The Effects of Price Context and Prior Product Knowledge on Consumers’ Product Evaluations

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Dedications

This dissertation is dedicated to

Mom, Dad, Moyun, Jiachen

and Jinzhou
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Abstract

The Effects of Price Context and Prior Knowledge on Consumers’ Product Evaluations
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This research examines how consumers rely on price and prior product knowledge in product quality evaluations. To understand the interaction effects of price context and prior product knowledge on quality evaluations, a conceptual framework based on cue utilization theory and information processing theory was developed. It is proposed that low knowledgeable consumers are more likely to use price as a quality indicator in a low-priced context and in a limited-attributes context; moderate knowledgeable consumers tend to rely on their knowledge to make product evaluations; high knowledgeable consumers are more likely to use their product knowledge in a high-priced context and in an extensive-attributes context. A set of hypotheses was developed regarding the interaction effect of price context and prior knowledge on consumers’ perceived monetary sacrifice, quality evaluations, and value judgments.

Two experimental studies were conducted using student subjects to test the proposed hypotheses. Prior product knowledge was measured in both studies. Price context was manipulated at low vs. high level in study 1 and at limited vs. extensive attributes in study 2. The three dependent measures used in this study were perceived monetary sacrifice, perceived quality, and perceived value.

Results of the experiments showed significant interaction effects between price context and prior knowledge on quality evaluations. A significant quadratic relationship
between the use of price and the level of prior product knowledge was observed in a low-priced context and in an extensive-attributes context, providing support for the proposed hypotheses in the conceptual model.
CHAPTER 1: INTRODUCTION

When shopping, consumers often view a number of options before selecting a particular product for further consideration. Prices of products within a product category offered vary across different types of retailers. Thus, different amount of information across product alternatives creates a different context for evaluations of these products. For example, prices of eye creams at Macy’s range from $15 to $124.99. However, it is not surprising to see that most of the eye creams at an upscale department store such as Neiman Marcus are priced at $155, $275, or even $320. Buyers choose from an array of alternative brands, features, sizes, and each have a separate price. Comparing a product with others in its category is a natural and automatic way of evaluating products and services (Ariely and Loewenstein 2000). Thus, judgments of a product are affected not only by its own characteristics but also by the characteristics of other products in the same category that are judged concurrently (Farley, Katz, and Lehman 1978). Such shopping behavior raises a question as to how this contextual information would influence buyers’ price and quality evaluations.

Companies that sell their products through catalogs often present their higher priced products in strategic locations, expecting consumers to see high-priced items first. This practice is based on the belief that those contextual products create a standard for subsequent product evaluations. In the pricing literature, evidence of context effects has been identified in price and quality evaluations (Adval and Monroe 2002; Biswas and Blair 1991; Della Bitta and Monroe 1974). For instance, Della Bitta and Monroe (1974) explored the existence of an adaptation level price and buyers’ use of it as an anchor for
subsequent price judgments. Consumers’ price perceptions and purchase behaviors are strongly influenced by shelf tags that imply price promotions even when there is no actual price reduction (Grewal et al. 1996; Inman, McAlister and Hoyer 1990). Adaval and Monroe (2002) found that a product will be judged as more expensive when it is relatively expensive than when it is relatively cheap compared with other alternatives. These studies provide evidences that price information in a specific context might influence people’s internal standards used in a subsequent evaluation process.

Moreover, consumers’ price perceptions toward a target product would be influenced by its relative position within a set of prices. In product-line pricing, the lowest and highest prices in the product line are more noticeable than those between and hence would anchor consumers’ judgments (Petroshius and Monroe 1987). These end prices, along with the reference price would affect the price perceptions for a particular product. Products priced at the higher end of the product line were evaluated as of higher quality than products positioned at the lower end. Prices at the ends of a price range disproportionately influence consumers’ judgments (Monroe 2003). Will different positions of a target product’s price affect consumers’ use of knowledge (or prices) in quality evaluations? If such influences exist, will knowledgeable consumers differ from less knowledgeable ones in terms of their use of price in making quality inferences?

However, the extent to which consumers rely on price in product evaluations may also depend on how much they know about the product category. Consumers’ prior knowledge often serves as an important means of market segmentation. For example, an advertisement for digital cameras targeting consumers with high prior knowledge of cameras might present technical information, such as the megapixels, lens, and memory
cards, because such information is particularly informative to this segment (Hong and Sternthal 2010; Maheswaran and Sternthal 1990). In contrast, for consumers with limited knowledge about digital cameras, the advertisement might highlight the benefits of the product’s technical features, such as the ability to capture images with exceptional clarity resulting from the CMOS (complementary metal oxide semiconductor) sensor, because this information is most informative for these consumers.

Consumers have differentially developed prior knowledge of products (Johnson and Russo 1984; Park and Lessig 1984). Researchers have used other terms like familiarity, expertise, purchase experiences as well as self-perceived knowledge to indicate prior product knowledge. Although the measures of prior knowledge differ in previous research, there are consistent findings that prior knowledge plays a major role in consumers’ information processing. Knowledgeable consumers differ from less knowledgeable ones in terms of how much information they search (e.g., Bettman and Park 1980; Brucks 1985; Mandel and Johnson 2002), what type of information they select, as well as how they process the selected information in evaluations (e.g., Alba and Hutchinson 1987; Ofir et al. 2008; Rao and Monroe 1988).

Much evidence exists that prior knowledge is one of the most powerful factors to predict consumers’ product evaluations. For a long time, it has been assumed that the use of knowledge in information processing is automatic. Yet, other research has found that higher knowledge does not necessarily lead to better cognitive performances (Camerer and Johnson 1991). For example, Lewandowsky and Krisner (2000) found that experts were not always better than novices when they were asked to predict a bush fire in Australia. They suggested that performances of experts depend on the context (which
refers to the characteristics of the problem. By manipulating purchase goal, Brucks (1985) found that consumers were more likely to use their product knowledge when they were told to purchase a product for a frequent user than for an infrequent user with fewer needs. In another study, Maheswaran and Sternthal (1990) proposed that knowledgeable consumers were less likely to use their product knowledge in product evaluations when a product’s attribute information was not available. Furthermore, Poynor and Wood (2010) found that knowledgeable consumers are more likely to use their knowledge and thereby increasing effort and learning when the retailer’s assortment format was different from what they had expected. These findings suggest that the use of knowledge might be context dependent. That is, knowledgeable consumers are more likely to use product knowledge when the context in which they evaluate the product allows them to process product attribute information. Although some research provides evidence that the use of knowledge might not be automatic, little is known about how the use of knowledge might be affected by the price and price context in which the product is evaluated.

**Research Objectives**

The major objective of this research is to examine how price context interacts with prior product knowledge to affect consumers’ product evaluations. Specifically, does certain price context impact those with consumers more knowledge differently compared to those with less knowledge? Do experts use knowledge differently in different contexts? The insight into the interaction of price context and prior knowledge in consumers’ quality evaluations would provide valuable knowledge and managerial direction to study how price information is encoded and processed in quality evaluations.
Overview of the Conceptualization

To understand the process by which price context and prior product knowledge may affect consumers’ product judgments, the past research on the following two topics was reviewed: (a) consumers’ use of price information and contextual factors to form perceptions of quality and value; (b) the effects of prior product knowledge on information processing and cue utilization in product evaluations.

Cue utilization theory (Cox 1967; Olson and Jacoby 1972) posited that consumers rely on a number of cues, extrinsic or/and intrinsic, to arrive at evaluations. The cues that are finally selected for product evaluation not only depend on their predictive and confidence value (Richardson et al. 1994), but also on individuals’ prior knowledge of the product category (Rao and Monroe 1988). Past research argues that there is a U-shaped relationship between the use of price and the level of prior product knowledge (Rao and Monroe 1988). This dissertation argues that the use of knowledge might be context driven. It posits that product knowledge is more likely to be used for evaluations when (a) the context itself prompts a concern about the quality of the target product, and (b) more product attribute information is available to the consumers. To show support for this argument, this dissertation uses results from past studies on the impact of low vs. high price context (Adval and Monroe 2002; Petroshius and Monroe 1987), and prior knowledge (Rao and Monroe 1988).

In sum, the proposed conceptual framework posits that low knowledgeable consumers are more likely to use price as a quality indicator in a low-priced context and limited-attributes context; moderate knowledgeable consumers tend to rely on their
knowledge to make product evaluations; high knowledgeable consumers are more likely to use their product knowledge in a high-priced context and extensive-attributes context.

Organization of the Dissertation

This research is concerned with how price context interacts with consumers’ prior product knowledge to form product quality and value evaluations. The dissertation will proceed as follows. Literature review is presented in the second chapter. It summarizes literature on broad areas to see how consumers’ quality and value judgments are affected by price context and prior product knowledge, based on which a series of hypothesis are developed. Chapter three describes one preliminary study that pretested the proposed hypotheses and three pretests that form the foundation for the main studies. Chapter four presents the experimental design of the studies and the results of two experiments that explored the interaction effects of price context and prior product knowledge in product evaluations. Finally, Chapter five concludes and discusses the implications of this research. It also points out the limitations of this research and presents new ideas for future research.
CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL DEVELOPMENT

This chapter provides the conceptual framework for how consumers rely on price and their product knowledge to form quality judgments. It is organized to fulfill three main goals. First, based on context effect literature, it demonstrates that the context in which consumers evaluate the product will affect their quality evaluations. Secondly, this chapter shows that prior product knowledge will also impact the use of price in product quality evaluations. Thirdly, it further demonstrates that prior knowledge and price context interact to impact consumers’ quality evaluations, providing evidence that the utilization of product knowledge is context dependent.

The first section reviews cue utilization theory, followed by a review of the dual role of price. It shows that consumers rely on extrinsic or/intrinsic cues when they are evaluating a product.

The second section provides a literature review on context effects. It shows that the context in which consumers evaluate the product will affect their judgments.

The third section presents a review of literature on product knowledge as well as its influence on consumers’ price and quality evaluations. Then the relationship between prior product knowledge and the use of price to indicate quality is discussed. It also points out that the use of product knowledge might be context dependent.

The fourth section examines the effects of price context on consumers’ use of prior product knowledge to assess product quality. It is argued that knowledgeable consumers are more likely to use their knowledge when the price context allows them to process intrinsic attributes information.
**Cue Utilization Theory**

Based on cue utilization theory (Cox 1967; Olson and Jacoby 1972), products, services, or stores can be conceptualized as consisting of a number of cues that can be used as indicators of quality by consumers. A cue is defined broadly as any informational stimulus about or relating to the product, service or purchase context. The particular cues are evoked according to their predictive and confidence values. The predictive value is the degree to which consumers associate a given cue with product quality. Richardson et al. (1994) argue that this predictability is similar to the concept of the diagnosticity of the cue. Diagnosticity represents the reliability of a cue and the likelihood that using it would lead to a successful quality prediction. The confidence value of a cue is the degree to which consumers are confident in their ability to judge and use that cue accurately (Cox 1967; Olson and Jacoby 1972). Cues that have high predictive value and confidence value are likely to receive greatest weight in the quality assessment process (Richardson et al. 1994).

Olson and Jacoby (1972) propose that product cues can be classified as intrinsic or extrinsic to the product. Intrinsic cues are product-related attributes and involve physical composition of the product, such as ingredients. Extrinsic cues are product-related attributes apart from the physical product, such as price, brand name, warranty, country of origin and packaging. Consumers rely on intrinsic and extrinsic cues when evaluating quality.

The relative salience of extrinsic versus intrinsic cues in quality evaluation depends on their predictive and confidence values. Alba et al. (1999) propose that product evaluations are based on combining intrinsic product features and extrinsic cues. Intrinsic
cues are more important for consumers in assessing product quality because they have more predictive values than extrinsic cues (Darden and Schwinghammer 1985; Etgar and Malhotra 1978; Olson and Jacoby 1972; Szybillo and Jacoby 1974). However, when intrinsic information is scarce or not deemed useful, or there is no opportunity to process it, extrinsic cues are more likely to be used to assess product quality, resulting in an evaluation that is more heuristic in nature (Monroe 2003; Suri and Monroe 2003).

Consumers depend on extrinsic cues such as brand name, price, and store name more than intrinsic cues when evaluation of intrinsic cues requires more effort and time than the consumers perceive worthwhile (Zeithaml 1988). Generally, brand name is the most influential extrinsic cue for assessing quality. Price is second in relative size of effect, followed by physical characteristics or store name (Dawar and Parker 1994; Monroe 2003).

When there are multiple extrinsic cues available, the joint effect of multiple extrinsic cues tend to be stronger than the effects of individual cues. Dawar and Parker (1994) observe that brand name and price together are most useful in quality determinations. Chao (1989) finds that the price-quality relationship is enhanced when paired with positive country-of-origin brand. However, the joint effect of multiple extrinsic cues is only stronger when intrinsic information is scarce and when those cues provide corroborating information (e.g., when a positive price is paired with a strong warranty). When the two cues are inconsistent, buyers find the negative cue more salient and overweight it in their evaluations (Miyazaki, Grewal, and Goodstein 2005).

Other research suggests that consumers tend to use both intrinsic and extrinsic cues concurrently when evaluating product quality (Jacoby, Olson, and Haddock 1971; Kardes
et al. 2004; Szybillo and Jacoby 1974). Additionally, buyers’ reliance on extrinsic versus intrinsic cues varies as a function of prior product knowledge (Rao and Monroe 1988; Rao and Sieben 1992). As buyers become familiar with a product they are more likely to use intrinsic cues rather than price or other external cues as indicators of quality.

**Dual Role of Price**

Traditionally, price has been considered as a negative product attribute that performs as a disincentive to purchase products, i.e., monetary sacrifice. However, studies also found that perceptions of product quality are also a function of price. Moreover, consumers tend to prefer higher-priced products when price is the only information available, when there is a belief that the quality of available brands differs significantly, and when the price differences between choices are large (Monroe 1973). It has been demonstrated that a positive price-perceived quality relationship exists (Monroe and Krishnan 1985; Rao and Monroe 1989; Zeithaml 1988). Thus, price is used to infer both a product’s quality and the monetary sacrifice associated with a purchase (Dodds et al. 1991). Monroe and Krishnan (1985) proposed a price-perceived quality tradeoff model. Buyers are posited to perform a tradeoff between the benefits, or quality and the monetary sacrifice they perceived as required to acquire the product, so as to arrive at a judgment of product value. When encoded to consumers’ memory, a subjective perception of the price as high or low along a price continuum is created, and implications on both perceived product quality and perceived monetary sacrifice are derived accordingly (Monroe 1973). Zeithaml (1988) extended this model by introducing the concept of nonmonetary sacrifice. Time and effort involved in the purchase process represent sacrifices by consumers in addition to the monetary sacrifice incurred by paying the product price.
Context Effects in Pricing

Context effect is the aspect of cognitive psychology that describes the influence of environmental factors on one's perception of a stimulus. Past research in social and cognitive psychology has demonstrated that some judgments may be very sensitive to the context in which the judgment is made. In the pricing literature, there is evidence indicating that consumers’ price perceptions are influenced by contextual information, such as the size of the price claim (Berkowitz and Walton 1980), the semantic content of the price claim (Della Bitta, Monroe, and McGinnis 1981), brand name (Blair and Landon 1981), price display format (Inman, McAlister and Hoyer 1990), incidental prices (Nunes and Boatwright 2004), and store image (Berkowitz and Walton 1980). For example, researchers found that some consumers react to promotion signals without considering relative price information. Consumers are more likely to purchase a brand merely because it has a sign attached to the brand display (Blattberg, Eppen, and Lieberman 1981; Kumar and Leone 1988). Price perceptions are strongly influenced by shelf-tags even when there is no actual price reduction (Inman, McAlister and Hoyer 1990).

Adaval and Monroe (2002) found that price judgments are dependent upon the prices of other alternatives that are evaluated concurrently. Hence, a product would be judged as more expensive when it is relatively expensive than when it is relatively cheap compared with other alternatives. Additionally, Nunes and Boatwright (2004) found further evidence that incidental prices, defined as prices advertised, offered, or paid for unrelated products or goods that neither sellers nor buyers regard as relevant to the price of an item that they are engaged in selling or buying, affect consumers’ willingness to
pay. They argued that these incidental prices can serve as anchors, thus affecting willingness to pay for the product that consumers intend to buy. Generally, it has been posited that buyers use either adaptation level price or external reference price as an anchor for subsequent price judgments (Della Bitta and Monroe 1974).

**Price Context**

Generally, price context refers to any contextual price factors that were involved in a product evaluation. Price context refers to a set of contextual factors relative to how the prices of the target product and alternative products in the consideration set are presented to the consumers. Price context includes such factors as the mean prices of brands judged concurrently, the price range seen, the presentation order of a set of prices, the distribution of prices, and reference prices. In this dissertation, price context is specified to refer to the prices of alternatives that are judged concurrently.

Drawing on adaptation-level theory, consumers’ price perceptions are influenced by three classes of cues: focal, contextual, and organic. *Focal cues* are the stimuli the individual is directly responding to, such as price and other product attributes. *Contextual cues* are those background cues that form the environment within which the judgment occurs, such as amount of funds available and other offers in the purchase environment. *Organic cues* refer to the inner physiological and psychological processes affecting consumers’ behaviors. Organic cues include the amount of cognitive resources a person has available to process the information about the product, such as prior product knowledge. These price perceptions depend on a comparison between the actual price (focal cue or stimulus) and the consumers’ reference price or adaptation level. This adaptation-level price is assumed to be accessible in consumers’ memory, and to be
continually changing as new prices and other information are encountered, consciously and non-consciously. Newly encountered prices near the buyer’s present adaptation-level price tend to have little effect on this change in adaptation level and an assimilation effect is said to occur (Monroe 2003).

Biswas and Blair (1991) demonstrated that a plausible external retailer-supplied reference price might shift consumers’ adaptation-level price in the direction of the external price. Specifically, revised price estimates for a particular product will be higher (lower) when the external reference price is higher (less) than the initial price estimate. Moreover, the amount of change in the adaptation-level depends on the size of the discrepancy between external reference price and the consumers’ original adaptation level. Grewal et al. (1996) found an interaction effect among semantic cues (compare at/sale price vs. regular price/sale price) and situation (home vs. store) on perceived value of the target product. A within store comparison will result in greater perceptions of value than a between-stores comparison when consumers are in the store, whereas a between-stores comparison will be more effective than a within-store comparison when consumers are at home. Moreover, a target product’s price was judged to be less expensive in a context in which other alternatives were priced higher than the target price as compared to when the other alternatives were priced lower than the target price (Adaval and Monroe 2002). In summary, these findings provide evidence that evaluations of a specific product and its price depend on the price context within which it is judged.

Lower-end vs. Higher-end Price Context

Buyers choose from an array of alternative brands, features, and size. This array of prices confronting the buyer constitutes the price structure (Monroe, Della Bitta, and
Downey 1977). Three factors adapted from previous research would define this price structure: the adaptation-level, the highest and lowest prices, and the extreme price values. Della Bitta and Monroe (1974) investigated the existence of an adaptation-level price and consumers’ use of it as an anchor for subsequent price judgments. A given price was perceived as being more expensive by subjects exposed to lower initial prices than by subjects exposed to higher initial prices. For example, assume that an individual’s adaptation-level price for a 16GB mp3 player is $125. An article predicts that the prices for these featured mp3 player will be around $75 next year. This new price information will shift the person’s adaptation-level price for this category of mp3 players downward, perhaps to “around $80”. Previously, a 16GB mp3 player priced at $105 would likely have been judged as an average price when the adaptation-level price is $125. However, when the adaptation-level price shifts down to $80, a $105 mp3 player may be perceived as expensive.

Additional studies found that price range would affect price judgments. The range of prices presented for judgment influenced subjects’ ability to discriminate prices and the number of anchors used to judge these prices (Sherif 1963). Evidences suggest that consumers are likely to have a range of acceptable prices for a product and if “the desired product is priced within this price range, the buyers probably would be favorably disposed to complete the purchase” (Monroe 2003, p 400). If a price is outside the acceptable price range, buyers are less likely to purchase this item.

Some studies posited that consumers’ price perceptions toward a target product would be influenced by its relative position within a set of prices. In product-line pricing, the lowest and highest prices in the product line are more noticeable than those between
and hence would anchor consumers’ judgments (Petroshius and Monroe 1987). These end prices, along with the reference price would affect the price perceptions for a particular product. Specifically, the range of prices in the product line influenced consumers’ judgments of a particular model in the line. Products that are priced at the higher end of the product line were evaluated as of higher quality than products positioned at the lower end. Prices at the ends of a price range disproportionately influence consumer judgments (Monroe 2003). As price increases, *ceteris paribus*, perceived quality would increase. However, as price increases, its perceived sacrifice also increases and at some point would be greater than the perceived benefits of the positive perceived quality. Therefore, when prices of products are perceived to be different, consumers are more likely to be concerned about the monetary sacrifice required to purchase the product at a higher end of a price range. At the lower end of a price range, consumers are more likely to be concerned about the quality of the product. Hence in this situation price-quality relationship tends to be of greater concern that the price-monetary sacrifice relationship. To summarize, when buyers perceive the target product’s price is high relative to other products, then they are more concerned about the monetary sacrifice required to purchase this product; when buyers perceive the target product’s price to be relatively low, then they may become suspicious of the product’s quality.

**Prior Product Knowledge**

Previous research has shown that prior knowledge affects information processing activities. In the classical chess studies, Chase and Simon (1973) found that knowledge in memory allows an expert to chunk numerous piece positions, representing the whole board in three or four chunks positions, and also allows them to unpack each chunk into
its constituents to replace the pieces appropriately for later recall. In contrast, non-experts have to remember the board piece by piece because they lack an ability to condense multiple piece positions into one chunk, resulting in poorer recall of those chess positions than experts. These expert knowledge effects have been demonstrated for baseball (Hambrick and Engle 2002), dance steps (Allard and Starkes 1991), bridge hands (Engle and Bukstel 1978), maps (Gilhooly et al. 1988), and music (Meinz and Salthouse 1998).

Prior knowledge makes things easier to remember by reducing how much people must remember, and this happens through chunking. Prior knowledge also guides the interpretation of details. Some researchers think of prior knowledge as a set of related facts that come in a “packet.” The packet of information is called a schema, defined as a memory representation containing general information about an object or an event (Willingham 2007). Thus, a schema represents what is generally believed to be true of an object and contains bits of information that are related to each other. Schemas help individuals interpret details by facilitating easier and more efficient processing of information because people with better developed schema are able to focus on pieces of information that are relevant to the task at hand (Johnson and Russo 1984). Consequently, prior knowledge affects information processing through individuals’ encoding, storing and interpreting incoming information.

Prior Product Knowledge: The Concept and Measures

Consumers are assumed to have some amount of experience with or information about particular products and have differently developed prior product knowledge (Alba and Hutchinson 1987; Johnson and Russo 1984). Alba and Hutchinson (1987) suggest that consumer knowledge has two components: familiarity and expertise. Familiarity is
defined as the number of product-related experiences accumulated by a consumer, and expertise is the ability to perform product-related tasks successfully. Generally, product experience is a necessary but insufficient condition for consumer expertise. Prior product knowledge has been operationalized as familiarity (Park and Lessig 1981), expertise (Brucks 1985), and purchase experiences (Marks and Olson 1981; Monroe 1976) in previous research. The measures of consumer product knowledge fall into three categories. The first is objective knowledge, which is the amount of accurate information stored in long-term memory about the product class (e.g., Russo and Johnson 1980; Staelin 1978). The second measure is self-assessed knowledge or subjective knowledge, i.e., an individual’s perception of how much he/she knows (e.g., Gardner 1984; Park and Lessig 1981). The third category measures the amount of purchasing or usage experience with the product (e.g., Monroe 1976; Marks and Olson 1981).

There has been some debate over which product knowledge measure is a better predictor in evaluation or decision-making. Some researchers argue that experience-based measures of knowledge are less directly linked to behavior than the other types of knowledge measures because experience affects behavior only when experience results in differences in memory (Brucks 1985). Some researchers believe that subjective knowledge is a better predictor because what people perceive they know is likely to depend on what they actually know as well as their self-confidence in the amount and type of knowledge held in memory. Thus, measures of subjective knowledge can indicate both self-confidence levels and objective knowledge (Park and Lessig 1981).

Other research found a relatively weak relationship between subjective and objective knowledge (Radecki and Jaccard 1995). One explanation for this weak
correlation between subjective and objective knowledge is that the knowledge test did not correspond to what was in the minds of the respondent when they answered the perceived knowledge questions. Hence differences between what individuals actually know and what they believe they know occur when people do not accurately perceive how much they actually know about the product category (Radecki and Jaccard 1995). Additionally, a few studies used both subjective and objective product knowledge measures (e.g., Rao and Monroe 1988). According to Rao and Monroe (1988), prior product knowledge is defined as the amount of accurate information held in memory about product alternatives as well as self-perceptions of this product knowledge.

Although the measures of product knowledge differ in previous research, there have been consistent findings that consumers’ prior product knowledge affects their information processing in product evaluations. Knowledgeable consumers differ from less knowledgeable ones in terms of how much information they search (e.g., Bettman and Park 1980; Brucks 1985; Mandel and Johnson 2002), the type of information they select, as well as how they process such information in evaluations (e.g., Alba and Hutchinson 1987; Ofir et al. 2008; Rao and Monroe 1988).

Prior Product Knowledge and Use of Price

Consumers have differentially developed product knowledge, and thus would use different information in product evaluations (Park and Lessig 1981). Knowledgeable consumers have relatively well developed knowledge structures, which include evaluative criteria and rules for product assessment, enabling them to process intrinsic information. Indeed, any relevant stimulus may trigger associations in the knowledge structure allowing knowledgeable consumers to use intrinsic cues in product evaluation
(Hayes-Roth 1977; Marks and Olson 1981). Additionally, they are able to focus on information that is relevant to their goal (e.g., make quality evaluations) and ignore irrelevant information (Johnson and Russo 1984; Lewandowsky and Kirsner 2000). In general, knowledgeable consumers tend to use product-related intrinsic cues because they are more predictive than extrinsic cues (Darden and Schwinghammer 1985; Etgar and Malhotra 1978; Olson and Jacoby 1972; Syzybillo and Jacoby 1974; Zeithaml 1988), and also because the intrinsic cues allow them to use their knowledge to infer benefits from the stated attributes (Maheswaran and Sternthal 1990). As Alba and Hutchison (1987, p. 426) stated, a technical attribute focus is likely to be effective because knowledgeable consumers are “able to infer all of the related benefits and find technical description to be more convincing”. In contrast, consumers with low prior product knowledge are more likely to rely on extrinsic cues such as price (Rao and Monroe 1988) and brand name (Park and Lessig 1981) in product evaluations because they are less able to interpret and use intrinsic attributes of the product. Thus, as consumers become more familiar with product, they are more likely to use intrinsic cues rather than price or other external cues as indicators of product quality.

Research also suggests that consumers, who differ in their amount of prior knowledge, even if they use the same information, may reach different evaluations because they use the same information for different reasons. For example, subjects in the low familiarity condition selected extrinsic information such as brand name as the only product attribute of significance, but subjects in the high familiarity condition needed only brand information to generate a complex schema that included information about other product attributes (Park and Lessig 1981). Therefore, individuals’ prior product
knowledge would affect what cues are selected and how these cues are used to make quality judgments.

Rao and Monroe (1988) categorized consumers into three groups according to their product knowledge level: low, moderate, and high. They suggest that the trend exhibited between prior knowledge and relative attention paid to extrinsic information would be quadratic (U-shaped). Specifically, when assessing product quality, the attention accorded to extrinsic information relative to intrinsic information will first decline and then increase, as prior knowledge increases, for products in which extrinsic information is useful in assessing product quality. Moderate knowledgeable buyers have knowledge structures that allow them to rely on intrinsic product information; however, they are not as confident as experts about their product knowledge (Johnson and Russo 1984; Payne et al. 1992; Rao and Monroe 1988). In this case, they are more likely to process information systematically by examining intrinsic cues. As far as experts are concerned, their use of intrinsic cues depends on the diagnostic value of the extrinsic information. They are more likely to use price as an indicator or quality if they believe (or know) there is an actual positive price-quality relationship in the product market, because in such a situation price information would be easier to interpret than intrinsic information (Rao and Monroe 1988; Scitovszky 1944-45). Moreover, they would be more confident about their product knowledge than consumers with moderate prior knowledge. Previous research suggests that high knowledgeable consumers would use the same heuristics as novice consumers but they are more certain about the cues selected to make evaluations (Payne et al. 1992). Thus, consumers with high prior product knowledge would be less likely to process information systematically than those with
moderate knowledge. Thus, “the use of price and/or other extrinsic cues as indicators of quality depends on the relative perceived differences between different cues and on the degree to which buyers know about the product and actual price-quality relationships” (Monroe 2003, p. 161).

Therefore:

**H1:** If consumers have low prior product knowledge, then they will be more likely to use price to infer quality.

**H2:** If consumers have moderate prior product knowledge, then they will be less likely to use price to infer quality.

**H3:** If consumers have high prior product knowledge, then they will be more likely to use price to infer quality when they believe there is a positive price-quality relationship in the market.

*Context-dependent Use of Prior Knowledge*

As much as evidence exists that prior knowledge is one of the most powerful factors to predict consumers’ evaluations, other research has found that higher knowledge does not necessarily lead to better cognitive performances (Camerer and Johnson 1991). In a psychology study by Lewandowsky and Krisner (2000), experts were not always better than novices when they were asked to predict a bush fire in Australia. Some argued that differences between knowledgeable and less knowledgeable people should be stronger in situations where knowledge is important. By manipulating the purchase goal, Brucks (1985) found that consumers are more likely to use their product knowledge when they are told to purchase a product for a frequent user than for an infrequent user with fewer needs. In another study, Maheswaran and Sternthal (1990) proposed that the
absence of attribute information would prevent knowledgeable consumers from using their knowledge to evaluate a product. These findings support the idea that the use of knowledge might be context dependent.

One explanation for this phenomenon is attributed to task characteristics as well as problem context. That is, knowledgeable consumers tend to use their knowledge only when the evaluation context allows them to process attribute information (Brucks 1985; Lewandowsky and Kirsner 2000; Spence and Brucks 1997). If price is the only information available, both low and high knowledgeable consumers are likely to use price to indicate product quality. However, when the price information is presented along with other product attributes, the likelihood of using attribute information as well as price to make quality evaluations will be higher for high knowledgeable consumers than those with low product knowledge.

**Price Context and Prior Product Knowledge**

Drawing on adaptation-level theory (Helson 1964), differences in quality evaluations for the same particular product would be a result of an interaction between the contextual cues and organic cues that are present at the time of judgment. As discussed previously, low knowledgeable consumers are most likely to use price as an indicator of product quality, whereas moderate knowledgeable consumers depend the least on price and rely on their product knowledge (e.g., intrinsic cues) to infer quality. High knowledgeable buyers tend to use price when they believe (or know) there is a positive price-quality relationship in the marketplace. However, the use of product knowledge (or price) cues may also depend on the relative position of a target product’s price within a set of alternative prices (the price context) in which a target product is
evaluated. When the target product appears at the higher end within a set of prices, the context prompts a concern about monetary sacrifice. When the target product appears at the lower end within a set of prices, the context prompts a concern about the product quality.

For low knowledgeable consumers, it is proposed that higher-end prices would increase their use of price in quality evaluations. That is, prices are more likely to be used as quality indicators than as sacrifice indicators when a target product is perceived to be expensive relative to alternatives.

For moderate knowledgeable consumers, price context may not have a significant influence on their use of price or other extrinsic cues. This is because they are more likely to rely on their product knowledge (intrinsic cues) in quality evaluations.

For high knowledgeable consumers, it is proposed that lower-end prices would increase their use of product knowledge (intrinsic cues) in quality evaluations. That is, prices are more likely to be used as quality indicators than as sacrifice indicators when a target product is perceived to be expensive relative to alternatives.

To summarize, for consumers with low and high prior product knowledge, the relative position of a target product’s price would affect their quality perceptions through influencing how much weight they put on the price-quality or price-sacrifice relationship. Generally, the price-quality relationship will be weighted more (less) than the price-sacrifice relationship when the target price is at the higher-end (lower-end) within a set of prices. Price context will not significantly affect the use of price as an indicator of quality for moderate knowledgeable consumers.

Therefore:
**H4:** Low knowledgeable consumers are more likely to use price as an indicator of quality when a target product’s price is at the higher-end than at the lower-end within a set of alternative prices.

**H5:** Moderate knowledgeable consumers are less likely to use price as an indicator of quality no matter whether a target product’s price is at the higher-end or lower-end within a set of alternative prices.

**H6:** High knowledgeable consumers are more likely to use price as an indicator of quality when a target product’s price is at the higher-end than at the lower-end within a set of alternative prices.

*Attribute vs. Price Only Context*

Nelson (1970) separated products and services into three classes: search products, experience products, and credence products. *Search products* have purchase-determining attributes that buyers can readily evaluate before purchase, such as an airline’s schedule. *Experience products* have attributes that can be evaluated only after purchase and use. Buyers could have an idea of the attributes but would not know the degree to which they are satisfied with the purchase until the product has been experienced. *Credence products* have attributes that buyers cannot evaluate confidently even after one or more purchases, such as health care and legal services. Attributes of products subject to quality assessment prior to purchase are called *search attributes*. Attributes of products or services that can only be assessed after purchase and use are *experience attributes*.

Search attributes can be further classified as abstract attributes and concrete attributes. *Abstract attributes* identify core features of a product and focus on why a product might be of interest. *Concrete attributes* encompass the surface features of a
product and focus on how it operates (Hong and Sternthal 2010; Trope and Liberman 2003; Vallacher and Wegner 1987). For example, the same feature of an mp3 player might be described in terms of an abstract attribute, such as “easy menu navigation”, or a concrete attribute, such as “select a song by artist, album, song title and more with the touch of a button.” Research has demonstrated that differences in prior knowledge are likely to influence preferences for the selection of either abstract or concrete attributes to present information (Alba and Hutchinson 1987; Roehm and Sternthal 2001). Consumers with extensive prior knowledge exhibit more favorable evaluations when the product information is conveyed using abstract attributes, whereas those with limited knowledge are more persuaded when the information is presented as concrete features of the product (Roehm and Sternthal 2001).

As discussed previously, price is more likely to be used as a quality indicator primarily when the target product is perceived to be relatively expensive. Within this specific price context, a seller can manipulate the number of attributes available to consumers. For example, for a search product, in one context price is the only information available, whereas in another context, the price information is presented along with a list of attributes, abstract or concrete. Previous research demonstrated that absence of attribute information would prevent knowledgeable consumers from using their knowledge to evaluate a product (Maheswaran and Sternthal 1990). Thus, knowledgeable consumers tend to use their knowledge (intrinsic cues) only when the context allows them to process attribute information. Additionally, knowledgeable consumers differ from those with limited product knowledge in their ability to process abstract attributes. Hence when abstract attribute information is not available,
knowledgeable consumers are more likely to use price as an indicator of product quality. However, when price information is presented with concrete attributes concurrently, both knowledgeable and less knowledgeable consumers are less likely to use price to indicate product quality. It is proposed that differences in product quality evaluations between low and moderate/high knowledgeable consumers will be greater when the price information is presented along with other abstract attributes than presented alone. Moreover, these differences will decrease when price information is presented along with concrete attributes. In sum, in a low price context, differences in product quality evaluations between low and high knowledgeable consumers will be greater when the price information is presented along with other attributes than it is presented alone.

Therefore, in a low price context:

**H7: Low knowledgeable consumers are more likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information.**

**H8: Moderate knowledgeable consumers are less likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information.**

**H9: High knowledgeable consumers are less likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information.**

In sum, it is argued that the U-shaped relationship between the use of price and the level of prior product knowledge is only limited to the low price context and only when the price information is presented with other product attributes.
CHAPTER 3: METHODOLOGY AND PRE-TESTING

Overview

This chapter presents the research design and methodology for (a) presenting preliminary evidence about the hypotheses presented in chapter 2; (b) making decisions about the operational details for the main study. Using knowledge measures adapted from past research, preliminary study 1 examined the interaction effect of price context (high vs. low) and prior product knowledge on consumers’ quality evaluations. Three pretests were conducted to make decisions about the design of the main study. Pretest 1 selected the appropriate products to be used as stimuli. Pretest 2 was used to determine the price acceptability range, the high and low price context, and the appropriate attributes to be used in the main study for the two products selected from pretest 1. Finally, pretest 3 identified effective knowledge measures for the selected product to be used in the main study.

Hypotheses recap

H1: If consumers have low prior product knowledge, then they will be more likely to use price to infer quality.

H2: If consumers have moderate prior product knowledge, then they will be less likely to use price to infer quality.

H3: If consumers have high prior product knowledge, then they will be more likely to use price to infer quality when they believe there is a positive price-quality relationship in the market.
H4: Low knowledgeable consumers are more likely to use price as an indicator of quality when a target product’s price is at the higher-end than at the lower-end within a set of alternative prices.

H5: Moderate knowledgeable consumers are less likely to use price as an indicator of quality no matter whether a target product’s price is at the higher-end or lower-end within a set of alternative prices.

H6: High knowledgeable consumers are more likely to use price as an indicator of quality when a target product’s price is at the higher-end than at the lower-end within a set of alternative prices.

H7: Low knowledgeable consumers are more likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information.

H8: Moderate knowledgeable consumers are less likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information.

H9: High knowledgeable consumers are less likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information.
Preliminary Study 1

The primary objective of preliminary study is to pretest the proposed interaction effects of price context (the relative position of the target product’s price) and prior product knowledge on individuals’ quality judgments using pre-established knowledge measures. This section provides details of the experiment used to test these hypotheses. This study replicates Rao and Monroe (1988)’s experiment with an extension that the target product is evaluated in two different price contexts.

Stimuli

Previous research has used automobiles (Johnson and Russo 1984), microwave ovens (Park and Lessig 1981), and women’s blazers (Rao and Monroe 1988; Rao and Sieben 1992) in prior product knowledge research. A woman’s blazer was selected to be the tested product in this research because this product allowed for the use of students subjects to represent low through high knowledge (Rao and Monroe 1988).

An examination of prices for women’s blazers at major online retailers (e.g., Amazon and Overstock) was used to determine price range of blazers. These prices ranged from $9 to $260. Using median split, prices lower than $120 formed a low-priced context, and those higher than $120 formed a high-priced context. A $109.99 blazer was selected as a target product (Appendix A.1). A low-priced context used the target product along with three other blazers priced at $19.99, $49.99, and $79.99 while in a high-priced context, the target product accompanied blazers priced at $139.99, $179.99, $209.99. Hence each context consisted of four alternatives that formed an information booklet. The order of presentation of these blazers in each booklet was randomized. Since the focus was on price context, brand name was not mentioned in this study.
Procedure

Sixty-one undergraduate students (60% female, average age 22.1 years) participated in the study for extra credit. At the beginning of the study, participants were randomly assigned to either price contexts (low vs. high) and responded to questions on the target product. A 17-item scale ($\alpha=.70$) adapted from prior research (Rao and Monroe 1988; Rao and Sieben 1992) was used to measure participants’ prior product knowledge. This scale included questions to assess the subject’s knowledge of attributes (e.g. “Wool flannel is a woolen fabric”), attribute-performance relationships (e.g. “Hand tailoring is an indication of a better fit and construction in a blazer”), brand and store information (e.g. “Benetton sells a large variety of tailored blazers”), purchase and use experiences, and self-perceptions of familiarity. Questions were weighted on the degree of difficulty answering the questions (Rao and Monroe 1988; Rao and Sieben 1992). As it is shown in Appendix A.2, the maximum score of prior knowledge is 49.

Then participants were asked to imagine that they were planning on purchasing a blazer and were provided with descriptions of the target product and other available options. Participants were told to evaluate the target product with alternative products together and later they would be asked questions related to the target product. After reviewing the given information, participants responded to the target product’s quality, measured by items like “I believe this blazer is of good quality” (-5 = strongly disagree; 5 = strongly agree), for the target product ($109.99). Participants were allowed to go back to the stimuli descriptions when answering questions.
Results

The independent variable, prior knowledge, scored on the scale ranged from 6 to 35. Following Rao and Monroe (1988), the participants’ prior knowledge scores were arranged in ascending order (M = 22.13; SD = 6.43). As shown in table 3.1, one-third of participants, scoring the highest on this sort were classified as high knowledge participants (M = 28.38; SD = 2.71; scores of 25 - 35), while those in the bottom third were classified as having low prior knowledge (M = 14.65; SD = 4.18; scores of 6 - 20). The remaining participants were classified as having moderate prior knowledge (M = 23.05; SD = 1.50; scores of 21 - 25). There were significant differences in prior knowledge among these three groups (F (2, 58) = 108.60, p < .001).

The ANOVA showed an interaction effect of product context and prior knowledge on consumers’ perceptions of product quality (F(5, 55) = 3.72, p < .01, \( \eta^2 = .25 \)). Overall, the perceptions of quality were significantly different between the high-priced and the low-priced contexts (t(59) = 2.20, p < .05, r = .28). There was a significant main effect of the context on subjects’ quality judgments: the quality of the target product was rated higher in the low-priced context than in the high-price context (M (low price context) = 1.8 vs. M (high price context) = .74; t(59) = 2.20, p < .05).

Contrasts showed that in the low-priced context, participants with low prior knowledge had higher perceptions of quality (F(2, 27) = 11.21, p < .001) than those with moderate and high (see Table 3.1 for cell means). In the high-priced context, a reverse pattern of results was observed. Results indicated that low-priced context resulted in higher perceived quality for participants with low (M(low priced context) = 3.33 vs. M(high priced context) = .45, F(1, 18) = 11.41, p < .05) and high (M(low priced context)
= 1.80 vs. M(high priced context) = .82, F(1, 19) = 4.53, p < .10) prior knowledge, but not for those with moderate product knowledge (M(low priced context) = .55 vs. M(high priced context) = 1.00, F(1, 18) = .38, p > .10). Planned contrast also revealed that there was a significant quadratic trend between prior knowledge and the use of price (F(1, 27) = 11.21, p < .001, $\eta^2 = .45$) in quality evaluations only in the low-priced context, not in the high-priced context (F(1, 28) = .18, p > .05, $\eta^2 = .01$). This indicated that prices of alternatives in the context influenced consumers’ quality perception more in the low-priced than the high-priced context.

In sum, when assessing product quality the prices of alternatives in the two contexts had least impact on consumers with moderate prior knowledge while they had the largest impact on consumers with low prior knowledge. Furthermore, high prior knowledge consumers were affected by the two contexts to a lesser degree than those with low prior knowledge.
Pretest 1

The purpose of this pretest was to select the appropriate products that will be used in the main study. Product selection was based on consumers’ subjective prior knowledge with the product and the impact of gender differences. The target product should have a moderate average familiarity with larger variances so that consumers can be differentiated based on their product knowledge levels. Besides, there should be no significant differences between male and female subjects in terms of their self-reported familiarity so that confounding effects of gender can be ruled out in the experiment.

Procedure

Based on an informal discussion with students, ten different products were selected for further testing. Forty-one undergraduate students (51% female, average age = 20.7) from an introductory marketing class participated the survey for extra credit. The instrument developed for this pretest is shown in Appendix A.3. In the survey, the participants were presented with images of ten different products including:

1) digital cameras
2) laundry detergent
3) mp3 players
4) bedding sets
5) laptop computers
6) nutrition bars
7) video games
8) wine
9) car
10) hiking shoes

Self-reported familiarity was measured by “Regarding ‘the product’, would you consider yourself? (from 1 to 7, 1 = extremely unfamiliar, 7 = extremely familiar).” Past
purchase behavior of shopping for that product such as purchase experience and how recently did they purchase was also measured in the pretest.

Results

The scoring for items in this experiment was based on the procedure followed by Rao and Monroe (1988) and is indicated in Table 3.2. Using this scoring scheme, the total score on prior knowledge was obtained for each product (maximum score 33).

The mean and variance of the summed prior knowledge score is shown in Table 3.3. Higher cell means indicate higher prior knowledge. As shown in the table, mp3 players and laptop computers were high on prior knowledge level and also showed small variances. Hiking shoes and bedding sets were moderate on prior knowledge level with large variance.

Conclusion

An examination of gender effects for these ten products suggests that digital cameras, mp3 players, laptop computers, video games, and cars should not be pursued further since gender might be a confounding variable in the analysis. From the remaining six products, participants indicated that they were quite knowledgeable about nutrition bars but did not know much about wines. Hence, these two products were eliminated for further consideration. Additionally, laundry detergent was found high in knowledge level and also fairly low on variance, and thus should not be considered further. These eliminations left bedding sets and hiking shoes as suitable products for further consideration.
Pretest 2

After selecting the products to be used in the main study, the next step was to determine suitable prices and attributes for these selected two products, bed sets and hiking shoes.

Procedure

The instruments designed for this pretest are shown in Appendix A.4. Participants were told to evaluate the target product (bed set/ hiking shoes) in a store. In order to determine the two products’ acceptable price range, participants provided answers to questions like “At what price would you consider this bed set (hiking shoes) to be so inexpensive that you would have doubts about its quality?” “At what price would you begin to feel that this bed set (hiking shoes) to be so expensive but worth buying?”, and “At what price would you consider this bed set (hiking shoes) to be so expensive that regardless of its quality you would not find it worth buying.” Participants were also asked to indicate the price range that he/she would consider most acceptable. After that, participants were asked to rate the attributes that they considered important when making product quality evaluations. A list of attributes for bedding sets (e.g., 100% cotton, thread count, and color etc.) and hiking boots (e.g., cushioning, breathability, and waterproof etc.) were adapted from Consumer Reports. Respondents were asked to rate the importance of each attribute when they are making quality evaluations on a scale of 1 (extremely unimportant) to 7 (extremely important). Twenty-eight undergraduate students (48% female, average age = 21.2) participated in this pretest for extra credit.
Results

Overall, the lower limit of price acceptability varied from $10 to $800 for bedding sets and from $10 to $220 for hiking shoes (Table 3.4). Similarly, the upper limit of price acceptability varied from $30 to $2,500 for bedding sets and from $35 to $500 for hiking shoes (Table 3.5).

In the lower end of acceptable price range, the modal value for “minimum price to pay” was $30 and for “the price so inexpensive that would cause quality concern” was $20 (Table 3.4). The modal value was $30 for hiking shoes for these two items (Table 3.5).

In the upper end of acceptable price range, a $100 bed set may be considered “expensive but worth buying”, and a $200 bed set may be considered “expensive but not worth buying”. Similarly, the results suggested that $100 hiking shoes were “expensive but worth buying”, and $200 may be “too expensive but not worth buying”.

The modal value for the average price to pay was $90 for bedding sets and $95 for hiking shoes separately. Hence, $20 to $90 formed a low price range and $90 to $150 formed a high price range for bedding sets; $30 to $95 formed a low price range and $95 to $160 formed a high price range for hiking shoes.

An examination of attribute importance suggested that “Quilted pattern” attribute should be dropped for bedding sets due to low ratings. Attributes that were rated fairly important were: “Machine washable”, “Durable”, and “Softness”. Attributes that were moderately important in quality evaluations were: “100% cotton”, “Thread count”, and “Weight” (Table 3.6).
An examination of attribute importance suggested that “Design” and “Color” should not be pursued further for hiking shoes due to low ratings. Attributes that were significantly important were: “Cushioning”, “Supportive”, “Durable”, “Ankle support”, and “Water proof”. “EVA mid-sole” was considered moderately important (Table 3.7).

**Conclusion**

The result from pretest 2 serves as a basis for the design of the main study. It was decided that low and high price range for the two products were:

Bedding sets: $20 to $90 (low price range) and $90 to $150 (high price range)

Hiking shoes: $30 to $95 (low price range) and $95 to $160 (high price range)

The attributes that were important in quality evaluations for the two products were:

Bedding sets: “Machine washable”, “Durable”, Softness”, “100 cotton”, “Thread counts, and “Weight”

Hiking shoes: “Cushioning”, “Supportive”, “Durable”, “Ankle support”, “Water proof” and “EVA mid-sole”

Now that the attributes and price range have been identified, the next step is to create valid knowledge measures for the two selected products.
Pretest 3

The objective of this study was to create valid measures for consumers’ prior product knowledge. Prior knowledge is defined the accurate amount of information held in memory about product alternatives (objective knowledge) as well as consumers’ self perception of their product knowledge (Rao and Monroe 1988).

Procedure

Brucks (1986) suggests that a measure for prior knowledge should include eight dimensions that help in discriminating among people’s knowledge structures. Based on the taxonomy suggested by Brucks (1986) and the product specific scale used by Rao and Monroe (1988), a 21-item scale was developed to measure individuals’ objective knowledge of bedding sets; a 20-item scale was developed to measure individuals’ objective knowledge of hiking shoes (Appendix A.5). The scales were developed on the basis of input provided by experts on the two products’ quality and assessed the subjects’ knowledge of attributes, attribute-performance relationships, brand and store information.

Subjective knowledge was measured by two items: “Regarding bedding sets/hiking shoes, would you consider yourself? (1 = extremely unfamiliar; 7 = extremely familiar)” and “How knowledgeable to you feel about bed sets/hiking shoes when making decisions to purchase? (1 = not at all knowledgeable; 7 = very knowledgeable)”. Past purchase experience was also measured by ownership and purchase recency. Each objective knowledge question was assigned one point, which resulted in maximum 21 for bedding sets and 20 for hiking shoes.
Price-quality relationship was measured by one item, “the higher the price of this product, the better the quality in the market”. Thirty-six undergraduate students (49% female, average age=20.7) participated in this pretest for extra credit.

Results

The total score of objective knowledge ranged from 9 to 21 for bed sets and from 4 to 18 for hiking shoes (one point assigned for each item). Additionally, hiking shoes (M=11.67, SD=3.83) had larger variance over bed sets (M=14.89, SD=3.02) in terms of objective knowledge (Table 3.8).

The two items that measure subjective knowledge were significantly correlated (bed sets r=.792, p<.01; hiking shoes r=.942, p<.01). Hiking shoes (M=3.95, SD=1.62) had larger variance over bed sets (M=4.19, SD=1.28) in terms of subjective knowledge (Table 3.9).

Additionally, both products were perceived to have a positive price-quality relationship in the market (Table 3.10). One-Sample T-test showed that the cell means for both product are significantly larger than 4 (Bed set: t(35)=3.584, p<.01; hiking shoes: t(35)=4.419, p<.001).

The results from this pretest indicated that hiking shoes should be selected over bed sets due to larger variances in both objective and subjective knowledge.

Summary

Preliminary study 1 provided initial support for the proposed interaction effects of price context (low vs. high) and prior product knowledge. Based on the results of three pretests, hiking shoes were selected as the target product for the main study due to larger
variances in both objective and subjective knowledge. In Chapter 4, the target product was evaluated either in a low ($30 to $95) or high ($95 to $160) price context.
Table 3.1: Women’s Blazer Quality Evaluations

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Context</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low-Priced</td>
<td>3.33</td>
<td>1.23</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>High-Priced</td>
<td>.45</td>
<td>2.30</td>
<td>12</td>
</tr>
<tr>
<td>Moderate</td>
<td>Low-Priced</td>
<td>.55</td>
<td>1.44</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>High-Priced</td>
<td>1.00</td>
<td>1.87</td>
<td>7</td>
</tr>
<tr>
<td>High</td>
<td>Low-Priced</td>
<td>1.80</td>
<td>1.23</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>High-Priced</td>
<td>.82</td>
<td>2.04</td>
<td>12</td>
</tr>
</tbody>
</table>
Table 3.2: Grading Scheme for Prior Knowledge Scale

<table>
<thead>
<tr>
<th>Item</th>
<th>Points Awarded</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-reported familiarity</td>
<td>“Extremely unfamiliar”=1 “Extremely familiar”=7</td>
<td>7</td>
</tr>
<tr>
<td>Feel knowledgeable when making purchase decisions</td>
<td>“Strongly disagree”=1 “Strongly agree”=7</td>
<td>7</td>
</tr>
<tr>
<td>I know a few producers of this product</td>
<td>“Strongly disagree”=1 “Strongly agree”=7</td>
<td>7</td>
</tr>
<tr>
<td>I know the average price of this product</td>
<td>“Strongly disagree”=1 “Strongly agree”=7 “None”=0</td>
<td>7</td>
</tr>
<tr>
<td>Number of products bought before</td>
<td>“One”=1 “Two”=2 “More than three”=3</td>
<td>3</td>
</tr>
<tr>
<td>Purchase recency</td>
<td>“Never”=0 “Recent two years”=0.5 “Recent one year”=1 “Within six months”=1.5 “Within one month”=2</td>
<td>2</td>
</tr>
<tr>
<td>Total achievable points</td>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>
Table 3.3: Prior Knowledge for Different Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Mean</th>
<th>Variance</th>
<th>Gender differences</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mp3 players</td>
<td>27.57</td>
<td>22.01</td>
<td>Yes*</td>
<td>41</td>
</tr>
<tr>
<td>Laptop computers</td>
<td>26.93</td>
<td>24.69</td>
<td>Yes*</td>
<td>41</td>
</tr>
<tr>
<td>Nutrition bars</td>
<td>25.74</td>
<td>56.13</td>
<td>No</td>
<td>41</td>
</tr>
<tr>
<td>Video games</td>
<td>24.65</td>
<td>73.66</td>
<td>Yes*</td>
<td>41</td>
</tr>
<tr>
<td>Laundry detergent</td>
<td>24.15</td>
<td>24.23</td>
<td>No</td>
<td>41</td>
</tr>
<tr>
<td>Cars</td>
<td>23.13</td>
<td>26.63</td>
<td>Yes*</td>
<td>41</td>
</tr>
<tr>
<td>Digital cameras</td>
<td>23.12</td>
<td>21.97</td>
<td>Yes*</td>
<td>41</td>
</tr>
<tr>
<td>Hiking shoes</td>
<td>18.90</td>
<td>74.12</td>
<td>No</td>
<td>41</td>
</tr>
<tr>
<td>Bedding sets</td>
<td>18.18</td>
<td>60.92</td>
<td>No</td>
<td>41</td>
</tr>
<tr>
<td>Wines</td>
<td>15.44</td>
<td>52.02</td>
<td>No</td>
<td>41</td>
</tr>
</tbody>
</table>

*p< .05
### Table 3.4: Summary Statistics on Price Acceptability—Bed Sets

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>Max.</th>
<th>Min.</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum price</td>
<td>111.36</td>
<td>144.60</td>
<td>700</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>So inexpensive that it would cause quality concern</td>
<td>102.03</td>
<td>160.88</td>
<td>800</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Expensive but worth buying</td>
<td>229.14</td>
<td>344.99</td>
<td>1800</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Expensive but not worth buying</td>
<td>363.31</td>
<td>489.95</td>
<td>2500</td>
<td>30</td>
<td>200</td>
</tr>
<tr>
<td>Average price to pay</td>
<td>194.39</td>
<td>232.02</td>
<td>1000</td>
<td>27</td>
<td>90</td>
</tr>
</tbody>
</table>
Table 3.5: Summary Statistics on Price Acceptability—Hiking Shoes

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>Max.</th>
<th>Min.</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum price</td>
<td>55.11</td>
<td>37.62</td>
<td>220</td>
<td>19</td>
<td>30</td>
</tr>
<tr>
<td>So inexpensive that would cause quality concern</td>
<td>37.08</td>
<td>25.34</td>
<td>120</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Expensive but worth buying</td>
<td>89.31</td>
<td>37.67</td>
<td>200</td>
<td>35</td>
<td>110</td>
</tr>
<tr>
<td>Expensive but not worth buying</td>
<td>149.75</td>
<td>85.92</td>
<td>500</td>
<td>50</td>
<td>150</td>
</tr>
<tr>
<td>Average price to pay</td>
<td>82.89</td>
<td>33.57</td>
<td>200</td>
<td>30</td>
<td>95</td>
</tr>
</tbody>
</table>
Table 3.6: Summary Statistics for Attribute Importance---Bedding Sets

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable</td>
<td>6.56*</td>
<td>.801</td>
</tr>
<tr>
<td>Machine washable</td>
<td>6.48*</td>
<td>1.122</td>
</tr>
<tr>
<td>Softness</td>
<td>6.22*</td>
<td>1.625</td>
</tr>
<tr>
<td>Fabric</td>
<td>5.96*</td>
<td>1.531</td>
</tr>
<tr>
<td>100% cotton</td>
<td>5.41*</td>
<td>1.421</td>
</tr>
<tr>
<td>Thread count</td>
<td>5.11*</td>
<td>1.717</td>
</tr>
<tr>
<td>Weight</td>
<td>4.93*</td>
<td>1.730</td>
</tr>
<tr>
<td>Number of pieces available</td>
<td>4.70</td>
<td>1.793</td>
</tr>
<tr>
<td>Color</td>
<td>4.67</td>
<td>1.981</td>
</tr>
<tr>
<td>Quilted pattern</td>
<td>3.67</td>
<td>1.569</td>
</tr>
</tbody>
</table>

*Cell means significantly larger than 4 at .05 level
N=28
Table 3.7: Summary Statistics for Attribute Importance---Hiking Shoes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable</td>
<td>6.48*</td>
<td>.89</td>
</tr>
<tr>
<td>Supportive</td>
<td>6.19*</td>
<td>1.08</td>
</tr>
<tr>
<td>Water proof</td>
<td>6.12*</td>
<td>1.24</td>
</tr>
<tr>
<td>Ankle support</td>
<td>6.07*</td>
<td>1.11</td>
</tr>
<tr>
<td>Cushioning</td>
<td>5.85*</td>
<td>1.29</td>
</tr>
<tr>
<td>Breathability</td>
<td>5.56</td>
<td>1.48</td>
</tr>
<tr>
<td>Lightweight</td>
<td>5.30</td>
<td>1.75</td>
</tr>
<tr>
<td>EVA mid-sole</td>
<td>4.89*</td>
<td>1.34</td>
</tr>
<tr>
<td>Design</td>
<td>3.78</td>
<td>2.01</td>
</tr>
<tr>
<td>Color</td>
<td>3.67</td>
<td>1.62</td>
</tr>
</tbody>
</table>

*Cell means significantly larger than 4 at .05 level
N=28
Table 3.8: Summary Statistics for Objective knowledge

<table>
<thead>
<tr>
<th>Objective Knowledge</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>SD</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed sets</td>
<td>36</td>
<td>9.00</td>
<td>21.00</td>
<td>14.89</td>
<td>3.02</td>
<td>9.13</td>
</tr>
<tr>
<td>Hiking shoes</td>
<td>36</td>
<td>4.00</td>
<td>18.00</td>
<td>11.67</td>
<td>3.83</td>
<td>14.67</td>
</tr>
</tbody>
</table>
Table 3.9: Summary Statistics for Subjective Knowledge

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed sets</td>
<td>36</td>
<td>4.19</td>
<td>1.28</td>
<td>1.65</td>
</tr>
<tr>
<td>Hiking shoes</td>
<td>36</td>
<td>3.95</td>
<td>1.62</td>
<td>2.62</td>
</tr>
</tbody>
</table>
Table 3.10: Summary Statistics for Price-Quality relationship

<table>
<thead>
<tr>
<th>Products</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed sets</td>
<td>36</td>
<td>4.81</td>
<td>1.35</td>
<td>1.82</td>
</tr>
<tr>
<td>Hiking shoes</td>
<td>36</td>
<td>5.06</td>
<td>1.43</td>
<td>2.05</td>
</tr>
</tbody>
</table>

One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed set</td>
<td>3.584</td>
<td>35</td>
<td>.001</td>
<td>.806</td>
<td>.35</td>
<td></td>
<td>1.26</td>
</tr>
<tr>
<td>Hiking shoes</td>
<td>4.419</td>
<td>35</td>
<td>.000</td>
<td>1.056</td>
<td>.57</td>
<td></td>
<td>1.54</td>
</tr>
</tbody>
</table>
### Table 3.11: Weight of Objective Knowledge

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total achievable score** 19
Figure 3.1: Price Context and Prior Knowledge—Blazer
CHAPTER 4: RESULTS AND ANALYSIS OF THE MAIN STUDY

This chapter presents the results of the main study that tested the hypotheses presented in Chapter 3. Two main studies were conducted to examine the joint effects of price context and prior product knowledge on consumers’ product evaluations. The first study tested the proposed interaction of price context and prior knowledge by using high vs. low price contexts (lower end vs. higher end within a set of prices). The second study focused on the number of product attributes available within a low-priced context, i.e. when the target product is at the higher end within a set of alternative prices.
Study 1

The objective of this study was to test the interaction effects of high vs. low price context and prior knowledge on consumers’ product evaluations. Past studies suggested that brand name influences product quality perceptions and may interfere with price level (Miyazaki, Grewal, and Goodstein 2005; Rao and Monroe 1989). Since the primary purpose was to examine the impact of price context, brand name was not provided in this study.

Subjects and Design

One hundred and eighty-three undergraduate students (55% female; average age: 21.56; age range: 18-35) enrolled in an introductory marketing class participated in the study for extra credit. It was a 2 (price context: low vs. high) by 3 (prior knowledge: low, moderate, high) between-subjects research design.

Stimuli

In this main study, the product stimulus included price information and other features of hiking shoes. Price context was manipulated at two levels: low and high. These price information and the features of the product stimuli were pretested in Chapter 3. The stimuli for this study are shown in Appendix A.6. Specifically, participants were provided with product image, five pieces of product attribute information including price, and three alternative products. The target product ($95.99) was presented along with three alternative products in either a low-priced context ($35.99, $55.99, $75.99) or a high-priced context ($115.99, $135.99, $155.99). They were asked to indicate their perceptions of monetary sacrifice, product quality, and value judgment.
Procedure

Participants were recruited using an email announcement and the study was conducted in a behavioral lab. Upon arrival to the lab, each subject was provided with a booklet with a cover story:

Please assume that you are planning an 8 days trip to Alaska with your friend. You’ll need a sturdy pair of hiking boots to tread upon Alaska’s mountainous terrain.

After reading the cover story, subjects were told to respond to the questions as if they were in the market for hiking shoes. The booklet had four sections. In the first section, subjects responded to questions on their purchase experiences and self-perceived product knowledge of hiking shoes. After finishing all the questions in this section, subjects were presented with the descriptions of four pairs of hiking shoes that they may find at their favorite store. They were told to evaluate each option and then respond to measures of the three dependent variables and manipulation checks. In the third section, subjects were asked to answer questions on hiking shoes knowledge measures that were pretested in Chapter 3. In the fourth section, subjects were given two minutes to write down all thoughts and ideas that they experienced while doing the task. They were asked to report all thoughts no matter how simple, complex, relevant, or irrelevant they seem to
be. Following this open-ended question, demographic information such as gender and age were collected at the end of the study.

Reliability of the measures was assessed by computing Cronbach’s alpha for each construct. Table 4.1 reports the alpha values of the dependent variables used in this experiment.

**Manipulation check**

The price context was manipulated by two levels: low vs. high. Two measures, “I think the products offered in this store are expensive (1=strongly disagree; 7=strongly agree)” and “The prices of the product alternatives I have seen are high (1=strongly disagree; 7=strongly agree)”, were used to determine the effectiveness of this manipulation. Table 4.2 shows that there was a significant difference between perceptions of the two price contexts ($F(1, 181)=11.787, p<.01, \eta^2 = .061$). Subjects were also asked to perform a recognition test on the price for the target product’s price as well as the other three hiking shoes. All the subjects were able to successfully recall the price for the target product and recognize the prices for the other three hiking shoes.

**Results**

The objective prior knowledge scored on the scale ranged from 4 to 19 (maximum 19). The participants’ objective prior knowledge scores were arranged in ascending order ($M = 11.87, SD = 3.35$). As shown in table 4.3, one-third of subjects, scoring highest on this sort were classified as high knowledge consumers ($M = 15.94, SD = 1.58$, scores of 14-19), while those in the bottom third were classified as having low prior knowledge ($M = 8.32, SD = 1.62$, scores of 4-10). The remaining participants were classified as having
moderate prior knowledge (M = 11.92, SD = .90, scores of 11-13). There were significant
differences in prior knowledge among these three groups (F(2, 180) = 436.16, p<.001).

**Examination of Results from ANOVA**

Results from the analysis of variance for three dependent variables are shown in
tables 4.4, 4.5 and 4.6. It showed that the main effect due to price context was significant
for perceived sacrifice, quality perception, and perceived value. Generally, the target
product was perceived to have higher monetary sacrifice, higher quality, and higher value
when the target product was evaluated in a high priced context.

The ANOVA showed a significant interaction effect (Figure 4.1) of prior
knowledge and price context on consumers’ quality evaluations (F(2,177) = 3.702, p<.05,
$\eta^2=.241$). Planned contrast also revealed that there was a significant quadratic trend
between the use of price and prior product knowledge (t(89) = 3.494, p<.01) on quality
evaluations in the low-priced context, not in the high-priced context (t(88) = .626, p>.10).
This indicated that prices of alternatives in the context influenced consumers’ quality
perception more in the low-priced than in the high-priced context (see Table 4.7 for cell
means).

The interaction effect between price context and prior product knowledge was not
significant for both perceived sacrifice (F(2,177) = .609, p>.10) and perceived value (F(2,
177) = .224, p>.05). However, the planned contrast revealed a significant quadratic
relationship between the use of price and prior product knowledge in consumers’ value
perceptions (t(89) = 1.631, p<.05) when the target product is presented in a low price
context, not in a high price context (t(88) = -.476, p>.10).
Discussion

The results from this study provided tentative support for the hypotheses that (a) low knowledgeable consumers are more likely to use price as an indicator of quality when a target product’s price is at the higher-end than at the lower-end within a set of alternative prices; (b) moderate knowledgeable consumers are less likely to use price as an indicator of quality no matter whether a target product’s price is at the higher-end or lower-end within a set of alternative prices; (c) high knowledgeable consumers are more likely to use price as an indicator of quality when a target product’s price is at the higher-end than at the lower-end within a set of alternative prices. The results supported the proposed interaction effects of price context and prior knowledge on consumers’ quality evaluations. Generally, prior product knowledge is more likely to be used to evaluate product quality when the target product appears to be cheapest.

This study showed that consumers with low prior knowledge relied most on price information in the context to form quality judgments, while moderate level knowledge consumers seemed to process information more systematically and depend least on the contextual information. Interestingly consumers with high prior knowledge, used prices in the context to help assess a product’s quality maybe because price information was easier to interpret and process but only when there were lower prices in the context.

Although the target product was perceived to be more expensive in the low price context than it was in the high price context, prior product knowledge did not affect the perception of sacrifice in this study. Interestingly, a significant quadratic pattern between the use of price and prior product knowledge was observed for perceived value in the low price context. This pattern is similar to the quadratic pattern for perceived quality.
Perceived value is considered as a tradeoff between perceived quality and perceived monetary sacrifice. It is then indicated that the scale for perception of value in our study was mainly anchored on perception of quality.
Table 4.1: Reliability of Dependent Variables for Study 1

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Number of items</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived sacrifice</td>
<td>3</td>
<td>0.784</td>
</tr>
<tr>
<td>Perceived quality</td>
<td>3</td>
<td>0.893</td>
</tr>
<tr>
<td>Perceived value</td>
<td>3</td>
<td>0.838</td>
</tr>
</tbody>
</table>
Table 4.2: Price Context Manipulation Check

<table>
<thead>
<tr>
<th>Price context</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>4.25</td>
<td>2.23</td>
<td>92</td>
</tr>
<tr>
<td>High</td>
<td>5.46</td>
<td>1.93</td>
<td>91</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>d.f.</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>66.293</td>
<td>1</td>
<td>66.293</td>
<td>11.787</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1018.013</td>
<td>181</td>
<td>5.624</td>
<td></td>
</tr>
</tbody>
</table>

Eta Squared=0.061

Price context was determined as an average of two items (on 7 point scales).
Table 4.3: Prior Knowledge Tri-split

<table>
<thead>
<tr>
<th>Knowledge level</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>8.32</td>
<td>1.62</td>
<td>4</td>
<td>10</td>
<td>63</td>
</tr>
<tr>
<td>Moderate</td>
<td>11.92</td>
<td>.90</td>
<td>11</td>
<td>13</td>
<td>66</td>
</tr>
<tr>
<td>High</td>
<td>15.94</td>
<td>1.58</td>
<td>14</td>
<td>19</td>
<td>54</td>
</tr>
</tbody>
</table>
Table 4.4: Results of ANOVA with Perceived Sacrifice as Dependent Variable

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>67.280&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5</td>
<td>13.456</td>
<td>8.800</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>3621.261</td>
<td>1</td>
<td>3621.261</td>
<td>2368.2</td>
<td>.000</td>
</tr>
<tr>
<td>Price Context</td>
<td>63.766</td>
<td>1</td>
<td>63.766</td>
<td>41.702</td>
<td>.000</td>
</tr>
<tr>
<td>Prior Knowledge</td>
<td>3.124</td>
<td>2</td>
<td>1.562</td>
<td>1.022</td>
<td>.362</td>
</tr>
<tr>
<td>Price Context * Prior Knowledge</td>
<td>1.863</td>
<td>2</td>
<td>.932</td>
<td>.609</td>
<td>.545</td>
</tr>
<tr>
<td>Error</td>
<td>270.648</td>
<td>177</td>
<td>1.529</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4018.222</td>
<td>183</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>337.928</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> R Squared = .199 (Adjusted R Squared = .176)
Table 4.5: Results of ANOVA with Perceived Quality as Dependent Variable

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>50.327(^a)</td>
<td>5</td>
<td>10.065</td>
<td>11.248</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>5551.660</td>
<td>1</td>
<td>5551.660</td>
<td>6204.027</td>
<td>.000</td>
</tr>
<tr>
<td>Price Context</td>
<td>40.781</td>
<td>1</td>
<td>40.781</td>
<td>45.573</td>
<td>.000</td>
</tr>
<tr>
<td>Prior Knowledge</td>
<td>3.676</td>
<td>2</td>
<td>1.838</td>
<td>2.054</td>
<td>.131</td>
</tr>
<tr>
<td>Price Context * Prior Knowledge</td>
<td>6.625</td>
<td>2</td>
<td>3.312</td>
<td>3.702</td>
<td>.027</td>
</tr>
<tr>
<td>Error</td>
<td>158.388</td>
<td>177</td>
<td>.895</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5801.444</td>
<td>183</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>208.715</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .241 (Adjusted R Squared = .220)
Table 4.6: Results of ANOVA with Perceived Value as Dependent Variable

<table>
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<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>13.815(^a)</td>
<td>5</td>
<td>2.763</td>
<td>2.762</td>
<td>.020</td>
</tr>
<tr>
<td>Intercept</td>
<td>4848.555</td>
<td>1</td>
<td>4848.555</td>
<td>4847.3</td>
<td>.000</td>
</tr>
<tr>
<td>Price Context</td>
<td>11.004</td>
<td>1</td>
<td>11.004</td>
<td>11.001</td>
<td>.001</td>
</tr>
<tr>
<td>Prior Knowledge</td>
<td>2.269</td>
<td>2</td>
<td>1.134</td>
<td>1.134</td>
<td>.324</td>
</tr>
<tr>
<td>Price Context * Prior</td>
<td>.447</td>
<td>2</td>
<td>.224</td>
<td>.224</td>
<td>.800</td>
</tr>
<tr>
<td>Knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>177.046</td>
<td>177</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5077.667</td>
<td>183</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>190.861</td>
<td>182</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(a. \text{R Squared} = .072 (\text{Adjusted R Squared} = .046)\)
Table 4.7: Hiking Shoes Quality Evaluations

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Price Context</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>low</td>
<td>low</td>
<td>6.21</td>
<td>30</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>4.96</td>
<td>33</td>
<td>1.16</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.56</td>
<td>63</td>
<td>1.17</td>
</tr>
<tr>
<td>moderate</td>
<td>low</td>
<td>5.56</td>
<td>33</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>5.13</td>
<td>33</td>
<td>1.02</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.34</td>
<td>66</td>
<td>.96</td>
</tr>
<tr>
<td>high</td>
<td>low</td>
<td>6.26</td>
<td>29</td>
<td>.57</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>5.09</td>
<td>25</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.72</td>
<td>54</td>
<td>1.07</td>
</tr>
<tr>
<td>Total</td>
<td>low</td>
<td>5.99</td>
<td>92</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>5.06</td>
<td>91</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.53</td>
<td>183</td>
<td>1.07</td>
</tr>
</tbody>
</table>
Figure 4.1: Price Context and Prior Knowledge---Hiking Shoes
Study 2

In study 1, the difference of using knowledge in quality evaluations was only observed in low price context, i.e. when the target product was priced at the higher end within a set of prices and thus appeared to be most expensive. When the target product appeared to be the cheapest option, all the participants, irrespective of their knowledge, were less likely to use price as a quality indicator. The next interesting question is: within the same price context, how does the number of product attributes available affect consumers’ use of product knowledge and price in quality evaluations? The objective of study 2 was to test the interaction effects of limited vs. extensive attributes context and prior knowledge on consumers’ product evaluations. Since the primary purpose was to examine the impact of price context, brand name was not provided in this study.

Subjects and Design

One hundred and eleven undergraduate students (55% female; average age: 21.74; age range: 18-31) enrolled in an introductory marketing class participated the study for extra credit. It was a 2 (price context: limited vs. extensive) by 3 (prior knowledge: low, moderate, high) between-subjects research design. The target product ($95.99) was presented along with three alternative products ($35.99, $55.99, $75.99) in either limited (price only) or extensive (five attributes) context. The attributes of hiking shoes were selected based on the results of pretest 2.

Stimuli

In this main study, the product stimulus included price information and other features of hiking shoes. Price context was manipulated at two levels: limited and
extensive. These price information and the features of the product stimuli were pretested. (see pretest 2 in Chapter 3 for details). Specifically, participants in different conditions were provided with product image, one or five pieces of product attribute information, and three alternative products. They were asked to indicate their perceived monetary sacrifice, product quality, and value judgment.

**Procedure**

The procedure of study 2 was the same as study 1. Participants were recruited using an email announcement and the study was conducted in a behavioral lab. Upon arrival to the lab, each participant was provided with a booklet with a cover story. After reading the cover story, subjects were told to respond to the questions as if they were in the market for hiking shoes.

**Manipulation check**

The price context was manipulated by two situations: limited vs. extensive. Two measures, “I think the retailer provide enough attribute information for the products offered. (1 = strongly disagree; 7 = strongly agree)” and “There is sufficient product description provided in this advertisement (1 = strongly disagree; 7 = strongly agree)”, were used to determine the effectiveness of this manipulation. Table 4.9 shows that there was a significant difference between perceptions of the two price contexts (F(1, 109) = 5.302, p<.05, η² = .046). Subjects were also asked to perform a recognition test on the price for the target product’s price as well as the other three hiking shoes. All the subjects were able to successfully recall the price for the target product and recognize the prices for the other three hiking shoes.
Results

Reliability of the measures was assessed by computing Cronbach’s alpha for each construct. Table 4.8 reports the alpha values of the dependent variables used in this experiment.

Objective prior knowledge was scored on the scale and ranged from 4 to 17 (maximum 19). The participants’ objective prior knowledge scores were arranged in ascending order (M = 10.64, SD = 2.56). As shown in table 4.10, one-third of subjects, scoring highest on this sort were classified as high knowledge consumers (M = 13.32, SD = 1.56, scores of 12-17), while those in the bottom third were classified as having low prior knowledge (M = 7.80, SD = 1.41, scores of 3-9). The remaining participants were classified as having moderate prior knowledge (M = 10.57, SD = .50, scores of 10-11). There were significant differences in prior knowledge among these three groups (F(2,108) = 179.224, p<.001, $\eta^2 = .764$).

Examination of Results from ANOVA

Results from the analysis of variance on the interaction of price context and prior product knowledge for the three dependent variables (perceptions of monetary sacrifice, quality, and value) are shown in tables 4.11, 4.12 and 4.13. It showed that the main effect due to price context was not significant for perceived sacrifice, quality perception, and perceived value. The main effect due to prior knowledge was significant for perceived quality (F(2,105) = 7.962, p<.01).

The ANOVA showed an significant interaction effect (Figure 4.2) of prior knowledge and price context on consumers’ quality evaluations (F(2,105) = 2.790, p<.10,
Planned contrast also revealed that there was a significant quadratic trend between the use of price and prior product knowledge (t(55) = 4.498, p<.001) on quality evaluations in the low-priced context, not in the price-only context (t(50) = 1.287, p>.10). This result indicated that attributes of alternatives in the context influenced consumers’ quality perception more in the extensive-attributes context than in the limited-attributes context (see Table 4.14 for cell means).

The interaction effect between price context (limited vs. extensive attributes) and prior product knowledge was not significant for both perceived sacrifice (F(2,105) = .403, p>.10) and perceived value (F(2, 105) = .450, p>.10) in study 2.

**Discussion**

The results from this study provided support for the hypotheses that: (a) low knowledge consumers are more likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information; (b) moderate knowledgeable consumers are less likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information; (c) high knowledgeable consumers are less likely to use price as an indicator of quality when a target product is presented with extensive attributes than presented with only price information. The results supported the proposed interaction effects of price context and prior knowledge on consumers’ quality evaluations. Generally, prior product knowledge is more likely to be used to evaluate product quality when the target product is presented with more attributes.

This study showed that consumers with low prior knowledge relied more on price information in the context to form quality judgments when there were more product
attributes available, while moderate and high knowledge consumers seemed to depend more on their product knowledge when extensive product attributes were presented. This result provided further evidence that the use of product knowledge in quality evaluations might be context-dependent. The use of product knowledge might also be affected by the number of attributes presented to the consumers.

This study also observed a significant U-shaped relationship between the use of price and prior knowledge only when there were extensive attributes available in the context. These findings are consistent with previous research in that absence of attribute information would prevent knowledgeable consumers using their knowledge to evaluate a product (Maheswan and Sterntthal 1990). That is, knowledgeable consumers tend to use their knowledge only when the context allows them to process attribute information.
Table 4.8: Reliability of Dependent Variables for Study 2

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Number of items</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived sacrifice</td>
<td>3</td>
<td>0.728</td>
</tr>
<tr>
<td>Perceived quality</td>
<td>3</td>
<td>0.801</td>
</tr>
<tr>
<td>Perceived value</td>
<td>3</td>
<td>0.838</td>
</tr>
</tbody>
</table>
Table 4.9: Price Context Manipulation Check

<table>
<thead>
<tr>
<th>Price context</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited</td>
<td>2.14</td>
<td>2.57</td>
<td>53</td>
</tr>
<tr>
<td>Extensive</td>
<td>5.39</td>
<td>2.43</td>
<td>58</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>d.f.</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>7.806</td>
<td>1</td>
<td>7.806</td>
<td>5.302</td>
<td>0.023</td>
</tr>
<tr>
<td>Within Groups</td>
<td>160.465</td>
<td>109</td>
<td>1.472</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Eta Squared = 0.068

Price context was determined as an average of two items (on 7 point scales).
Table 4.10: Prior Knowledge Tri-split

<table>
<thead>
<tr>
<th>Knowledge level</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>7.80</td>
<td>1.41</td>
<td>3</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>Moderate</td>
<td>10.57</td>
<td>.50</td>
<td>10</td>
<td>11</td>
<td>38</td>
</tr>
<tr>
<td>High</td>
<td>13.32</td>
<td>1.56</td>
<td>12</td>
<td>17</td>
<td>38</td>
</tr>
</tbody>
</table>
Table 4.11: Results of ANOVA with Perceived Sacrifice as Dependent Variable

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
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<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model Intercept</td>
<td>3.521a</td>
<td>5</td>
<td>.704</td>
<td>.796</td>
<td>.555</td>
</tr>
<tr>
<td>Price Context</td>
<td>.714</td>
<td>1</td>
<td>.714</td>
<td>.808</td>
<td>.371</td>
</tr>
<tr>
<td>Prior Knowledge</td>
<td>2.128</td>
<td>2</td>
<td>1.064</td>
<td>1.203</td>
<td>.304</td>
</tr>
<tr>
<td>Price Context* Prior Knowledge</td>
<td>.713</td>
<td>2</td>
<td>.357</td>
<td>.403</td>
<td>.669</td>
</tr>
<tr>
<td>Error</td>
<td>92.854</td>
<td>105</td>
<td>.884</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2788.667</td>
<td>111</td>
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<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>96.374</td>
<td>110</td>
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</table>

a. R Squared = .037 (Adjusted R Squared = -.009)
Table 4.12: Results of ANOVA with Perceived Quality as Dependent Variable

<table>
<thead>
<tr>
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<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>15.849&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5</td>
<td>3.170</td>
<td>4.920</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>3455.115</td>
<td>1</td>
<td>3455.115</td>
<td>5363.1</td>
<td>.000</td>
</tr>
<tr>
<td>Price Context</td>
<td>1.199</td>
<td>1</td>
<td>1.199</td>
<td>1.861</td>
<td>.175</td>
</tr>
<tr>
<td>Prior Knowledge</td>
<td>10.259</td>
<td>2</td>
<td>5.129</td>
<td>7.962</td>
<td>.001</td>
</tr>
<tr>
<td>Price Context * Prior Knowledge</td>
<td>3.595</td>
<td>2</td>
<td>1.798</td>
<td>2.790</td>
<td>.066</td>
</tr>
<tr>
<td>Error</td>
<td>67.645</td>
<td>105</td>
<td>.644</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3553.971</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>83.494</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> R Squared = .190 (Adjusted R Squared = .151)
Table 4.13: Results of ANOVA with Perceived Value as Dependent Variable

<table>
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<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model Intercept</td>
<td>3.592&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5</td>
<td>.718</td>
<td>.705</td>
<td>.621</td>
</tr>
<tr>
<td>Price Context</td>
<td>2.096</td>
<td>1</td>
<td>2.096</td>
<td>2.057</td>
<td>.154</td>
</tr>
<tr>
<td>Prior Knowledge</td>
<td>.607</td>
<td>2</td>
<td>.303</td>
<td>.298</td>
<td>.743</td>
</tr>
<tr>
<td>Price Context * Prior Knowledge</td>
<td>.917</td>
<td>2</td>
<td>.458</td>
<td>.450</td>
<td>.639</td>
</tr>
<tr>
<td>Error</td>
<td>106.979</td>
<td>105</td>
<td>1.019</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2918.971</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>110.571</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> R Squared = .032 (Adjusted R Squared = -.014)
Table 4.14: Hiking Shoes Quality Evaluations

<table>
<thead>
<tr>
<th>Prior Knowledge</th>
<th>Price context</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>price only</td>
<td>5.72</td>
<td>18</td>
<td>.94</td>
</tr>
<tr>
<td></td>
<td>price with attributes</td>
<td>6.02</td>
<td>17</td>
<td>.61</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.87</td>
<td>35</td>
<td>.80</td>
</tr>
<tr>
<td>2</td>
<td>price only</td>
<td>5.31</td>
<td>16</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>price with attributes</td>
<td>5.05</td>
<td>22</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.16</td>
<td>38</td>
<td>.75</td>
</tr>
<tr>
<td>3</td>
<td>price only</td>
<td>5.47</td>
<td>19</td>
<td>1.04</td>
</tr>
<tr>
<td></td>
<td>price with attributes</td>
<td>6.07</td>
<td>19</td>
<td>.62</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.77</td>
<td>38</td>
<td>.89</td>
</tr>
<tr>
<td>Total</td>
<td>price only</td>
<td>5.51</td>
<td>53</td>
<td>.92</td>
</tr>
<tr>
<td></td>
<td>price with attributes</td>
<td>5.66</td>
<td>58</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.59</td>
<td>11</td>
<td>.87</td>
</tr>
</tbody>
</table>
Figure 4.2: Price Context 2 and Prior Knowledge—Hiking Shoes
CHAPTER 5: DISCUSSION AND CONCLUSIONS

General Discussion

Two studies provide evidence that price context and prior product knowledge will interact with each other to affect consumers’ product evaluations. The use of product knowledge depends on the price context in which the target product was evaluated. The major findings can be summarized as follows:

The use of price in quality evaluations depends on consumers’ prior product knowledge. However, the use of product knowledge may also be context driven and depend on the price context.

Consumers with low prior knowledge relied most on price information in the context to form quality judgments, while moderate level knowledge consumers seemed to process information more systematically and depend least on the contextual information. Interestingly, consumers with high prior knowledge, used prices in the context to help assess a product’s quality maybe because price information was easier to interpret and process but only when there were lower prices in the context.

These findings were consistent with past research (Rao and Monroe 1988; Rao and Sieben 1992) in that the relationship exhibited between prior knowledge and relative attention paid to extrinsic information is U-shaped. However, the interaction effects of evaluation context and prior knowledge observed in this study further reveals that the quadratic trends between prior knowledge and use of extrinsic information were limited only to the low-priced context. This result indicates that the activation of knowledge structures is context driven. Past research has suggested that context would impact consumers’ memory of previous evaluations (Carlston 1980; Kardes 1986). This research
contributes to this literature stream by showing that the use of price cues to infer quality, was influenced by not only prior knowledge but also the relative prices in the context. Consumers tend to use price cues in quality evaluations only when the context suggests a positive price-quality relationship. This was probably because prices at the ends of price range disproportionately influence consumers’ judgments about a product (Monroe 2003) and consumers are more likely to be concerned about the quality of the products at the lower end of price range. At the higher end of the price range consumers are more concerned about the monetary sacrifice required to purchase the product (Monroe 2003) and hence price was less likely to be used to infer product quality in a high priced context.

Additionally, consumers with low prior knowledge relied more on price information in the context to form quality judgments when there were more product attributes available, while moderate and high level knowledge consumers seemed to depend more on their product knowledge when extensive product attributes were presented. This result provided further evidence that the use of product knowledge in quality evaluations might be context-dependent.

Objective vs. Subjective Product Knowledge

One major difference between this dissertation and Rao and Monroe (1988) is that although both subjective and objective product knowledge was measured, only objective knowledge was used to differentiate consumers in this dissertation. The reason is that for the product that is used in the main study, hiking shoes, no significant correlation between subjective and objective knowledge was observed. Hence it is not appropriate just to combine subjective and objective knowledge together as Rao and Monroe (1988) did in their study. There has been some debate over which product knowledge measure is
a better predictor in evaluation. Park and Lessig (1981) argue that measures of subjective knowledge can indicate both self-confidence levels and objective knowledge. However, others found a relatively weak relationship between subjective and objective knowledge (Radecki and Jaccard 1995). This dissertation provides further support to the later argument that the knowledge test did not correspond to what was in the minds of the respondent when they answered the perceived knowledge questions. Hence differences between what individuals actually know and what they believe they know occur when people do not accurately perceive how much they actually know about the product category.

**Contributions**

This dissertation contributes to the prior knowledge literature by demonstrating that the use of product knowledge might be context driven. It also contributes to the pricing literature in further understanding how consumers form quality and value evaluations. Past research indicated that there is a U-shaped relationship between the use of price and the level of prior product knowledge. This research further demonstrates that this quadratic relationship is only limited to a low price context. Additionally, when the retailers limit the number of product attribute available, consumers are more likely to rely on the cues that are present (price in this case).

Managerially, consumers may use their product knowledge differently. Retailers can effectively signal their product quality through price by arranging the order/availability of their product alternatives.
Limitations

The major limitation of this dissertation is that prior product knowledge was measured, not manipulated. Thus, potential confounding factors such as motivation and level of involvement cannot be ruled out in the experimental results.

Another limitation is that the knowledge measure used in the two main studies was mainly objective measures. As it is mentioned earlier in Chapter 4, a non-significant correlation between subjective knowledge and objective knowledge was observed. However, what buyers believe they know about the product category should depend on what they actually know. Future research should explore the relationship between subjective and objective knowledge and thus help to create more reliable knowledge measures.

Future Research

It has been argued that differences in quality evaluations for the same product would be a result of an interaction between price context and prior product knowledge. Future research should continue to explore the underlying mechanism of why this interaction happens. When evaluating a product in a price context, consumers are dealing with additional information than when evaluating a product and its price outside such a context. For example, people keep in mind some of the product features they have observed while comparing different products when deciding whether to purchase the target product. At the same time, they also think about what they know about the target product to facilitate their evaluation and decision-making. In other words, consumers store the information that they have seen in the price context in their short-term memory,
retrieve prior knowledge from long-term memory, and integrate the information to make evaluations or decisions.

Suppose consumers are browsing through a number of options that are present to make product evaluations. They have to have some sort of memory of the product options while they are evaluating them. How do people remember what it is they are to concentrate on? The concept of working memory may help to answer this question.

Working memory is the subsystem of the brain that temporarily stores and manipulates information (Baddeley 1992; 2001). It reflects the ability to activate information stored in long-term memory and maintain that activation when performing some cognitive tasks (Cantor and Engle 1993). Working memory capacity has been shown to impact the utilization of prior knowledge in psychology studies (Hambrick and Engle 2002). Although working memory capacity has been used as a personal trait in cognitive psychology, the influences of this construct has not been investigated in the context of product quality evaluations. How working memory capacity affects the use of product knowledge or price needs to be further explored in future research relative to how consumers make product evaluations.

Working memory is the term that cognitive psychologists use to describe the ability to simultaneously maintain and process goal-relevant information. The working memory concept reflects fundamentally a form of memory, but it is more than memory, for it is memory at work, in the service of complex cognition (Conway et al. 2007). Working memory has been found to play an important role in a number of complex cognitive capabilities including language learning (Baddeley, Gathercole, and Papagno 1998), comprehension (Daneman and Merikle 1996), reasoning (Kyllonen and Christal 1990)
and cognitive control (Miyake et al. 2001).

Baddeley and Hitch (1974) suggest that working memory is a flexible and limited-resource system with storage and processing capabilities that are traded off as needed. In this system, small memory loads are handled alone by a peripheral phonemic buffer, leaving central processing unaffected, whereas larger loads require additional resources of a central executive. Most of the research on working memory adopts the idea that working memory is a multi-component system, or that it represents a multiplicity of mental and neurological processes, including interactive mechanisms of information storage and cognitive control (Conway et al. 2007).

Some research indicates that working memory reflects a cognitive resource that can be used to activate information stored in long-term memory and to maintain that activation during performance of some task (Cantor and Engle 1993; Just and Carpenter 1992). As discussed previously, exposure to a product context might lead to the activation of prior product knowledge. Thus, evaluating a target product in a context requires that consumers combine information processing and storage simultaneously, i.e. consumers need to process the information of the alternatives in the context while they also retrieve relevant knowledge from memory at the same time. For example, if a consumer is evaluating only one product at one time, he will have less difficulty remembering the features of the product. However, when the number of products increases such that it exceeds the capacity of his working memory, he may find it quite difficult to remember the features of all the products. Since working memory has been shown to be necessary for the retrieval of “older materials” as well for the performance of many other cognitive tasks, one may argue that working memory capacity plays a role in
individuals’ use of their prior knowledge in quality evaluation tasks.

Both prior knowledge and working memory capacity are viewed as powerful determinants of cognitive performances. Prior knowledge is regarded as a modifiable “software” aspect of the cognitive system (Glaser and Chi 1988), whereas working memory capacity is one of the “hardware” aspects of the cognitive system (Hambrick and Engle 2002). Past research on the joint effects of prior knowledge and working memory capacity on cognitive performances such as text comprehension and memory is inconclusive. Britton et al. (1998) found a strong direct effect of prior domain knowledge on text comprehension, whereas the direct effect of working memory capacity was not significant. Haenggi and Perfetti (1992, 1994) found significant effects of both domain knowledge and working memory capacity on accuracy in answering questions about an expository text. However, they did not evaluate the interaction between prior knowledge and working memory capacity.

Ackerman and Kyllonen (1991) argued that there is a relationship between knowledge and working memory capacity such that having specific knowledge can replace having to exercise working memory. That is, high levels of prior knowledge can compensate for low levels of working memory capacity. Prior knowledge reduces, and may even eliminate, the effect of working memory capacity on cognitive performance.

Some other research indicated that although prior knowledge facilitates cognitive performance, working memory capacity contributes to performance differences even at high levels of knowledge (Hunt 1978; Posner and Mcleod 1982). Others have insisted a “rich get richer” hypothesis by suggesting that a high level of working memory capacity enhances the facilitative effect of prior knowledge on cognitive performance. That is,
people with high levels of working memory capacity should benefit from prior knowledge to a greater extent than people with lower levels of working memory capacity. For example, Hambrick and Engle (2002) found a significant interaction effect between domain knowledge and working memory capacity in text memory on baseball. Specifically, participants high in working memory capacity derived a greater benefit from baseball knowledge than participants low in working memory capacity.

It is further suggested that the use of price may not only depend on one’s product knowledge, but also depend on the amount of information presented (Karders et al. 2004). In current research, the target product is presented with five attributes. It might be interesting to investigate the impact of the amount of information on the use of price and product knowledge in product evaluations.
References


Appendices
Appendix A.1

Preliminary Study Stimuli
Price: $ 109.99

Descriptions:

• 100% cotton, lining: 100% polyester
• Notched collar & lapel, 2 button-front
• Long-sleeved, 3 button cuffs
• 2 front flap pockets, piped detailing
• Length: 21"
• Fall marks the return of refined dressing, so we've added iconic touches to this wear-to-work favorite such as crisp pinstripes, bias framing around the collar, princess seams and a curved hem for more of a tailored, feminine look. Crafted in crisp cotton twill. Finished with grosgrain accents and piped detailing.
Appendix A.2
Blazer Prior Knowledge Measure
<table>
<thead>
<tr>
<th>Items</th>
<th>Appropriate answer</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hopsacking is a fabric with a twill weave</td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>I would expect to spend about $150 for a medium-priced woman's blazer</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>Wool flannel is a woolen fabric</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Fitting will influence the durability of a blazer</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>A wool gabardine fabric will become shiny with wear and time</td>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td>Overall construction is better in higher-priced blazers</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>Hand tailoring is an indication of a better fit and construction in a blazer</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Buttons sewn on with a shank or stem provide more durability in heavier fabric</td>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td>A major difference between blazers from the low and high price ranges is in the fabric</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>Benetton sells a large variety of tailored blazers</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Generally, cashmere fibers are less expensive than Shetland wool before they are made into a fabric</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Anne Klein II blazers are generally priced at about $150</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>I evaluate the pitch of a sleeve before purchasing a blazer</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>I would compare many blazers before I bought one</td>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td>I own a woman's blazer</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>I have bought a woman's blazer (if not for myself, for a friend)</td>
<td>Yes</td>
<td>3</td>
</tr>
</tbody>
</table>
| Regarding women's blazers, would you consider yourself              | 1= extremely unfamiliar 7= extremely familiar
Appendix A.3

Pretest 1-Product Selection
Welcome to this short survey.

You will be presented with a list of products and will be asked questions regarding your own shopping experience.

There is no right or wrong answer and we only seek for your truthful responses.
Regarding digital cameras, would you consider yourself___?

- Extremely Unfamiliar
- Extremely Familiar

How knowledgeable do you feel about digital cameras when making decisions to purchase?

- Not At All Knowledgeable
- Very Knowledgeable

I know a few of the producers of this product.

- Strongly Disagree
- Strongly Agree

I know the average price of this product.

- Strongly Disagree
- Strongly Agree

How many digital cameras have you bought before?

1) None
2) One
3) Two
4) More than three

How recently did you purchase a digital camera?

1) Never
2) Recent two years
3) Recent one year
4) Within six months
5) Within one month
Regarding laundry detergent, would you consider yourself ___?

Extremely Unfamiliar 1 2 3 4 5 6 7 Extremely Familiar

How knowledgeable do you feel about laundry detergent when making decisions to purchase?

Not At All Knowledgeable 1 2 3 4 5 6 7 Very Knowledgeable

I know a few of the producers of this product.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I know the average price of this product.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

How many laundry detergent have you bought before?

1) None
2) One
3) Two
4) More than three

How recently did you purchase laundry detergent?

1) Never
2) Recent two years
3) Recent one year
4) Within six months
5) Within one month
Regarding mp3 players, would you consider yourself___?

Extremely Unfamiliar 1 2 3 4 5 6 7 Extremely Familiar

How knowledgeable do you feel about mp3 players when making decisions to purchase?

Not At All Knowledgeable 1 2 3 4 5 6 7 Very Knowledgeable

I know a few of the producers of this product.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I know the average price of this product.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

How many mp3 players have you bought before?

1) None
2) One
3) Two
4) More than three

How recently did you purchase an mp3 player?

1) Never
2) Recent two years
3) Recent one year
4) Within six months
5) Within one month
Regarding bedding sets, would you consider yourself ____?

Extremely Unfamiliar 1 2 3 4 5 6 7 Extremely Familiar

How knowledgeable do you feel about bedding sets when making decisions to purchase?

Not At All Knowledgeable 1 2 3 4 5 6 7 Very Knowledgeable

I know a few of the producers of this product.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I know the average price of this product.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

How many bedding sets have you bought before?

1) None
2) One
3) Two
4) More than three

How recently did you purchase bedding sets?

1) Never
2) Recent two years
3) Recent one year
4) Within six months
5) Within one month
Regarding laptop computers, would you consider yourself ___?

<table>
<thead>
<tr>
<th>Extremely Unfamiliar</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Familiar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How knowledgeable do you feel about laptop computers when making decisions to purchase?  
Not At All Knowledgeable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very Knowledgeable

I know a few of the producers of this product.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I know the average price of this product.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How many laptop computers have you bought before?

1) None  
2) One  
3) Two  
4) More than three

How recently did you purchase a laptop computer?

1) Never  
2) Recent two years  
3) Recent one year  
4) Within six months  
5) Within one month
Regarding nutrition bars, would you consider yourself___?

<table>
<thead>
<tr>
<th>Extremely Unfamiliar</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Extremely Familiar</th>
</tr>
</thead>
</table>

How knowledgeable do you feel about nutrition bars when making decisions to purchase?

<table>
<thead>
<tr>
<th>Not At All Knowledgeable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Very Knowledgeable</th>
</tr>
</thead>
</table>

I know a few of the producers of this product.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

I know the average price of this product.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

How many nutrition bars have you bought before?

1) None
2) One
3) Two
4) More than three

How recently did you purchase nutrition bars?

1) Never
2) Recent two years
3) Recent one year
4) Within six months
5) Within one month
Regarding video games, would you consider yourself___?

| Extremely Unfamiliar | 1 2 3 4 5 6 7 | Extremely Familiar |

How knowledgeable do you feel about video games when making decisions to purchase?

| Not At All Knowledgeable | 1 2 3 4 5 6 7 | Very Knowledgeable |

I know a few of the producers of this product.

| Strongly Disagree | 1 2 3 4 5 6 7 | Strongly Agree |

I know the average price of this product.

| Strongly Disagree | 1 2 3 4 5 6 7 | Strongly Agree |

How many video games have you bought before?

1) None
2) One
3) Two
4) More than three

How recently did you purchase video games?

1) Never
2) Recent two years
3) Recent one year
4) Within six months
5) Within one month
Regarding wines, would you consider yourself___?

Extremely Unfamiliar 1 2 3 4 5 6 7 Extremely Familiar

How knowledgeable do you feel about wines when making decisions to purchase?

Not At All Knowledgeable 1 2 3 4 5 6 7 Very Knowledgeable

I know a few of the producers of this product.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I know the average price of this product.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

How many bottles of wine have you bought before?

1) None  
2) One  
3) Two  
4) More than three

How recently did you purchase a bottle of wine?

1) Never  
2) Recent two years  
3) Recent one year  
4) Within six months  
5) Within one month
Regarding cars, would you consider yourself___?

<table>
<thead>
<tr>
<th>Extremely Familiar</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Unfamiliar</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

How knowledgeable do you feel about cars when making decisions to purchase?

<table>
<thead>
<tr>
<th>Very Knowledgeable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not At All Knowledgeable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

I know a few of the producers of this product.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

I know the average price of this product.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

How many cars have you bought before?

1) None
2) One
3) Two
4) More than three

How recently did you purchase a car?

1) Never
2) Recent two years
3) Recent one year
4) Within six months
5) Within one month
Regarding hiking shoes, would you consider yourself ___?

<table>
<thead>
<tr>
<th>Extremely Unfamiliar</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Extremely Familiar</th>
</tr>
</thead>
</table>

How knowledgeable do you feel about hiking shoes when making decisions to purchase?

<table>
<thead>
<tr>
<th>Not At All Knowledgeable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Very Knowledgeable</th>
</tr>
</thead>
</table>

I know a few of the producers of this product.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

I know the average price of this product.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

How many pairs of hiking shoes have you bought before?

1) None
2) One
3) Two
4) More than three

How recently did you purchase a pair of hiking shoes?

1) Never
2) Recent two years
3) Recent one year
4) Within six months
5) Within one month
Appendix A.4

Pretest 2-Price and Attribute Selection
Thank you for your participation in this study.

Assume you are visiting your favorite store to purchase bedding set. Below is an example of a bed set that you might be interested.

![Bedding Set](image)

7 Pieces Black, Brown, and White Suede Patchwork Comforter Size 90"x92" Bedding Set

**Product Features**

- 7 pc Bedding Ensembles. (Comforter, 2 Shams, 2 Cushion, 1 Neck roll, and Bed Skirt)
- 1 Comforter: 90" x 92". 1 Bed Skirt 60" x 80" x 15" drop
- 2 Cushion (18" x 18"). 1 Neck roll (8" x 18"). 2 shams 20" x 26" + 3".
- Fabric Content: 100% Polyester. Thread count: 250
- Care Instruction: Machine wash gentle cycle with cold water. (Sun dry or low tumble dry)

Questions:

1. At what price would you consider this bed set to be so inexpensive that you would have doubts about its quality? __________

2. At what price would you begin to feel that this bed set was expensive but worth buying? ______

3. At what price would you consider this bed set to be so expensive that regardless of its quality you would not find it worth buying? ______

4. What is a price range that you would consider most acceptable to pay for this bed set? ______

5. What is the price that you expect to pay for this bed set? ______

6. What is the minimum price that you expect to pay for a bed set? ______
Given below is a set of attributes/features of bedding sets. In each case, indicate how important the attribute is when you are making quality evaluations (1=extremely unimportant; 7=extremely important).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Importance</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% cotton</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>300 thread count</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>Quilted pattern</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>Machine washable</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>Durable</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>Color</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>Weight</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>Fabric</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>Softness</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
<tr>
<td>Number of pieces available</td>
<td>Extremely unimportant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely important</td>
</tr>
</tbody>
</table>
Assume you are visiting your favorite store to purchase bedding set. Below is an example of a bed set that you might be interested.

![Altitude IV Hiking Boots](image)

**Product Features**

- Waterproof upper
- Soft, padded collar
- Rust-proof brass hardware
- Comfort Tec removable sock liner
- Lightweight, injection-molded EVA midsole

**Questions:**

1. At what price would you consider this pair of hiking boots to be so inexpensive that you would have doubts about its quality? _______

2. At what price would you begin to feel that this hiking boots was expensive but worth buying? ____

3. At what price would you consider this pair of hiking boots to be so expensive that regardless of its quality you would not find it worth buying? ______

4. What is a price range that you would consider most acceptable to pay for this hiking boots? ___

5. What is the price that you expect to pay for this pair of hiking boots? _____

6. What is the minimum price that you expect to pay for a pair of hiking boots? ______
Given below is a set of attributes/features of hiking boots. In each case, indicate how important the attribute is when you are making quality evaluations (1= extremely unimportant; 7=extremely important).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Importance</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</tr>
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<tr>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>2</td>
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<td>6</td>
<td>7</td>
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</tr>
<tr>
<td>Supportive</td>
<td>Extremely unimportant</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely</td>
</tr>
<tr>
<td>Breathability</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely</td>
</tr>
<tr>
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<td>Extremely unimportant</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely</td>
</tr>
<tr>
<td>EVA mid-sole</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely</td>
</tr>
<tr>
<td>Ankle support</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
<td>7</td>
<td>Extremely</td>
</tr>
<tr>
<td>Design</td>
<td>Extremely unimportant</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<td>7</td>
<td>Extremely</td>
</tr>
<tr>
<td>Color</td>
<td>Extremely unimportant</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Extremely</td>
</tr>
</tbody>
</table>
Appendix A.5

Pretest 3-Prior knowledge measures
The following questions refer to your shopping behavior and opinions about bed sets. Please respond to each question carefully. There is no right or wrong answer to the questions.

1. Regarding bed sets, would you consider yourself___? (1=extremely unfamiliar; 7=extremely familiar)
   
   1          2         3         4         5        6         7

2. How knowledgeable do you feel about bed sets when making decisions to purchase? (1=not at all knowledgeable; 7= very knowledgeable)

   1          2         3         4         5        6         7

3. I know the average price of bed sets. (1= strongly disagree; 7=strongly agree)

   1          2         3         4         5       6         7

4. The higher you pay for a bed set, the better the quality of materials that you get. (1=strongly disagree; 7=strongly agree)

   1          2         3         4         5        6         7

5. How many bed sets you have purchased in the past 5 years?

   0,     1,    2,     3,     4,     5,      6,     more than 6

6. How recently did you purchase a bed set?

   a. Never
   b. More than 3 years ago
   c. Recent  2 years
   d. Recent  1 year
   e. Recent  3 months

Now some additional questions about bed sets. Please circle the appropriate response.

7. A _____ is two pieces of fabric stitched along all four sides that contain either synthetic or natural filling.

   a. Comforter
   b. Coverlet
   c. Bed skirt

8. A _____ is comprised of a flat piece of fabric with a panel or ruffle on three sides. It is also known as a “bed ruffle” or a “dust ruffle.”

   a. Duvet
   b. Bed skirt
   c. Coverlet
9. A _____ is a layer of cotton or polyester filling placed between two pieces of fabric. It is often lighter in weight than a comforter.
   a. Duvet
   b. Bed skirt
   c. Quilt

10. Please match the following pillows.
    Boudoir pillow (also known as a breakfast pillow) ____
    Bolster pillow (also known as a neckroll pillow) ____
    Body pillow ____

   a.  
   b.  
   c.  
11. Which of the following materials has a longer staple than most other varieties of cotton and can be spun into a finer texture thread and woven into a softer, more lustrous fabric.
   a. Egyptian cotton
   b. Chenille
   c. Damask

12. Which of the following materials is a woven cotton fabric made on a jacquard loom that has an alternating satin and matte texture?
   a. Egyptian cotton
   b. Chenille
   c. Damask

13. Which of the following is a cotton yarn or fabric that has pile protruding around it?
   a. Egyptian cotton
   b. Chenille
   c. Damask

14. Most manufacturers will place cleaning codes on fabrics. Please match the washing codes:
    WS: ____ ;  W: ____ ;  S: ____ ;  X: ____
    a. This fabric may be cleaned with water-based cleaning agents and foams, as well as with mild, water-free dry cleaning solvents.
    b. Use only mild, water-free dry cleaning solvents.
    c. Do not use foam or liquid agents on this fabric. Vacuum or brush lightly to remove soil.
    d. Use water-based cleaning agents or foams only.

15. Bed sets made with Cotton / Polyester Blend are more expensive than 100% cotton products. (True/False)

16. The difference between shams and pillow cases is that pillow cases are purely decorative. (True/False)

17. Most cotton products are machine washable and can be placed in the dryer at a low setting to prevent shrinkage. (True/False)

18. Polyester is a very durable material that is safe to line dry. (True/False)

19. Nylon products should be washed in hot water. (True/False)

20. Satin made of silk and nylon should be shielded from the sun, so if you have a bright sunny room, go for acetate or polyester satin. (True/False)
21. It's best to just dry-clean satin bedspreads and satin comforters. (True/ False)

22. High thread count (e.g. 600 thread count) results in smoother and softer fabrics than low thread count does (e.g. 250 thread count) (True/ False)
The following questions refer to your shopping behavior and opinions about hiking boots. Please respond to each question carefully. There is no right or wrong answer to the questions.

1. Regarding hiking boots, would you consider yourself___? (1=extremely unfamiliar; 7=extremely familiar)
   
   1  2  3  4  5  6  7

2. How knowledgeable do you feel about hiking boots when making decisions to purchase? (1=not at all knowledgeable; 7=very knowledgeable)

   1  2  3  4  5  6  7

3. I know the average price of hiking boots. (1=strongly disagree; 7=strongly agree)

   1  2  3  4  5  6  7

4. The higher you pay for hiking boots, the better the quality of materials that you get. (1=strongly disagree; 7=strongly agree)

   1  2  3  4  5  6  7

5. How many pairs of hiking boots have you purchased in the past 5 years?

   0, 1, 2, 3, 4, 5, 6, more than 6

6. How recently did you purchase hiking boots?
   a. Never
   b. More than 3 years ago
   c. Recent 2 years
   d. Recent 1 year
   e. Recent 3 months

Now some additional questions about hiking boots. Please circle the appropriate response.

7. Which type of hiking boots is designed for hiking over rougher ground while wearing a moderately heavy backpack?

   a. lightweight hiking boots
   b. backpacking/middle weight hiking boots
   c. mountaineering boots

8. Hiking boots made from which of the following materials are breathable and lightweight?

   a. Nylon, mesh and split-grain leather
   b. Full-grain leather
9. Hiking boots made from which of the following materials resist water well and are durable and supportive?

a. Nylon, mesh and split-grain leather boots
b. Full-grain leather

10. Which of the following are barriers built into hiking boots to prevent moisture from passing from the outside materials through to your feet?

a. waterproof linings
b. waterproof leather
c. waterproof construction

11. The midsole of a boot, located just below the shank, helps to absorb shock and provide stability and comfort. It can be made from a variety of materials. Please match the features for each material.

Compression-molded EVA midsoles _____
TPR midsoles ____
Injection-molded EVA midsoles____
PU midsoles ____

a. made of expanded Ethyl Vinyl Acetate (a foam material) and make for a lightweight boot
b. made from melted pellets of EVA. They offer a more uniform density from heel to toe than compression-molded EVA midsoles
c. Polyurethane midsoles offer cushioning, shock absorption, flexibility and added durability
d. Thermoplastic Rubber (a combination of petroleum-based chemicals) midsoles offer lightweight durability and flexibility

12. Which of the following features is tough rubber bumpers on the edges of the boots designed to protect your feet and increase the life of the boots by reinforcing high-wear areas?

a. Rands
b. Tongue gussets
c. Cambreller lining

13. Which of the following features can link the tongue to the upper of the boot or shoe to prevent the entry of trail debris and water?

a. Rands
b. Tongue gussets
c. Cambreller lining

14. Which of the following features can provide ankle support and comfort, and also help keep dirt from getting into your boot?

a. Thickly padded collars
b. Tongue gussets

c. Rands

15. Which of the following features will wick sweat away from your feet?

a. Rands
b. Tongue gussets
c. Cambreller lining

16. European made hiking boots often run slightly wider than hiking boots made in the US. (True/False)

17. Low-slung light boots that leave ankles exposed can contribute to rolled ankles and other unpleasant injuries. (True/False)

18. Vibram soles can help keep you more sure-footed. (True/False)

19. Hiking boots made from split-grain leather are more expensive than ones made from full-grain leather. (True/False)

20. Generally, the more seams hiking boots have, the higher the risk for leaks and tears. (True/False)

21. Nylon and mesh uppers can be washed with mild soap and warm water. (True/False)

22. If your boots get soaked, stuff them loosely with newspaper or paper towels and leave them to dry in a naturally warm place. (True/False)

23. Dry leather cracks and wears much slower than supple, moisturized leather. (True/False)
Appendix A.6

Main Study 1
Low Price Context

Brand 1
$35.99
Suede and Nylon material
Rubber midsole
Speed lacing system
Weight: 2 pounds

Brand 2
$55.99
Leather and mesh material
Rubber midsole
Traditional lacing system
Weight: 2 pounds

Brand 3
$75.99
Leather and mesh material
Modeled EVA midsole
Traditional Lacing System
Weight: 2 pounds

Brand 4
$95.99
Waterproof Dura Leather material
Compression molded EVA midsole
Speed Lacing System
Weight: 2 pounds
High Price Context

**Questions will be asked about this brand!**

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<thead>
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<th>Features</th>
<th>Weight: 2 pounds</th>
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<td>$95.99</td>
<td>Waterproof Dura Leather material</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Compression molded EVA midsole</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Speed lacing system</td>
<td></td>
</tr>
<tr>
<td><strong>Brand 2</strong></td>
<td>$115.99</td>
<td>Leather, fabric and synthetic material</td>
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<td></td>
<td></td>
<td>Dual-density EVA midsole</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Traditional lacing system</td>
<td></td>
</tr>
<tr>
<td><strong>Brand 3</strong></td>
<td>$135.99</td>
<td>Full-Grain Leather material</td>
<td></td>
</tr>
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<td></td>
<td>Dual-density EVA midsole</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Speed Lacing System</td>
<td></td>
</tr>
<tr>
<td><strong>Brand 4</strong></td>
<td>$155.99</td>
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<td></td>
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Vita

EDUCATION

Ph.D., Marketing, 2011, Drexel University, Philadelphia
M.S., International Marketing, 2006, Beijing Institute of Technology, Beijing
B.S., Economics, 2004, Beijing Institute of Technology, Beijing

RESEARCH INTERESTS

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Consumer memory
Social media marketing

MANUSCRIPTS UNDER REVIEW

“The Effects of Math Anxiety on Price Perceptions,” Under 2nd review at Journal of Academy of Marketing Science (with Rajneesh Suri, Kent B. Monroe, and Jane Zhen Cai)

SELECTED CONFERENCE PROCEEDINGS AND PRESENTATIONS


AWARDS AND HONORS

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American Marketing Association- Sheth Foundation Doctoral Consortium Fellow, Georgia State University, June 2009
Drexel Research Day Award, LeBow College of Business, April 2009
Provost’s Fellowship, Drexel University, 2006-2010
International Travel Award, Drexel University, June 2008

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Recitation Instructor: Introduction to Marketing, Fall 2007 - Spring 2009 (3.6 / 4)