price reduction was unfair.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This price reduction was unreasonable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This price reduction was unacceptable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This price reduction was unjustifiable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech charged me a very fair price for this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
It is NOT fair that Comtech charged me more than its future customers.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I paid a fair price for my laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
It is NOT fair that I paid the regular price and then Comtech reduced this price.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
In general, Comtech treated me fairly.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This Comtech laptop should be valued at $_____.	$_____
My estimate of the market price for this laptop is $_____.	$_____
What price would you consider as fair for this laptop? $_____.	$_____
My Comtech laptop appears to be…	
…good quality.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…durable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…reliable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel Comtech has a good reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech is a strong brand.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I have a high opinion about Comtech.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech is a valuable brand.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

The price reduction offered to future customers of this Comtech laptop is very attractive.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The financial deal future customers got for this Comtech laptop is appealing.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The price of my laptop decreased substantially after my purchase.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech reduced the price of the laptop right after my purchase.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
There was very little time between my Comtech laptop purchase and the price reduction.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The price reduction was too close to my purchase.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This price reduction makes me…	
…angry.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…furious.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…upset.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…unhappy.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Any other thoughts?

_____

_____

_____

Gender? M ____ F _____

Age? _____

Thank you for your participation.

Appendix 2

This scenario includes the strong brand, proximal temporal distance, and deep discount manipulations. The data for this experiment were collected between October 29th and 31st 2013. The dates reflect that the respondent bought a laptop one day before the actual data collection.

On October 27th, 2013, your laptop broke down and you decided to buy a new one. You started searching for information about laptops.

You came across the following article about Comtech in Philly Inquirer:

Comtech is now the most valuable and voted as the best brand in the world

Comtech is the new most valuable brand in the world, according to a closely followed annual report. The report is from Interbrand, a corporate identity and brand consulting company owned by the Omnicom Group that has been compiling what it calls the Best Global Brands report since 2000. The previous No. 1 brand, Coca-Cola, fell to No. 3. Google is at second place.

In addition to being the most valuable brand in the world, Comtech was chosen as the best brand according to a study by Forrester Research. According to Forrester's research, 95% consumers knew about the Comtech brand, 88% thought that Comtech is a reputable brand, 92% thought that Comtech has high quality products, 89% thought that Comtech has a good image, 91% stated that they trust Comtech, and 84% stated that they admire and respect Comtech.

by Erica Fowler.

October 28, 2013.

You went on Amazon to check out your options. Comtech started to catch your attention especially the model XZR 320. Here are the specs and consumer reviews on Amazon.

OCTOBER 2013						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

On October 28th, 2013, you bought Comtech model XZR 320 ultrabook for $1000.

Please circle the appropriate response.

I feel Comtech has a good reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech is a strong brand.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I have a high opinion about Comtech.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech is a valuable brand.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
My Comtech laptop should be valued at $_____.	$_____
My estimate of the market price for this laptop is $_____.	$_____
What price would you consider as fair for this laptop? $_____.	$_____
My Comtech laptop appears to be…	
…good quality.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…durable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…reliable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

OCTOBER 2013						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

A day after your purchase, this week, Comtech announced a price reduction.

Comtech announced that XZR 320 will be sold at $600 from now on.

Please circle the appropriate response.

The price I paid for my laptop was:	$_____
Comtech reduced my laptop's price to:	$_____
I feel that I lost money on this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel that I wasted money on this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel that I paid more than I should have for this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel that I was cheated out of my money after the price reduction.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I should have paid a much lower price for this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This transaction hurts my finances.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel that my laptop became less valuable after the price reduction.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, I feel that I did NOT get my money's worth as much as I did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, I feel that I did NOT get a good quality laptop for a reasonable price as much as I did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, acquiring this laptop did NOT seem to meet both my high quality and low price requirements as much as it did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, the price I paid did NOT convey good value, compared to the maximum price I would have been willing to pay for this laptop as much as it did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, I did NOT value this laptop as much as I did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After the discount, this laptop did NOT seem like a worthwhile acquisition as much as it did before the discount.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This price reduction was unfair.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

This price reduction was unreasonable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This price reduction was unacceptable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This price reduction was unjustifiable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech charged me a very fair price for this laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
It is NOT fair that Comtech charged me more than its future customers.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I paid a fair price for my laptop.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
It is NOT fair that I paid the regular price and then Comtech reduced this price.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
In general, Comtech treated me fairly.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This Comtech laptop should be valued at $_____.	$_____
My estimate of the market price for this laptop is $_____.	$_____
What price would you consider as fair for this laptop? $_____.	$_____
My Comtech laptop appears to be…	
…good quality.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…durable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…reliable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I feel Comtech has a good reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech is a strong brand.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I have a high opinion about Comtech.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech is a valuable brand.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The price reduction offered to future customers of this Comtech laptop is very attractive.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

The financial deal future customers got for this Comtech laptop is appealing.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The price of my laptop decreased substantially after my purchase.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Comtech reduced the price of the laptop right after my purchase.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
There was very little time between my Comtech laptop purchase and the price reduction.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The price reduction was too close to my purchase.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
This price reduction makes me…	
…angry.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…furious.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…upset.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
…unhappy.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Any other thoughts?

_____

_____

_____

Gender? M ____ F _____

Age? _____

Thank you for your participation.

Appendix 3

This scenario includes the weak brand, proximal temporal distance, and deep discount manipulations. The data for this experiment were collected on May 5th 2014. The dates reflect that the respondent bought an HDTV one day before the price reduction, which just happened on the day of the actual data collection. The scales are anchored at (1) Strongly Disagree, (2) Disagree, (3) Somewhat Disagree, (4) Neither Disagree not Agree, (5) Somewhat Agree, (6) Agree, (7) Strongly Agree. But the descriptors were deleted to organize the experiment better after the first set of questions.

Thank you for participating in this academic study. There are no right or wrong answers to this survey. We are interested in only your thoughts and feelings. After you click the next button at the bottom of this page, the survey will start and you can't leave the survey and come back later. If you log out, you will not be permitted to take the survey again. You will be asked to provide your MTurk worker id at the end of the survey so please keep it accessible. You will respond to the same or similar questions a few times on this survey. Thank you for your patience in advance. Please click the right arrow when you are ready.

On May 3rd, 2014, your television broke down and you decided to buy a new one. You started searching for information about HDTVs.

You came across the following article about Comtech, a hi-tech company, on The Wall Street Journal:

Comtech is now the 91st most valuable and voted as an average brand in the world

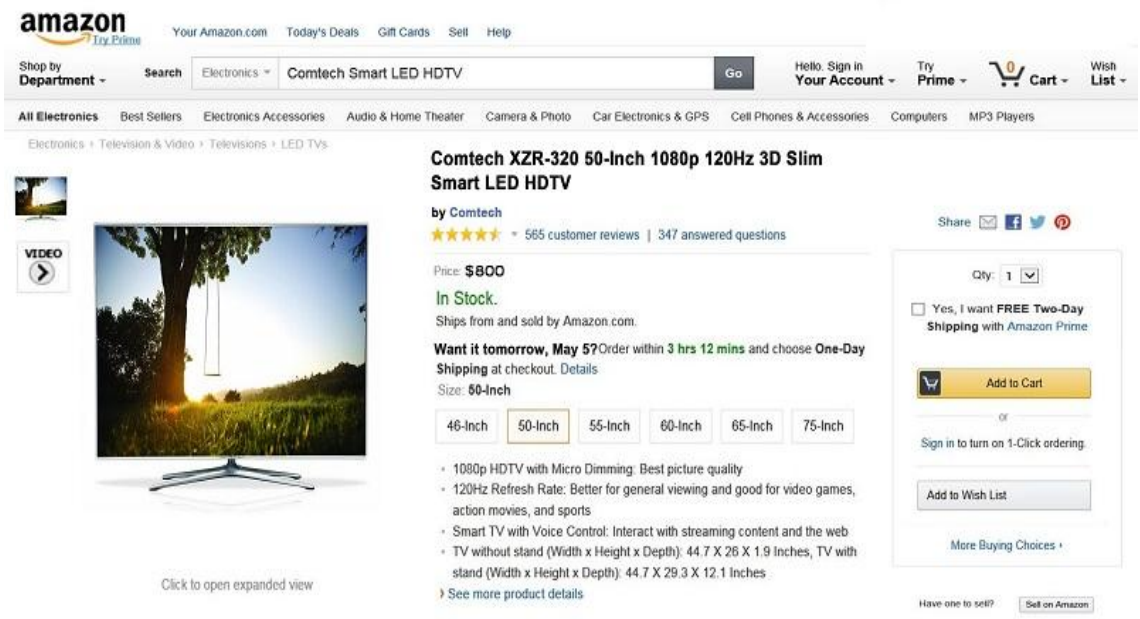
Comtech is the 91st most valuable brand in the world, according to a closely followed annual report. The report is from Interbrand, a corporate identity and brand consulting company owned by the Omnicom Group that has been compiling what it calls the Best Global Brands report since 2000. The previous No. 1 brand, Coca-Cola, fell to No. 3. Google is at second place and Apple is the new No. 1.

In addition to being the 91st most valuable brand in the world, Comtech was chosen as one of the average brands according to a study by Forrester Research. According to Forrester's research, 75% of consumers knew about the Comtech brand, 78% thought that Comtech has average reputation, 82% thought that Comtech has mediocre quality products, 79% thought that Comtech has an average image, 41% stated that they trust Comtech, and 44% stated that they admire and respect Comtech.

by Erica Fowler.

May 4, 2014.

You went on Amazon to check out your options. Comtech started to catch your attention especially model XZR-320. Here are the specs and consumer reviews on Amazon.



MAY 2014						
SUN	MON	TUE	WED	THU	FRI	SAT
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

On May 4th, 2014, you bought Comtech model XZR-320 3D Slim Smart LED HDTV for $800 from the closest Comtech Store.

My Comtech HDTV appears to be…

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Disagree Nor Agree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
good quality. (1)	❍	❍	❍	❍	❍	❍	❍
durable. (2)	❍	❍	❍	❍	❍	❍	❍
reliable. (3)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I feel that Comtech has a good reputation. (1)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech is a strong brand. (2)	❍	❍	❍	❍	❍	❍	❍
I have a high opinion about Comtech. (3)	❍	❍	❍	❍	❍	❍	❍
I think that Comtech is a valuable brand. (4)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech is a very respectable brand. (5)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech has a great brand image. (6)	❍	❍	❍	❍	❍	❍	❍

Please type your responses.

My Comtech HDTV should be valued at: $_____. (1)

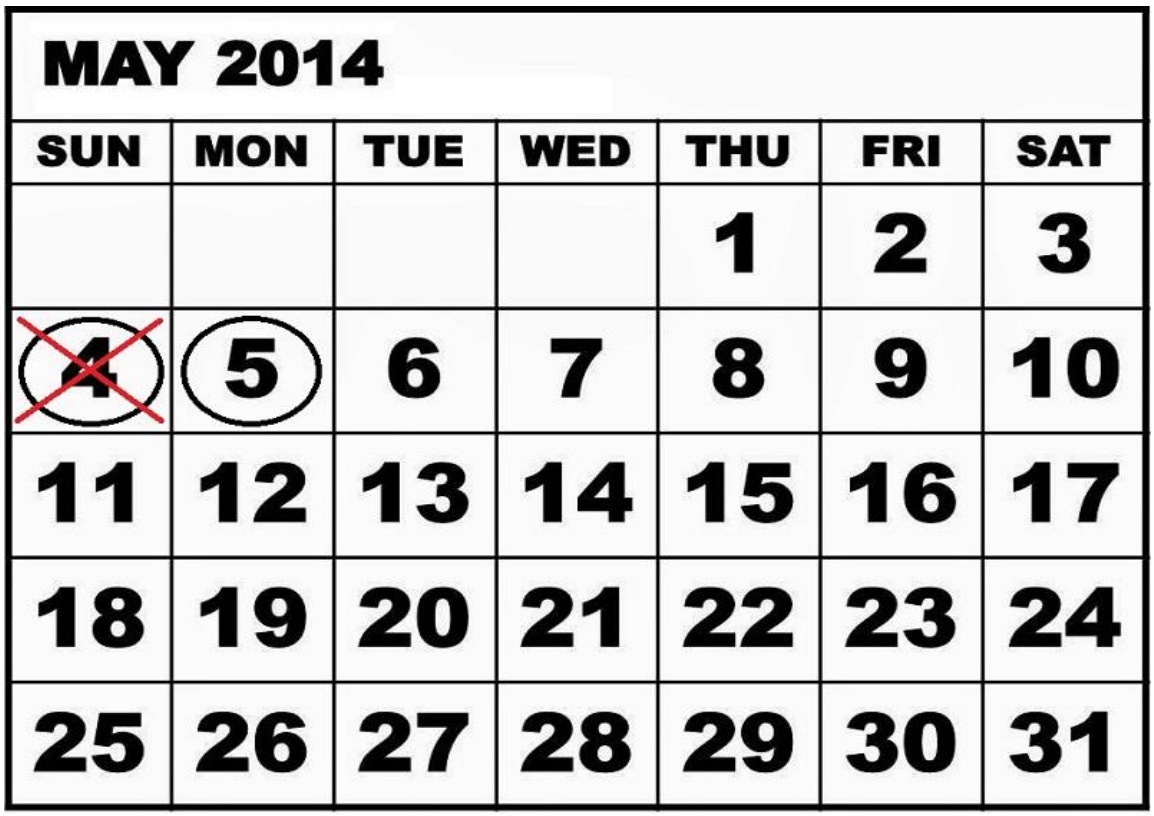
My estimate of the average market price for this HDTV is $_____. (2)

What price would you consider as fair for this HDTV? $_____. (3)

What would be a normal price for this HDTV on average? $_____. (4)

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I am likely to purchase a product made by Comtech at my next purchase occasion. (1)	❍	❍	❍	❍	❍	❍	❍



MAY 2014						
SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

A day after your purchase, this week, Comtech announced a price reduction.

Comtech announced that XZR-320 HDTV will be sold at $500 from now on.

Please type your responses.

The price I paid for my Comtech HDTV was: $_____. (1)

Comtech reduced the price of my HDTV to: $_____. (1)

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I feel that I lost money on this HDTV. (1)	❍	❍	❍	❍	❍	❍	❍
I feel that I wasted money on this HDTV. (2)	❍	❍	❍	❍	❍	❍	❍
I feel that I was cheated out of my money after the price reduction. (3)	❍	❍	❍	❍	❍	❍	❍
I feel that I was deceived after the price reduction. (4)	❍	❍	❍	❍	❍	❍	❍
I feel that I was betrayed after the price reduction. (5)	❍	❍	❍	❍	❍	❍	❍
I feel that I Comtech took money out of my pocket after the price reduction. (6)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech conned me out of my money after the price reduction. (7)	❍	❍	❍	❍	❍	❍	❍
I feel that I paid more than I should have for this HDTV. (8)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
After the discount, I feel that I did NOT get my money's worth as much as I did before the discount. (1)	❍	❍	❍	❍	❍	❍	❍
After the discount, I feel that I did NOT get a good quality HDTV for a reasonable price as much as I did before the discount. (2)	❍	❍	❍	❍	❍	❍	❍
After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount. (3)	❍	❍	❍	❍	❍	❍	❍
After the discount, acquiring this HDTV did NOT seem to meet both my high quality and low price requirements as much as it did before the discount. (4)	❍	❍	❍	❍	❍	❍	❍
After the discount, the price I paid did NOT convey good value, compared to the maximum price I would have been willing to pay for this HDTV as much as it did before the discount. (5)	❍	❍	❍	❍	❍	❍	❍
After the discount, I did NOT value this HDTV as much as I did before the discount. (6)	❍	❍	❍	❍	❍	❍	❍
After the discount, this HDTV did NOT seem like a worthwhile acquisition as much as it did before the discount. (7)	❍	❍	❍	❍	❍	❍	❍

This price reduction was...

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
unfair. (1)	❍	❍	❍	❍	❍	❍	❍
unreasonable. (2)	❍	❍	❍	❍	❍	❍	❍
unacceptable. (3)	❍	❍	❍	❍	❍	❍	❍
unjustifiable. (4)	❍	❍	❍	❍	❍	❍	❍

Please type your responses.

My Comtech HDTV should be valued at: $_____. (1)

My estimate of the average market price for this HDTV is $_____. (2)

What price would you consider as fair for this HDTV? $_____. (3)

What would be a normal price for this HDTV on average? $_____. (4)

My Comtech HDTV appears to be…

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
good quality. (1)	❍	❍	❍	❍	❍	❍	❍
durable. (2)	❍	❍	❍	❍	❍	❍	❍
reliable. (3)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I am likely to purchase a product made by Comtech at my next purchase occasion. (1)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I feel that Comtech has a good reputation. (1)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech is a strong brand. (2)	❍	❍	❍	❍	❍	❍	❍
I have a high opinion about Comtech. (3)	❍	❍	❍	❍	❍	❍	❍
I think that Comtech is a valuable brand. (4)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech is a very respectable brand. (5)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech has a great brand image. (6)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
The price reduction offered to future customers of this Comtech HDTV is very attractive. (1)	❍	❍	❍	❍	❍	❍	❍
The financial deal future customers will get for this Comtech HDTV is appealing. (2)	❍	❍	❍	❍	❍	❍	❍
The price of my HDTV decreased substantially after my purchase. (3)	❍	❍	❍	❍	❍	❍	❍
Comtech is offering my HDTV at a highly reduced price now. (4)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Comtech reduced the price of my HDTV right after my purchase. (1)	❍	❍	❍	❍	❍	❍	❍
There was very little time between my Comtech HDTV purchase and the price reduction. (2)	❍	❍	❍	❍	❍	❍	❍
The price reduction was too close to my purchase. (3)	❍	❍	❍	❍	❍	❍	❍
The timing of the price reduction on my HDTV couldn't be worse. (4)	❍	❍	❍	❍	❍	❍	❍
Comtech reduced the price of my HDTV less than a week after my purchase. (5)	❍	❍	❍	❍	❍	❍	❍

Any other thoughts?

_____

_____

_____

_____

_____

Gender?

Male (1) _____

Female (2) _____

Age? _____

Please provide your MTurk Worker ID: _____

Thank you for your participation.

Appendix 4

This scenario includes the strong brand, far temporal distance, and shallow discount manipulations. The data for this experiment were collected on May 5th 2014. The dates reflect that the respondent bought an HDTV eight months before the price reduction, which just happened on the day of the actual data collection. The scales are anchored at (1) Strongly Disagree, (2) Disagree, (3) Somewhat Disagree, (4) Neither Disagree not Agree, (5) Somewhat Agree, (6) Agree, (7) Strongly Agree. But the descriptors were deleted to organize the experiment better after the first set of questions.

Thank you for participating in this academic study. There are no right or wrong answers to this survey. We are interested in only your thoughts and feelings. After you click the next button at the bottom of this page, the survey will start and you can't leave the survey and come back later. If you log out, you will not be permitted to take the survey again. You will be asked to provide your MTurk worker id at the end of the survey so please keep it accessible. You will respond to the same or similar questions a few times on this survey. Thank you for your patience in advance. Please click the right arrow when you are ready.

On September 3rd, 2013, your television broke down and you decided to buy a new one. You started searching for information about HDTVs.

You came across the following article about Comtech, a hi-tech company, on The Wall Street Journal:

Comtech is now the most valuable and voted as the best brand in the world

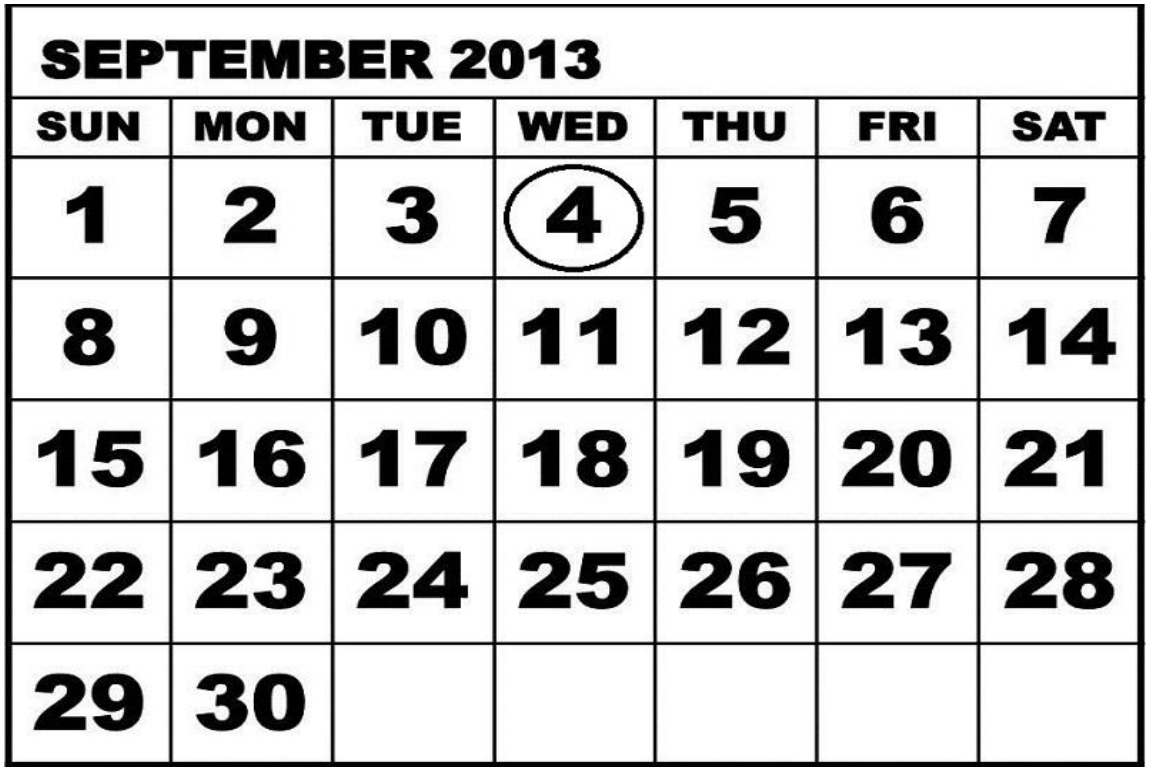
Comtech is the new most valuable brand in the world, according to a closely followed annual report. The report is from Interbrand, a corporate identity and brand consulting company owned by the Omnicom Group that has been compiling what it calls the Best Global Brands report since 2000. The previous No. 1 brand, Coca-Cola, fell to No. 3. Google is at second place.

In addition to being the most valuable brand in the world, Comtech was chosen as the best brand according to a study by Forrester Research. According to Forrester's research, 95% consumers knew about the Comtech brand, 88% thought that Comtech is a reputable brand, 92% thought that Comtech has high quality products, 89% thought that Comtech has a good image, 91% stated that they trust Comtech, and 84% stated that they admire and respect Comtech.

by Erica Fowler.

September 4, 2013.

You went on Amazon to check out your options. Comtech started to catch your attention especially model XZR-320. Here are the specs and consumer reviews on Amazon.



SEPTEMBER 2013						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

On September 4th, 2013, you bought Comtech model XZR-320 3D Slim Smart LED HDTV for $800 from the closest Comtech store.

My Comtech HDTV appears to be…

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Disagree Nor Agree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
good quality. (1)	❍	❍	❍	❍	❍	❍	❍
durable. (2)	❍	❍	❍	❍	❍	❍	❍
reliable. (3)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I feel that Comtech has a good reputation. (1)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech is a strong brand. (2)	❍	❍	❍	❍	❍	❍	❍
I have a high opinion about Comtech. (3)	❍	❍	❍	❍	❍	❍	❍
I think that Comtech is a valuable brand. (4)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech is a very respectable brand. (5)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech has a great brand image. (6)	❍	❍	❍	❍	❍	❍	❍

Please type your responses.

My Comtech HDTV should be valued at: $_____. (1)

My estimate of the average market price for this HDTV is $_____. (2)

What price would you consider as fair for this HDTV? $_____. (3)

What would be a normal price for this HDTV on average? $_____. (4)

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I am likely to purchase a product made by Comtech at my next purchase occasion. (1)	❍	❍	❍	❍	❍	❍	❍

Please read the following for a few minutes. You will not be able to advance for 2 minutes.

When you go to a restaurant to have dinner with friends, the host or the hostess asks:
Do you have a reservation*?*
The host or hostess will take you to your table with one of these phrases:
Would you like me to take your jackets for you?
And then they say goodbye:
Rebecca will be your server tonight.
Enjoy your meal.
Then the waiter or waitress will usually start off by introducing him- or herself:
Welcome to D'Angelo's. My name is Rebecca.
If the restaurant has daily specials, the server will tell you about them:
Let me tell you about our specials today. We have a miso-glazed Chilean Sea Bass with a side of mashed sweet potatoes and sauteed spinach.
Then you're expected to order drinks:
Can I get you something to drink?
They'll go around the table to each person, using phrases like these:
And for you sir?
And for you miss?
I'll be right back with your drinks.
When the waiter or waitress returns, he or she will ask you to order your food:
Are you ready to order?
If the dish you order has a choice of side dishes, they'll offer to let you choose:
That comes with either fries or a baked potato. Which would you prefer?
Would you like fries with that, or a baked potato?
If you ask for something, the server will say:
Certainly.
But if you ask for something that's not available, you'll hear:
Oh, I'm sorry. We're all out of the salmon.
When the waiter or waitress brings you your food, they'll probably ask:
Can I get you anything else?
After you're finished eating everything, someone will come to collect your dishes:
Would you like me to take that?
Then the server will come out to ask about your meal and offer dessert:
How was everything?
Can I interest you in our dessert menu?
When you're finished with your meal, they'll offer to bring you the check:
I'll bring the check right out.

Please summarize what you just read above.

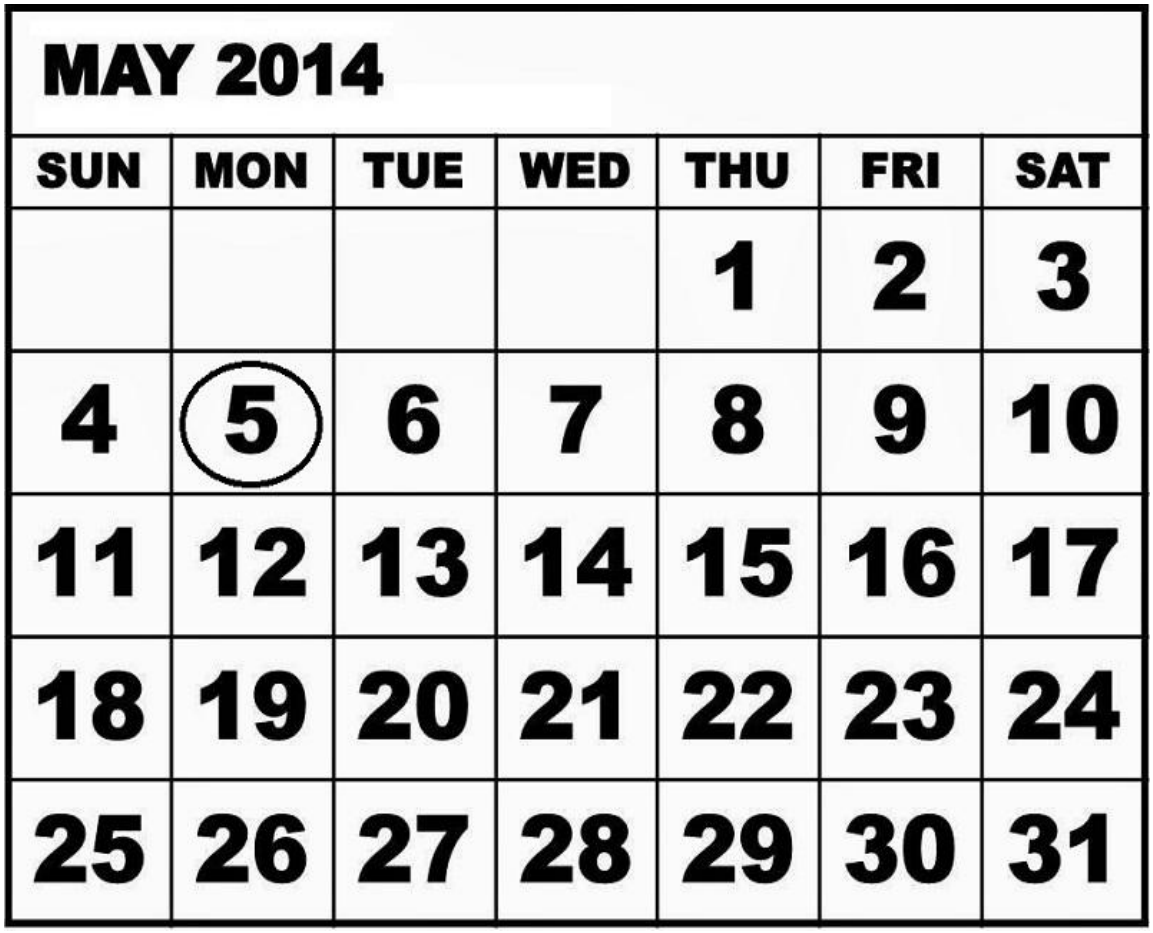
_____

_____

_____

_____

_____



MAY 2014						
SUN	MON	TUE	WED	THU	FRI	SAT
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

8 months after your purchase, this week, Comtech announced a price reduction.

Comtech announced that XZR-320 HDTV will be sold at $775 from now on.

Please type your responses.

The price I paid for my Comtech HDTV was: $_____. (1)

Comtech reduced the price of my HDTV to: $_____. (1)

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I feel that I lost money on this HDTV. (1)	❍	❍	❍	❍	❍	❍	❍
I feel that I wasted money on this HDTV. (2)	❍	❍	❍	❍	❍	❍	❍
I feel that I was cheated out of my money after the price reduction. (3)	❍	❍	❍	❍	❍	❍	❍
I feel that I was deceived after the price reduction. (4)	❍	❍	❍	❍	❍	❍	❍
I feel that I was betrayed after the price reduction. (5)	❍	❍	❍	❍	❍	❍	❍
I feel that I Comtech took money out of my pocket after the price reduction. (6)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech conned me out of my money after the price reduction. (7)	❍	❍	❍	❍	❍	❍	❍
I feel that I paid more than I should have for this HDTV. (8)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
After the discount, I feel that I did NOT get my money's worth as much as I did before the discount. (1)	❍	❍	❍	❍	❍	❍	❍
After the discount, I feel that I did NOT get a good quality HDTV for a reasonable price as much as I did before the discount. (2)	❍	❍	❍	❍	❍	❍	❍
After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount. (3)	❍	❍	❍	❍	❍	❍	❍
After the discount, acquiring this HDTV did NOT seem to meet both my high quality and low price requirements as much as it did before the discount. (4)	❍	❍	❍	❍	❍	❍	❍
After the discount, the price I paid did NOT convey good value, compared to the maximum price I would have been willing to pay for this HDTV as much as it did before the discount. (5)	❍	❍	❍	❍	❍	❍	❍
After the discount, I did NOT value this HDTV as much as I did before the discount. (6)	❍	❍	❍	❍	❍	❍	❍
After the discount, this HDTV did NOT seem like a worthwhile acquisition as much as it did before the discount. (7)	❍	❍	❍	❍	❍	❍	❍

This price reduction was...

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
unfair. (1)	❍	❍	❍	❍	❍	❍	❍
unreasonable. (2)	❍	❍	❍	❍	❍	❍	❍
unacceptable. (3)	❍	❍	❍	❍	❍	❍	❍
unjustifiable. (4)	❍	❍	❍	❍	❍	❍	❍

Please type your responses.

My Comtech HDTV should be valued at: $_____. (1)

My estimate of the average market price for this HDTV is $_____. (2)

What price would you consider as fair for this HDTV? $_____. (3)

What would be a normal price for this HDTV on average? $_____. (4)

My Comtech HDTV appears to be…

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
good quality. (1)	❍	❍	❍	❍	❍	❍	❍
durable. (2)	❍	❍	❍	❍	❍	❍	❍
reliable. (3)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I am likely to purchase a product made by Comtech at my next purchase occasion. (1)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I feel that Comtech has a good reputation. (1)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech is a strong brand. (2)	❍	❍	❍	❍	❍	❍	❍
I have a high opinion about Comtech. (3)	❍	❍	❍	❍	❍	❍	❍
I think that Comtech is a valuable brand. (4)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech is a very respectable brand. (5)	❍	❍	❍	❍	❍	❍	❍
I feel that Comtech has a great brand image. (6)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
The price reduction offered to future customers of this Comtech HDTV is very attractive. (1)	❍	❍	❍	❍	❍	❍	❍
The financial deal future customers will get for this Comtech HDTV is appealing. (2)	❍	❍	❍	❍	❍	❍	❍
The price of my HDTV decreased substantially after my purchase. (3)	❍	❍	❍	❍	❍	❍	❍
Comtech is offering my HDTV at a highly reduced price now. (4)	❍	❍	❍	❍	❍	❍	❍

Please mark the appropriate response.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Comtech reduced the price of my HDTV right after my purchase. (1)	❍	❍	❍	❍	❍	❍	❍
There was very little time between my Comtech HDTV purchase and the price reduction. (2)	❍	❍	❍	❍	❍	❍	❍
The price reduction was too close to my purchase. (3)	❍	❍	❍	❍	❍	❍	❍
The timing of the price reduction on my HDTV couldn't be worse. (4)	❍	❍	❍	❍	❍	❍	❍
Comtech reduced the price of my HDTV less than a week after my purchase. (5)	❍	❍	❍	❍	❍	❍	❍

Any other thoughts?

_____

_____

_____

_____

_____

Gender?

Male (1) _____

Female (2) _____

Age? _____

Please provide your MTurk Worker ID: _____

Thank you for your participation.

Appendix 5: Manipulation Checks of Experiment 1

Manipulation Check Scales	Cronbach's α
Perceived Brand Strength	0.959
1. I feel Comtech has a good reputation.	
2. Comtech is a strong brand.	
3. I have a high opinion about Comtech.	
4. Comtech is a valuable brand.	
Depth of Discount	0.861
1. The price reduction offered to future customers of this Comtech laptop is very attractive.	
2. The financial deal future customers got for this Comtech laptop is appealing.	
3. The price of my laptop decreased substantially after my purchase.	
Temporal Distance	0.866
1. Comtech reduced the price of the laptop right after my purchase.	
2. There was very little time between my Comtech laptop purchase and the price reduction.	
3. The price reduction was too close to my purchase.	

Appendix 6: Dependent Variables Before Exploratory Factor Analysis

Perceived Price Unfairness (items marked with *R are reverse coded)
1. This price reduction was unfair.
2. This price reduction was unreasonable.
3. This price reduction was unacceptable.
4. This price reduction was unjustifiable.
5. Comtech charged me a very fair price for this laptop. *R
6. It is NOT fair that Comtech charged me more than its future customers.
7. I paid a fair price for my laptop. *R
8. It is NOT fair that I paid the regular price and then Comtech reduced this price.
9. In general, Comtech treated me fairly. *R
Perceived Negative Transaction Value
1. I feel that I lost money on this laptop.
2. I feel that I wasted money on this laptop.
3. I feel that I paid more than I should have for this laptop.
4. I feel that I was cheated out of my money after the price reduction.
5. I should have paid a much lower price for this laptop.
6. This transaction hurts my finances.
7. I feel that my laptop became less valuable after the price reduction.
Perceived Loss in Acquisition Value
1. After the discount, I feel that I did NOT get my money's worth as much as I did before the discount.
2. After the discount, I feel that I did NOT get a good quality laptop for a reasonable price as much as I did before the discount.
3. After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount.
4. After the discount, acquiring this laptop did NOT seem to meet both my high quality and low price requirements as much as it did before the discount.
5. After the discount, the price I paid did NOT convey good value, compared to the maximum price I would have been willing to pay for this laptop as much as it did before the discount.
6. After the discount, I did NOT value this laptop as much as I did before the discount.
7. After the discount, this laptop did NOT seem like a worthwhile acquisition as much as it did before the discount.
Internal Reference Price
1. This Comtech laptop should be valued at $_____.
2. My estimate of the market price for this laptop is $_____.
3. What price would you consider as fair for this laptop? $_____.
Perceived Quality
My Comtech laptop appears to be…
1. …good quality.
2. …durable.
3. …reliable.

Appendix 7: Manipulation Checks of Experiment 2

Manipulation Check Scales	Cronbach's α
Perceived Brand Strength	0.969
1. I feel that Comtech has a good reputation.	
2. I feel that Comtech is a strong brand.	
3. I have a high opinion about Comtech.	
4. I think that Comtech is a valuable brand.	
5. I feel that Comtech is a very respectable brand.	
6. I feel that Comtech has a great brand image.	
Depth of Discount	0.893
1. The price reduction offered to future customers of this Comtech HDTV is very attractive.	
2. The financial deal future customers will get for this Comtech HDTV is appealing.	
3. The price of my HDTV decreased substantially after my purchase.	
4. Comtech is offering my HDTV at a highly reduced price now.	
Temporal Distance	0.944
1. Comtech reduced the price of my HDTV right after my purchase.	
2. There was very little time between my Comtech HDTV purchase and the price reduction.	
3. The price reduction was too close to my purchase.	
4. The timing of the price reduction on my HDTV couldn't be worse.	
5. Comtech reduced the price of my HDTV less than a week after my purchase.	

Appendix 8: Dependent Variables Before Exploratory Factor Analysis

Perceived Price Unfairness
1. This price reduction was unfair.
2. This price reduction was unreasonable.
3. This price reduction was unacceptable.
4. This price reduction was unjustifiable.
Perceived Negative Transaction Value
1. I feel that I lost money on this HDTV.
2. I feel that I wasted money on this HDTV.
3. I feel that I was cheated out of my money after the price reduction.
4. I feel that I was deceived after the price reduction.
5. I feel that I was betrayed after the price reduction.
6. I feel that I Comtech took money out of my pocket after the price reduction.
7. I feel that Comtech conned me out of my money after the price reduction.
8. I feel that I paid more than I should have for this HDTV.
Perceived Loss in Acquisition Value
1. After the discount, I feel that I did NOT get my money's worth as much as I did before the discount.
2. After the discount, I feel that I did NOT get a good quality HDTV for a reasonable price as much as I did before the discount.
3. After the discount, I feel that I did NOT get good value for the money I spent as much as I did before the discount.
4. After the discount, acquiring this HDTV did NOT seem to meet both my high quality and low price requirements as much as it did before the discount.
5. After the discount, the price I paid did NOT convey good value, compared to the maximum price I would have been willing to pay for this HDTV as much as it did before the discount.
6. After the discount, I did NOT value this HDTV as much as I did before the discount.
7. After the discount, this HDTV did NOT seem like a worthwhile acquisition as much as it did before the discount.
Internal Reference Price
1. My Comtech HDTV should be valued at: $_____.
2. My estimate of the average market price for this HDTV is $_____.
3. What price would you consider as fair for this HDTV? $_____.
4. What would be a normal price for this HDTV on average? $_____.
Perceived Quality
My Comtech HDTV appears to be…
1. …good quality.
2. …durable.
3. …reliable.

Vita

Education

Ph.D. in Marketing, Drexel University	2014
M.S. in Production Management and Marketing, University of Kocaeli	2007
M.S. in Economics Policy, University of Kocaeli	2006
B.S. in Economics, University of Istanbul	2002

Research Interests

Behavioral pricing, branding, price fairness, promotions

Publication

Suri, Rajneesh, Kent B. Monroe, and Umit Koc (2013), "Math Anxiety and Its Effects on Consumers' Preference for Price Promotion Formats," *Journal of the Academy of Marketing Science*, 41 (3), 271-82.

This research examines whether preference for certain price presentations observed in past research could be explained by either consumers' math anxiety or their math abilities. Previous research suggests that math anxiety not only increases tendencies to make computational errors but also influences cognitive abilities to make numerical judgments. In four studies we document an effect of math anxiety whereby price promotions, whose net prices are simply derived, like those in a dollars-off format, were preferred over a competing percentage-off format. We explain this effect in terms of consumers' inability to expend cognitive resources due to their math anxiety rather than their math ability. We also identify a boundary condition with such effects of math anxiety occurring when price information is presented in a computationally complex manner and when consumers are making important product judgments.

Dissertation: The Effects of Timing of Post-Purchase Price Reductions and Brand Strength on Consumers' Price Unfairness Perceptions

Advisor: Rajneesh Suri
Committee: Kent B. Monroe, Rolph Anderson, Srinivasan Swaminathan, and Paul Jensen

Pricing literature examined the impact of price increases or decreases on price unfairness perceptions in pre-purchase contexts but post-purchase price reduction context received limited attention. Moreover, the impact of brand strength on perceptions of price unfairness in a post-purchase price reduction context has received little attention despite evidence that shows that brand names impact consumers' internal reference price and quality perceptions. Hence, this dissertation aims to close this gap by inquiring about the impact of brand strength and depth of post-purchase price reductions on price unfairness perceptions over time by relying on construal level theory and acquisition-transaction value model. In two experiments, four new scales that are

suitable for post-purchase price reduction context were developed and refined: Perceived price unfairness, perceived negative transaction value, perceived loss in acquisition value, and internal reference price. In experiment one, when the temporal distance was proximal, advertised selling price was more influential on perceived loss in acquisition value. On the other hand, when the temporal distance was far, perceived quality was more influential on perceived loss in acquisition value. In experiment two, temporal distance moderated the relationship from advertised selling price to perceived negative transaction value such that advertised selling price was influential on perceived negative transaction value at proximal temporal distance but not at far temporal distance.

Award

Drexel University, Marketing Department, Outstanding Teaching Assistant Award for Academic Year 2011-2012

Conference Proceedings & Presentations

Koc, Umit and Rajneesh Suri (2011), "Price Unfairness and Spillover of Blame," in *American Marketing Association Summer Educators' Conference*, eds. Charles Noble and Stephanie Noble, San Francisco.

Koc, Umit and Rajneesh Suri (2010), "Price Drops, and Price Unfairness Perceptions," in *Academy of Marketing Science Annual Conference*, Portland.

Suri, Rajneesh, Mrugank Thakor, and Umit Koc (2010), "Do "Locally Made" Products Affect Price Perceptions? Not Always," in *Advances in Consumer Research*, eds. Darren W. Dahl, Gita V. Johar and Stijn M. J. van Osselaer, Jacksonville, Florida.

Suri, Rajneesh, Prabakar Kothandaraman, Shan Feng, and Umit Koc (2010), "Effects of Sorting Competitive Prices on Product Evaluations," in *Advances in Consumer Research*, eds. Darren W. Dahl, Gita V. Johar and Stijn M. J. van Osselaer, Jacksonville, Florida.

Koc, Umit and Rajneesh Suri (2010), "Price Unfairness Perceptions, and Attribution of Blame: The Role of Accountability," in *Drexel University Research Day*, Philadelphia.

Koc, Umit and Rajneesh Suri (2009), "Percentage Asymmetries, Loss Aversion, and Effects of Price Levels on Mental Accounting Principles," in *Drexel University Research Day*, Philadelphia.

Professional Work Experience

Kesoglu Leather Ltd, October 2003-December 2005
International Trade Manager Istanbul

Located international suppliers of leather and negotiated orders for prices.
Planned carrier capacities and undertook logistic duties including securing competitive transportation.
Conducted new business evaluations.
Sourced international suppliers and prepared cost analyses.

Teaching Experience

Drexel University, September 2012 – October 2013
Adjunct Faculty Philadelphia
Courses Taught

- Consumer Behavior (Teaching Evaluation: 3.8 / 4)
- Marketing Strategy (including online)
- Introduction to Marketing Management (inc online, Teaching Evaluation: 3.6 / 4)

Drexel University, September 2007 – June 2012
Teaching and Research Assitant Philadelphia

- Independent Instructor
  - Introduction to Marketing Management (Teaching Evaluation: 3.6 / 4)
  - Consumer Behavior.
- Recitation Instructor
  - Introduction to Marketing Management (Teaching Evaluation: 3.8 / 4)
  - Seminar in Marketing Strategy
  - Marketing Strategy & Planning (MBA).
- Teaching Assistant
  - Marketing Research (MBA).
- Served as the research and teaching assitant for Srinivasan Swaminathan for five years.

Research in Progress

Koc, Umit and Rajneesh Suri, "Price Unfairness and Shift of Blame", Data collection complete, Target: Journal of the Academy of Marketing Science

Pricing literature has examined price fairness assuming that the seller is responsible for an unfair price. However, not only a seller but also other channel members may be responsible for such an unfair price and hence be blamed. In this research, we employ fairness theory in the context of a spectator sporting event to examine how blame may shift from scalpers to other channel members.

Koc, Umit and Rajneesh Suri, "Coupons for Service Failure Compensation: Does the Expiration Date Matter?", Data collection complete, Target: Journal of Marketing Research

The purpose of this research is to establish the boundary conditions under which store coupons are perceived positively by compensated consumers. We propose that the use of such coupons are perceived better by the consumers only when their expiration dates are commensurate with the consumers' purchase frequency of products.

Koc, Umit and Rajneesh Suri, "The Effects of Timing of Post-Purchase Price Reductions and Brand Strength on Consumers' Price Fairness Perceptions", Data collection in progress, Target: Journal of Marketing

The effect of brand strength and post-purchase price reductions on price unfairness perceptions has received inadequate attention in the pricing literature. We propose that the size of price reductions interact with time lapsed between the purchase and the price reduction to impact perceptions of value and price unfairness.

Service

Ad Hoc Reviewer: *Journal of Product and Brand Management*, 2013
Reviewer: *2010 Global Marketing Conference* at Tokyo, Japan, 2010, Ryutsu Keizai University.
Session Chair: *Behavioral Pricing Camp 2009*, University of Illinois at Urbana Champaign.
Reviewer: *Behavioral Pricing Conference*, 2008, Drexel University.
Instructor: Camp Impact 2010 – A summer camp for prospective undergraduate students designed by the LeBow College of Business at Drexel University.
Organizer: *Behavioral Pricing Conference*, 2008, Drexel University.

Seminars

Advanced Structural Equations Modeling by Joe Hair, May 2011, Drexel University
Structural Equations Modeling by Joe Hair, November 2008, Drexel University

Courses

Marketing Seminars:	
Conceptual Foundations of Buyer Behavior	Rajneesh Suri
Marketing Strategy and Planning	Rolph Anderson
Marketing Channels	Bert Rosenbloom
Marketing Thought and Theory	Bert Rosenbloom
Quantitative:	
Multivariate Data Analysis for Marketers	Rolph Anderson
Measurement Issues in Marketing	Hyokjin Kwak
Quantitative Methods 1 & 2	Tom McWilliams
Multivariate Conjoint Analysis	Merrill Liechty
Foundations of Economic Analysis	Paul Jensen & Christopher Laincz
Business Statistics 1 & 2	Sreenivas Konda
Psychology and Management:	
Cognitive Psychology	John Kounios
Social Cognition	Michael Lowe
Behavioral Science	John Schaubroeck
Research & Analysis in Behavioral Science	Jeffrey Greenhaus
Organizational Behavior	Jeffrey Greenhaus