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Price Premium Variations as a Consequence of Buyers' Lack of Information

AKSHAY R. RAO
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It appears that buyers sometimes knowingly pay a price that is higher than that justified by the relative quality of the product. Such a price premium is argued to be an economically rational attempt by quality-conscious buyers to ensure that the seller does not provide a lower than promised level of quality for experience products. Conversely, for search products, price premiums are argued to be the consequence of lack of search by buyers who are less quality conscious. Results from a survey conducted in an organizational buying setting indicate that buyers' tendency to pay a price premium for experience products increases with an increase in their quality consciousness, while for search products this tendency decreases with an increase in their quality consciousness. The implications of this finding are discussed; further analysis leads to additional speculation regarding some other mechanisms that buyers may use to assure product quality.

In some economically less developed countries such as India, housewives often purchase milk directly from cowherds. Unfortunately, most cowherds are not trustworthy and often dilute the milk with water. Further, only after processing the milk to make yogurt can the housewife assess whether the milk has indeed been adulterated. To assure themselves of a supply of unadulterated milk, housewives often provide cowherds a monetary incentive. They pay a price higher than the prevailing market price, while simultaneously cautioning the cowherd that any discovery of milk dilution would result in their taking their business to another cowherd; consequently, the first cowherd would potentially lose an extremely generous customer to a competitor.

Such anecdotal evidence of buyers paying prices that compensate sellers above normal costs is also available on the seller side. For instance, Leaming (1987) de-

scribes how certain copper manufacturers receive prices above the commodity exchange rate for copper, while Brown (1990) tells the story of a Massachusetts tire and brake retailer who earns a profit margin that is twice as high as the industry average. The consequence of buyers paying such high prices appears to be that certain sellers receive "supernormal" profits for a particular transaction. Empirical research in marketing based on the PIMS data base supports this result at a more general level; firms that sell products that are perceived to be of high quality tend to earn higher profits (Buzzell and Gale 1987).

Such high prices that lead to above-average profits are defined to be *price premiums* in the theoretical literature in economics (e.g., Klein and Leffler 1981; Shapiro 1983). A price premium can be thought of as the excess price paid, over and above the "fair" price that is justified by the "true" value of the product. This excess price has typically been viewed as the amount paid over and above all economic costs of manufacture. Therefore, price premiums are distinct from premium prices (i.e., prices that are considerably above average); for price premiums, economic profits are available to the seller during a specific transaction (though not necessarily over the life of the relationship), while for premium prices, economic profits need not be available to the seller.¹ As we will develop in this paper, the reason

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¹Economic profits are distinct from accounting profits and consider all costs (including opportunity costs), not just historical costs (Thompson 1989; Varian 1987). Though economic profits may be observed during a specific transaction, economic profits are not available in equilibrium (i.e., under perfect market conditions) ac-

for the prevalence of price premiums will differ depending on the type of product under consideration. On the one hand, buyers may be willing to grant price premiums to insure product quality. On the other hand, buyers may allow a seller to charge a price premium and thus extract profits because the costs of preventing such profit extraction exceed the benefits of preventing such profit extraction.

The theoretical argument upon which we draw suggests that, under certain circumstances, buyers reward honest sellers with price premiums and punish dishonest sellers by denying them future sales. For instance, for a product that is purchased more than once and whose quality cannot be determined prior to purchase, a monetary reward coupled with the punishment of potential discontinuation of future purchases is one mechanism available to buyers to assure product quality. Such a buying strategy would more likely manifest itself in industrial purchasing settings, where long-term dyadic relationships between buyer and seller often exist. Consequently, the empirical test of our predictions was performed on a sample of senior organizational buyers.

THEORETICAL BACKGROUND

The price-quality literature stream in consumer behavior addresses an issue that is substantively similar to, though conceptually distinct from, that of price premiums. To clarify the conceptual distinction, and to frame our question in an existing body of consumer behavior literature, we first briefly address the price-quality issue and then provide a theoretically driven explanation for the existence of price premiums.

Price-Quality Research

An integrative review of numerous consumer behavior studies on the topic concluded that there is a link between quality perceptions and price (Rao and Monroe 1989). Further, price appears to be one of many cues (including cues such as brand name and store name) that consumers may use in product evaluations depending on information they hold in memory (Rao and Monroe 1988; Zeithaml 1988). Most price-perception research in consumer behavior and in marketing appears to implicitly assume that the buyer is relatively passive. That the buyer may choose to influence the level of quality delivered by the seller has not been explicitly considered in this research stream.

In an allied stream, however, researchers have examined the relationship between observed marketplace prices and associated objective product quality as defined by independent evaluators such as *Buying Guide*.² Well-informed or motivated consumers should be able to monitor supplier's quality and prevent dishonesty (i.e., the provision of low quality at high prices), thus ensuring high price-quality correlations (Curry and Riesz 1988; Tellis and Wernerfelt 1987). According to the theoretical approach embodied in this latter research stream, buyers seemingly can influence the behavior of the seller to some degree; however, the empirical evidence regarding this claim is somewhat mixed (Gerstner 1985).

This brief summary suggests that research focus has been on (1) whether buyers perceive that higher-priced products are of higher quality and (2) whether higher-priced products are indeed of higher quality. The phenomenon of price premiums, on which we focus, represents a subtle variant of these issues. Here, not only do buyers pay high prices, these high prices generate economic profits for the seller. These economic profits are a defining characteristic of price premiums. Our explanation for the prevalence of such price premiums emphasizes information as a key construct, as we develop below.

Rationale for Price Premiums

The argument that will be developed here relies on the observation that, often, buyers (unlike sellers) are not fully informed about product quality. This situation is termed *information asymmetry* and can occur for a variety of reasons. From our perspective, one way to study information asymmetry is to categorize products as either "search" or "experience" products. Products whose quality can be determined prior to purchase are called search products and those whose quality can be determined only after purchase are called experience products (Nelson 1970). These labels are not meant to imply that search and experience products exist in some absolute sense. Rather, these labels represent two extreme ends of a continuum; product characteristics and buyers' ability to evaluate product characteristics will determine the degree to which a product is a search or experience product. This issue, of buyers' ability to evaluate product characteristics, has important measurement implications, as we discuss later.

Information asymmetry has been at the heart of the traditional economic explanation for price premiums which has emphasized consumer ignorance. According to this explanation, some (uninformed) buyers allow sellers to charge them a price higher than warranted by the "true" quality of the product. This explanation has

cording to economic theory. However, perfect markets generally do not exist in reality because different players in the marketplace have differing amounts of information about marketplace transactions (i.e., "information problems" exist). An analogous situation is described in the labor economics literature, where efficiency wages or wage premiums (i.e., "suprahigh" wages that are greater than the opportunity wage rate of the employee) are empirically observed (Krueger and Summers 1988).

²Considerable debate, however, surrounds the definition and measurement of objective or "true" quality (Curry and Faulds 1986; Hjorth-Anderson 1986; Holbrook and Corfman 1985).

been well developed for the case of search products (Tellis and Wernerfelt 1987), as we summarize next.

Intuition for Price Premiums—Search Products. For products with search attributes price premiums can exist only if buyers do not expend the effort necessary to examine quality prior to purchase. When buyers' search costs vary, some sellers will sell at prices commensurate with delivered quality, while others can take advantage of the ignorance of some consumers and charge a high price that may include a price premium (Tellis and Wernerfelt 1987). Here price premiums reflect a market inefficiency due to incomplete search.

A critical factor that drives the presence of price premiums is buyers' desire for quality. The buyer of a product receives some utility or benefit from each unit of the product purchased. This utility is influenced by the quality of the product as well as the buyers' quality consciousness or desire for quality (Shapiro 1983). In other words, buyers who are concerned about product quality are likely to have a higher utility for quality products than buyers who are unconcerned about quality. Since quality-conscious buyers have a higher utility for quality products, they will have more incentive to search for information about the product's quality. Because buyers can successfully engage in a greater amount of search for products with search attributes, quality-conscious buyers will be able to discern the actual level of attributes present in a product and, therefore, will be able to determine whether the price being charged is commensurate with attribute levels (i.e., quality). If it turns out that a price higher than justified by attribute levels is being charged, quality-conscious buyers will tend not to buy. Conversely, buyers who are relatively less quality conscious will likely not search as much for attribute information and will thus not be able to assess whether the price being charged is excessive, relative to product quality. Thus, for search products, such uninformed buyers may pay a price premium. Consistent with this thinking, Tellis and Wernerfelt (1987) observe that "the equilibrium correlation between price and quality increases with the number of informed consumers in the market" (p. 244). Thus, the greater the amount of search buyers engage in, the less likely it is that opportunistic sellers can extract price premiums. This argument suggests the following hypothesis:

- H1:** For products with search attributes, buyers' tendency to offer price premiums will decrease with their quality consciousness.

For experience products, the prevalence of price premiums is not a consequence of uninformed buyers allowing sellers to charge them a price premium. Rather, as we argue next, price premiums reflect a fee that buyers pay to insure seller honesty.

Intuition for Price Premiums—Experience Products. If the products are predominantly composed of attributes whose quality can be assessed only after

purchase and use (i.e., experience products [Nelson 1970]), then the buyer will be unable to assess the product's quality prior to purchase (e.g., durability of an automobile). Though willing to pay a high price for high quality, the quality-conscious buyer realizes that, unless repeat purchases exist, sellers' claims of high quality with an accompanying high price are not necessarily credible; the seller could simply provide low quality while charging the high price (i.e., the seller would cheat).³

To overcome this problem, the buyer has numerous options. On the one hand, legal contracts and performance bonds can be required. When such mechanisms cannot be easily put in place, the buyer may pay the seller a monetary incentive that provides more than adequate compensation (price premium) for the added cost of producing high quality, with the assurance of a continued source of such an incentive (i.e., repeat purchases), as long as the seller is not discovered to have compromised on quality (Klein and Leffler 1981; Rubin 1990; Shapiro 1983; Stiglitz 1987). (This is the mechanism that operated in our stylized fact regarding the Indian housewife purchasing milk.) When offered this price premium, sellers have two options. They can cheat, earn the additional profit represented by (1) the price premium and (2) the cost saving that will accrue from providing low quality, and suffer the loss of future income from the buyer who will likely be disenchanted with such dishonest sellers. Alternatively, sellers may not cheat and may consequently receive a stream of price premium payments from future transactions. The seller must be persuaded that the present value of profits accruing from the price premiums from future transactions (from supplying high quality) is greater than the short-run profit that will be obtained from cheating. In other words, the aggregate profit available from price premiums granted over numerous future time periods must be greater than the profit available from one large price premium payment today. Thus, a price premium can be viewed as a fee to assure honesty that compensates the seller for the opportunity cost of not cheating, and the repeat purchase potential assures sellers of a stream of future income that is higher than the profit that they would earn from cheating.⁴

The price premium the buyer may be willing to pay should reflect a price that does not exceed the buyers' value of the product. Thus, buyers who have relatively

³The terms "cheat," "fraud," etc. are not used in a pejorative sense but in a descriptive sense, to remain consistent with the vernacular in some of the information economics literature.

⁴It is assumed in this approach that the number of transactions entered into is unknown to the sellers. If sellers know the number of potential transactions that will take place, they can maximize long-run profit by cheating during the last transaction. Anticipating this, buyers will not demand high quality during the last transaction. Consequently, the next to last transaction represents an opportunity for sellers to cheat; buyers will recognize this and request low quality during this transaction as well. Hence, the game unravels.

little need for high quality likely will not pay a price premium for high quality; they will simply settle for low quality and pay a low price. Conversely, buyers who value the product very much likely will be willing to pay a relatively large price premium for high quality. For instance, consider two buyers purchasing the same product: (1) an industrial buyer purchasing a seal for use in a plant coolant system, which, if it fails, could cost the buyer's firm a substantial monetary loss, and (2) a student purchasing the seal for a home experiment in hydraulics. If the likelihood of the seal breaking down cannot be ascertained prior to purchase, and it is possible that the seller can vary quality of the seal, then the industrial buyer can use the price premium mechanism to provide the seller an incentive to provide a high quality seal. In light of the industrial buyer's high concern for quality, such a buying strategy would be appropriate; the student buyer may not use such a strategy or do so to a lesser degree because his or her concern for quality is not as high and the consequences of product failure are not as damaging. Consequently, since quality-conscious buyers will desire high quality to a greater degree, the price premiums that are paid will increase with buyers' quality consciousness. This reasoning suggests the following hypothesis:

H2: For products with experience attributes, the tendency to offer price premiums will increase with buyers' quality consciousness.

To summarize, price premiums are the "supernormal" high prices that some products receive from some buyers that result in economic profits for the seller. The theoretical argument offered here suggests two distinct explanations for the prevalence of price premiums depending on the product type under consideration. When quality can be evaluated prior to purchase (search products), those buyers who are unable or unwilling to search for quality information (i.e., are low in quality consciousness) may allow sellers to receive high prices. Conversely, when quality cannot be evaluated prior to purchase (experience products), those buyers who are concerned about product quality may actively offer sellers an economic incentive to consistently supply high quality. Consequently, Hypothesis 1 and Hypothesis 2 make opposing predictions regarding the influence of buyers' quality consciousness on the granting of price premiums for search and experience products, respectively.

Control Factors. Four other factors that have a potential impact on the granting of price premiums for experience products, and which are controlled for in our data analysis, are discussed here. Price premiums should increase with increases in (1) the degree to which the buyer does not punish cheating, (2) the lag in buyers' detecting quality debasement, (3) seller's reputation, and (4) length of the relationship. Note that, for search products, the control factors discussed here do not ap-

ply. In essence, as buyers can evaluate quality prior to purchase, their price premium-granting behavior will not differ depending on these control factors. For instance, the buyer will not need to resort to postpurchase punishment because, if the observed quality is low, the buyer will simply not purchase the product.

If buyers are unwilling or unable to punish sellers upon detection of a quality violation, then sellers stand to lose little by cheating; conversely if buyers are willing to terminate a seller immediately after cheating is detected, the seller stands to lose all future profits. Thus, the less severely the buyer is able or willing to "punish" the seller, the higher the price premium required to keep the seller from cheating on quality. For instance, if in the example of the Indian housewife mentioned earlier, the cowherd knew that the buyer's threat of termination was an empty threat, and, at most, a few weeks worth of business would be lost, then a larger price premium would be necessary to keep the cowherd honest, since the buyer's threat of taking her business elsewhere is simply not credible. Similarly, if the products' attributes do not reveal themselves for a long time (i.e., there is a lag or delay in evaluating product quality), then sellers' gains from cheating increase because they can get away with cheating longer before being punished. Thus, the longer it takes the buyer to assess the quality of the product after purchase, the higher the price premium required.

Viewing the issue from the perspective of the seller, Shapiro (1983) proposed that sellers who had made a monetary investment in their reputation would likely later receive price premiums as a monetary reward from grateful buyers who would like to assure themselves of an uninterrupted supply of high quality. Therefore, the prevailing argument in the economics literature is that reputable sellers will receive price premiums to a greater degree than sellers lacking a reputation. Similarly, sellers who have a long history of association with the buyer may also have invested in building a relationship and may receive price premiums. Therefore, the length of the buyer-seller relationship should have a similar impact on price premiums.

To empirically examine the hypotheses, a survey of senior purchasing executives was conducted. The methodology employed and associated description of the sample, instrument, and analyses are described in the section that follows.

METHODOLOGY

Study Setting

The theoretical argument for the success of price premiums in deterring quality debasement relies on the punitive power of the denial of repeat purchase. This denial would likely have greater impact when the interaction between buyer and seller is relatively long-term; then the buyers' willingness to discontinue future

purchases is potentially more harmful to the seller. Given (1) the relatively longer-term, dyadic relationships that exist between buyer and seller in some industrial buying contexts and (2) that organizational buying transactions are typified by relatively few buyers for a given seller (thus the loss of any one buyer is potentially more harmful to the seller), the threat of limiting future repeat purchases coupled with the reward of a price premium would likely be prevalent in industrial buying. Hence, the likelihood of detecting the prevalence of price premiums as a quality enforcement device was expected to be enhanced in an industrial buying scenario. Therefore, the study was conducted in an industrial purchasing context. Sponsorship of the local chapter of the Purchasing Management Association provided access to a sample of senior purchasing executives, whose job is to develop and execute purchasing strategies. This group of sophisticated buyers appeared to be an ideal sample on whom to test the hypotheses.

Since the theory addresses a specific buyer strategy involving rewards (price premiums) and punishment (limiting future purchases) we elected to solicit buyer perceptions regarding the variables of interest. Specifically, we expected that buyers' responses regarding the degree to which they agree or disagree with statements about the payment of price premiums would vary depending on buyer, product, and seller characteristics. An alternative approach which would have utilized "objective" information regarding sellers' profitability or gross margins was not utilized because such information is generally confidential and therefore not easy to obtain, such information is not generally available at the product level, and our theory relies on buyers' perceptions driving their behavior.

Sample and Procedures

Members of the local chapter of the Purchasing Management Association whose titles indicated purchasing strategy responsibility were contacted by telephone. Respondents were assured of confidentiality if they participated in our survey of purchasing practices. Of the 244 individuals contacted, 234 agreed to participate. Questionnaires with return envelopes were mailed to these individuals, and a reminder postcard was mailed one week later. One hundred and forty nine responses were received prior to a prespecified cutoff date, yielding a response rate of 61.07 percent, which compares favorably with other studies that have used an industrial sample (e.g., John and Weitz 1989). Subjects were asked to identify a product or service with whose purchase they had been involved during the preceding 12 months. Then, respondents were asked a series of questions designed to measure the independent and dependent variables. This procedure was particularly appropriate because it allowed respondents to specify the degree to which a product was perceived to be a search product or an experience product.

It was emphasized that the respondent need not have been the user of the product but should have participated in the decision making regarding its purchase. As an incentive, respondents were offered a "par report" in which the average responses of the group would be made available to them, if they so desired. Respondents tended to hold relatively high-level executive positions indicating purchasing management and policy responsibilities; a variety of industries and products were represented.

Measures

The items were five-point scales anchored at "strongly agree" (1) and "strongly disagree" (5), with a "neither agree nor disagree" (3) neutral point. Scale items were developed based on pretests on three purchasing executives and 12 evening M.B.A. students with purchasing responsibilities, all at a major midwestern university. Based on their qualitative comments, the questionnaire was considerably shortened. After data were collected, responses were submitted to an exploratory factor analysis, and, based on factor loadings and a priori expectations, indicators for the three principal constructs were identified (App. A). All eigenvalues associated with the factors were greater than 1, the lowest item loading was .48, the highest was .75, and the average was .67. Responses to multiple item measures were averaged to generate values for each construct (see App. B for measures of control variables, which were developed similarly).

The reliability values observed were .57 for product type (three items), .58 for quality consciousness (three items), and .81 for price premium (six items). Nunnally (1978) is of the opinion that reliability values of .7 and over are desirable for basic research. Therefore, low reliability appears to be a source of concern for two of our constructs. However, as Nunnally (1978) observes, the effect of low reliability is "that it makes correlations less than they would be if measurement error were not present" (p. 219). It is possible to correct for attenuation of correlation due to low reliability and estimate the correlation as if there had been no measurement error (Nunnally 1978, p. 238). For instance, the observed correlation between quality consciousness and price premiums for search products ($r = .229$) would have been .33 if both constructs had been measured without error (i.e., reliability = 1.0).

To address the issue of construct validity as a potential source of concern, we present the interitem correlation matrix and factor loading matrix for our principal constructs in Tables 1 and 2. As will be observed from an examination of the pattern of item intercorrelations, (significant) correlations among items tapping the same construct are higher than (significant) correlations among items that tap different constructs, with one exception. The indicator PT2 (an indicator for product type) correlates better with P2, P4, and P5 (all measures

TABLE 1
CORRELATION MATRIX FOR INDICATORS OF PRINCIPAL CONSTRUCTS

	P1	P2	P3	P4	P5	P6	Q1	Q2	Q3	PT1	PT2
P2	.304										
P3	.179	.361									
P4	.276	.507	.425								
P5	.288	.551	.354	.462							
P6	.342	.472	.349	.483	.603						
Q1	-.141	.118	-.151	-.083	-.077	-.177					
Q2	-.054	-.048	-.059	-.079	-.005	-.133	.459				
Q3	-.046	-.067	-.101	-.173	-.031	-.120	.388	.255			
PT1	-.022	.105	.010	.140	.151	.070	-.016	.005	-.040		
PT2	-.131	-.205	-.083	-.188	-.185	-.048	.005	.007	.167	-.182	
PT3	-.044	-.096	-.115	-.057	-.118	-.125	.084	.001	.181	-.378	.331

NOTE.—P1–P6 refer to the six items for price premiums, Q1–Q3 refer to the three items for quality consciousness, and PT1–PT3 refer to the three items for product type, all prior to reverse coding. Italics indicate correlation significant at $p < .05$.

of price premiums); however, an examination of the factor-loading matrix shows that this item does indeed belong with PT1 and PT3. In general, it appears that discriminant and convergent validity prevail; face validity also appears to prevail based on pretest interviews.

Statistical Models

The data set was split into two groups for each type of product (search and experience) using a (approximate) median split procedure, and two statistical models were estimated. To accomplish this split, the frequency distribution of responses on the composite product type measure was examined, and the data were divided closest to the 50 percentile point. One set of respondents was grouped into a search product category, and the remainder were grouped into an experience product category.⁵ Because of missing information on some indicators, only 131 of the 149 responses could be used in our analyses. Based on the theoretical development presented earlier, the data set ($n = 58$) for search products was submitted to the following simple regression to test Hypothesis 1:

$$\text{PPREM} = f(\text{QC}), \quad (1)$$

where PPREM is price premium, and QC is quality consciousness.

The data set for experience products ($n = 73$) was submitted to the following regression to test Hypothesis 2:⁶

⁵An alternate approach to dividing the data set was also attempted. Here, responses below 3.0 on the aggregate product category scale were classified as search products and the remainder were classified as experience products. The results from this analysis were consistent with the results presented in Table 2. However, we present results from the more traditional median split procedure, according to which the data were divided into approximately equal groups.

⁶The data for search products were also submitted to this regression model and yielded a significant coefficient only for QC.

$$\text{PPREM} = f(\text{QC}, \text{REP}, \text{LAG}, \text{LENGTH}, \text{PUN}), \quad (2)$$

where REP is the seller's reputation for quality, LAG is the degree to which the buyer is unable to evaluate quality immediately after purchase, LENGTH is the length of time the buyer and seller have been in a purchasing relationship, and PUN is the degree to which the buyer is willing to resort to termination as a punishment mechanism.

RESULTS

Results from the regression runs are presented in Table 3.⁷ Since the theory predicted directional hypotheses, one-tail tests were performed. Based on R^2 , R^2_{adj} , and PRESS values, the model fit appears reasonable.⁸

In the analysis of experience products, quality consciousness, reputation, and lag are significantly related to price premiums while, for search products, quality consciousness is significantly related to price premiums as expected. Two issues are noteworthy here. First, con-

⁷The scale values for the price premium measure were reverse coded for ease of interpretation. A mean of 2.12 with an SD of .68 (indicating a tendency to not offer price premiums) was observed for the aggregate measure. A minimum observed value of 1.00 and a maximum observed value of 4.00 indicates the range of scores obtained for the dependent variable. Approximately 10 percent of subjects indicated that their organization paid price premiums, suggesting that the practice of paying price premiums, while not extremely widespread, does indeed occur. The relatively weak presence of price-premium-paying behavior is not considered a source of concern for two reasons. First, it is not surprising that buyers would balk at admitting that they indeed pay a higher price than apparently necessary. Second, the focus of interest is on the variation in the degree to which price premiums appear to be offered or not offered, not on the presence of price premiums per se.

⁸PRESS is the predicted error sums of squares, which is the difference between values generated by the regression model and observed values, squared and summed (Myers 1986).

TABLE 2
FACTOR LOADING MATRIX

Item	Factor 1	Factor 2	Factor 3
P1	.48	.13	.25
P2	.74	.22	.03
P3	.59	.09	.12
P4	.73	.16	.04
P5	.75	.29	.01
P6	.75	.13	.17
Q1	.32	.70	.32
Q2	.22	.68	.26
Q3	.29	.65	.00
PT1	.23	.08	.68
PT2	.33	.10	.55
PT3	.28	.31	.69
% variance explained	27	14	13

NOTE.—P1–P6 are price premium indicators, Q1–Q3 are quality consciousness indicators, and PT1–PT3 are product type indicators, a priori. Eigen values associated with each factor were >1. Absolute values of loadings are reported here.

sistent with Hypotheses 1 and 2, for search products, as quality consciousness increases the degree to which price premiums are offered decreases, while for experience products, as quality consciousness increases the degree to which price premiums are offered increases. It may be inferred from the result for search products that quality-conscious buyers spend time on prepurchase search when possible (Tellis and Wernerfelt 1987). Further, for experience products, quality-conscious buyers may be offering price premiums to assure product quality. Second, for experience products, lower seller reputation and higher lags in the detection of quality debasement result in price premiums being offered to a greater degree. The finding regarding reputation is opposite to the expected effect; however, as we argue later, this result suggests an interesting and plausible modification to the theory.

Examining Effects across Product Type

A graphical presentation of the different effects of quality consciousness for the two product types appears in Figure 1. Twenty-two subjects whose quality consciousness was low and who rated search products were compared with 43 subjects whose quality consciousness was low and who rated experience products. Similarly, 36 and 34 subjects whose quality consciousness was high and who rated search and experience products, respectively, were compared (the increased sample size relative to the regression analysis is explained by fewer missing observations on only the three variables being considered). As will be observed, buyers who are quality conscious tend to pay price premiums to a significantly higher degree for experience products than for search products.

TABLE 3
REGRESSION RESULTS BY PRODUCT TYPE

	Search	Experience
A. Parameter estimates: ^a		
Intercept	1.58*	3.38*
Quality consciousness	-.33*	.20*
Reputation	...	-.15*
Length	...	.04
Lag	...	.27*
Punishment	...	-.10
B. Model statistics:		
F	5.201*	4.26*
R ²	.09	.24
R ² _{adj}	.07	.18
PRESS	21.11	25.57

NOTE.—*p* values reflect one-tailed tests for all terms except intercept.

^a Dependent variable: price premiums.

* Significant at *p* < .05.

The difference between the two means for quality-conscious buyers (1.94 and 2.30) is statistically significant ($t = 2.22$, $df = 56$, $p < .05$). However, the difference between the mean willingness to pay price premiums for experience and search products by buyers who are not quality conscious is not statistically significant. These findings are also consistent with theoretical predictions: buyers who are quality conscious tend to pay price premiums more so for experience products than for search products. In essence, price premiums may be acting as a quality enforcement device for experience products but may be a consequence of lack of search for search products.

DISCUSSION AND CONCLUSIONS

Summary

The research reported here is an initial attempt at understanding whether and when buyers knowingly pay prices that are higher than justified by the relative quality of the purchased product. The specific prediction offered was that buyers who were not quality conscious would likely pay price premiums for search products because their costs of search exceed the benefits that derive from search. Further, when buyers are unable to evaluate product quality prior to purchase (i.e., for experience products) and are desirous of purchasing a high-quality product, they offer sellers a monetary incentive (price premium) that would generate a stream of "supernormal" income and thus provide continuous motivation to deliver high-quality products (Stiglitz 1987). This theoretical rationale suggested that quality-conscious buyers would tend to pay price premiums to sellers of experience products. The empirical evidence supports the theoretical premise. For search products, quality-conscious buyers pay price premiums to a lower

FIGURE 1

QUALITY CONSCIOUSNESS × PRODUCT TYPE INTERACTION

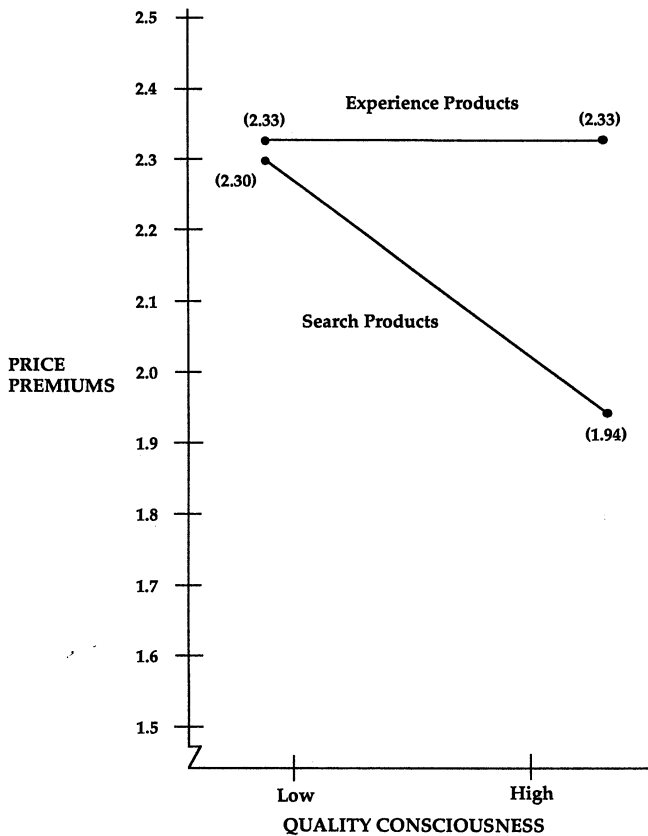
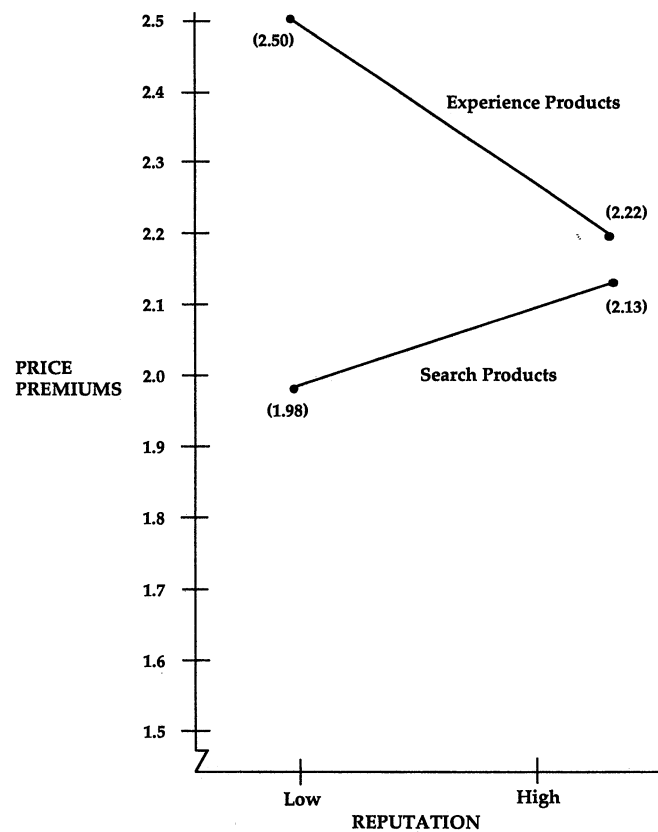


FIGURE 2

REPUTATION × PRODUCT TYPE INTERACTION



degree, relative to buyers who are not quality conscious. For experience products, price premiums tend to be offered to a greater degree by quality-conscious buyers who perhaps offer such incentives to motivate sellers to provide high quality. These findings imply that, while for search products price premiums may reflect buyers' lack of information, for experience products they may be an insurance mechanism.

In sum, the research (1) empirically tested and found support for an economic theory of buyer behavior; (2) enhanced our understanding of pricing, within the framework of the existing price-quality literature, and presented the buyer as an active participant in the attempt to assure product quality; and (3) represented an initial attempt at understanding how organizational buyers use price as a tool to ensure quality provision in an economically rational manner.

Speculation regarding Reputation Effect

Our results suggest that, for experience products, buyers grant price premiums to reputationless sellers

to a greater degree than to reputable sellers. To graphically examine the surprising reputation effect for the two product types, a median split was performed on the data once more, and the dependent variable means were plotted (Fig. 2). Thirty-eight respondents were in the high reputation/search product category, while 46 were in the high reputation/experience product category. Similarly, 20 respondents were in the low reputation/search product category, while 31 respondents were in the low reputation/experience product category. The mean values (2.50 and 1.98) suggest that buyers tend to grant price premiums to sellers without reputations (or with poor reputations) to a significantly higher degree for experience products than for search products ($t = 3.15, df = 49, p < .05$). While there appear to be price premiums offered to a greater degree for experience products relative to search products, to sellers with high reputations as well, this difference is not statistically significant.

This finding is not supportive of the premise that, as the seller's reputation increases, the degree to which

price premiums are offered increases. This somewhat intriguing finding suggests that reputation may be a two-edged sword. Shapiro (1983) argues that a new seller in a market must first establish a quality reputation by charging a low introductory price (i.e., incur an economic loss or make an investment in quality) before receiving the price premium that high-quality sellers receive. In other words, Shapiro argues that, though reputable sellers receive price premiums in the current time period, they have probably incurred economic losses in previous time periods, because of the cost of building a reputation. Thus, in the long run, *ceteris paribus*, they are no better off than sellers who choose not to build a reputation. However, an alternative perspective suggested by these data is that there may be other components of the seller's reputation (which do not necessarily require an economic investment) that may have an impact on buyers' tendency to offer price premiums. For instance, future sales may be at risk; sales of allied products or sales to customers who may be influenced by the current customer may also be jeopardized. In essence, buyers hold sellers' reputations "hostage," through the implicit threat of jeopardizing related sales (Williamson 1981). Thus, since sellers with high reputations have more at risk than sellers with low reputations, they are less likely to cheat and would require a lower price premium to remain honest to assure the delivery of high quality. Conversely, buyers may be apprehensive that reputationless sellers may cheat (when selling experience products), and therefore, they provide such sellers a relatively large incentive to remain honest. This suggests that reputation and price premiums are substitutes for each other as quality enforcement devices and do not complement each other, as in prior models (e.g., Klein and Leffler 1981; Shapiro 1983).⁹

Our results should not be interpreted to mean that reputationless sellers receive greater premiums than reputable sellers, in the same market. These results simply suggest that, in markets populated by reputationless sellers (such as the market for milk in an In-

dian town), price premiums will be higher than in markets that include a reputable seller. An interesting implication of these results is the use of reputation as a barrier to entry. Since reputable sellers require lower price premiums, they are able to keep reputationless sellers from entering their market because the higher price premium required to keep reputationless sellers honest makes their overall price economically irrational for the buyer.¹⁰

Current research on brand equity which has focused on consumers' affective responses to brand name may benefit from considering the implications of a brand's reputation on its ability to protect its existing market and to enter new markets. For instance, one implication from this research is that reputable brands may enjoy a second mover advantage, since they may be able to enter a market that has been developed by a reputationless brand and is earning a price premium, and credibly charge a lower price. However, reputationless brands will probably not be able to execute the same strategy once a reputable brand has developed a market.

One theoretical problem with our explanation is that, when sellers receive a price premium, they earn economic profits. Why do competitors not enter such markets and erode profits? Depending on its nature, competition among sellers may indeed reduce the magnitude of price premiums; however, recall the original purpose of a price premium was to motivate sellers who have a choice between producing high and low quality always to offer high quality and not to cheat. If supplying high quality is a choice variable, then unless sellers get some economic benefit from supplying high quality, they are likely to cheat. Additional sellers in the marketplace may moderate the size of the premium but not its existence and purpose.

Buyer Behavior Implications

While our data consist of organizational buyers responses, the consumer behavior analogy is apparent when we consider consumers making "lumpy" (i.e., relatively large and periodic) purchases in a small market. Here, consumers may very likely insure seller honesty by paying a price premium. For instance, considering Akerlof's (1970) example of the market for used cars, buyers may offer a price premium if they can credibly convey to the salesperson that they will return for subsequent purchases (of cars or service) and continue to pay high prices unless they dis-

⁹A rival hypothesis for the findings could be that monopoly situations prevailed whenever price premiums were observed. However, an examination of the data in the low and high reputation conditions (based on a median split) for experience products revealed that the competitive intensity in the low reputation condition was significantly higher than that in the high reputation condition ($p < .05$). (Competitive intensity was measured using two indicators: [a] "Vendors in this industry face competitive intensity that is much higher than average," and [b] "Vendors in this industry are more numerous than other industries with which you are familiar.") If competitive intensity is an appropriate proxy for the absence of monopoly power (Porter 1980), then the enhanced competitive intensity observed for reputationless sellers reflects an absence of monopoly power. Yet, price premiums were available to a relatively high degree for these reputationless sellers, suggesting that indeed reputable sellers may have been offered price premiums to a lesser degree because they were considered less likely to cheat.

¹⁰This implication assumes that, in equilibrium, all sellers have similar cost functions. Thus, in the absence of price premiums, both reputable and reputationless sellers would charge the same price. Consequently, the higher price premium required by reputationless sellers raises their absolute price to a level higher than that charged by reputable sellers.

cover that fraud was perpetrated by the seller. It is likely that, if the car dealer has a reputation for quality or has a lot to lose in some other manner, then the buyer need not pay as high a price premium to assure honesty. Future tests of the theory in a consumer behavior setting would help assess the generalizability of the approach.

In general, it appears that buyers (even when uninformed) can be wise and adopt strategies that minimize the possibility of their being cheated. This argument is one that may be of interest to makers of public policy. Clearly, low prices are desirable from a consumer welfare standpoint only if such low prices do not result in the complete disappearance of high-quality sellers. Oftentimes buyers are capable of protecting themselves and make informed choices regarding price and quality, so as to maximize their utility. Therefore, an attempt to depress market prices as a means of ensuring consumer welfare may actually result in a loss of welfare because of the more than commensurate reduction in the quality of delivered products.

Limitations and Future Research

Alternative Approaches. As we mentioned earlier, we have adopted one of a variety of approaches that can be used to motivate the existence of price premiums for products with experience attributes. Other approaches are complementary but suggest other reasons for the existence of price premiums. For example, one complementary approach is to view price as a surrogate for, or "signal" of, product quality (Bagwell and Riordan 1991). Here, high prices, which often include price premiums, may be used by sellers to convey quality information to buyers. The emphasis in signaling models is on revealing whether the seller produces high- or low-quality products, assuming that quality cannot be changed during the period under study. Our approach, however, focuses on situations in which the buyer attempts to prevent the seller from debasing quality during each transaction.

Second, a price premium is one of many mechanisms that buyers may attempt to use to assure product quality. Sellers' investments in nonsalvageable assets (e.g., an R&D facility) that cannot be easily traded for cash may also serve as hostages and increase the negative consequences of cheating; sellers who own such assets are less likely to receive price premiums because trust can be engendered in the relationship, limiting the sellers' incentive to cheat (Rubin 1990; Williamson 1981). Similarly, symmetric investments that increase asset specificity can ensure that contracting parties adhere to contractual terms (Heide and John 1988). Finally, some organizations have recently begun to institute vendor certification programs, which are geared toward enhancing vendors' production capability and ensuring

the ability to deliver high quality. The use of price premiums as opposed to any of these alternative mechanisms will depend on the relative costs of each of the alternatives. Future research will be required to suggest which of these many devices is most appropriate for a given situation.

Measurement Issues. Achieving high reliability values in survey research of practicing managers using constructs that do not have a long measurement tradition is difficult, yet significant and interesting findings may still be observed (e.g., Anderson 1985; John and Weitz 1989). From a validity standpoint, low reliability may be an issue, since reliability is considered to be a necessary, though not sufficient, condition for validity. However, nomological validity, which is "the degree to which predictions from a formal theoretical network containing the concept under scrutiny are confirmed (Campbell 1960)" (Bagozzi 1980, p. 129) was met in this study. Two other criteria for construct validity mentioned by Bagozzi are theoretical and observational meaningfulness of concepts. In this research, based on feedback provided in pretests and subsequent scale modification, every attempt was made to generate theoretically and observationally meaningful items. In sum, despite reliability values that are lower than ideal (perhaps because of the use of a limited number of items), it appears that construct validity is no more of a limitation in our research than it has been in other survey research on organizational buying.

Future research will need to develop multiple item measures of constructs such as reputation. Then, a psychometric assessment of scale items will allow for stronger statements to be made regarding the effect of seller's reputation on buyer behavior. In our study, the use of a single item to measure this control variable does limit our ability to make strong statements regarding reputation effects. Therefore, our discussion is offered as exploratory speculation which is nevertheless consistent with the theoretical argument. The reliability values associated with some of our other measures are lower than ideal. Clearly, these relatively low figures suggest that there is considerable need for scale improvement and validation; research based on better scales likely will yield even stronger results in future research. An alternate measurement approach could be based on "objective" data from the seller. However, the ability to gather these data is limited by concerns of corporate confidentiality and availability at the individual product level.

In sum, the research reported in this paper represents an empirical test of an economic theory of buyer behavior. The premise that underlies the theory is one of a proactive buyer who attempts to influence events. Our objective in introducing this perspective to the field is to stimulate thinking on the applications of extant theories in diverse disciplines to the study

of consumer behavior. The benefits of a multidisciplinary approach have been well articulated elsewhere (e.g., AMA Task Force on the Development of Marketing Thought 1988; Bergen, Dutta, and Walker 1992), and it is our hope that our research will further spur such endeavors in the field of consumer behavior.

APPENDIX A

TABLE A1

MEASURES FOR PRINCIPAL CONSTRUCTS

	Item-total correlation	Alpha
A. Price premium ^a	...	.81
1. Vendors earn gross margins that are <i>higher</i> than normal, in general.	.42	...
2. Our organization pays <i>price premiums</i> (a price that is higher than the cost of manufacture or product quality would warrant) when purchasing the product.	.64	...
3. Our organization offers <i>new</i> suppliers of the product the same price premiums (a price that is higher than the cost of manufacture or product quality would warrant) that we offer established suppliers.	.43	...
4. Our organization offers a price premium (a price that is higher than the cost of manufacture or product quality would warrant) whose magnitude or size is <i>higher than normal</i> , for this product.	.59	...
5. Our last purchased brand received a <i>price premium</i> (a price that is higher than the cost of manufacture or product quality would warrant).	.66	...
6. Our last purchased brand received a price that was <i>higher</i> than the price premium we would normally pay.	.62	...
B. Product type	...	.57
1. In this product category, to monitor quality prior to purchase would be extremely <i>expensive</i> . ^a	.35	...
2. In this product category, it is possible to detect poor quality before it is too late.	.32	...
3. Our organization is able to <i>evaluate</i> the quality of the product prior to delivery, through prepurchase inspection mechanisms.	.47	...
C. Quality consciousness	...	.58
1. Our organization feels the purchase of high <i>quality</i> in this product is critical.	.43	...
2. Our organization would suffer a significant <i>monetary</i> loss if quality of this product was low.	.43	...
3. Our organization, <i>in general</i> , checks to insure that the products and services supplied to us are of an acceptable level of quality.	.40	...

^a Reverse coded.

APPENDIX B

TABLE B1

MEASURES FOR CONTROL VARIABLES

- A. Reputation:
1. Our last purchased brand has a *reputation* for superior quality, relative to other brands in the category.
- B. Length:
- 1.^a We have been purchasing the product for _____ years.
- C. Lag (Pearsons $r = .24$):
1. In this product category product quality can be assessed only after a *long* period of use.
 2. Our organization is *unable* to evaluate the quality of the product even after purchase.
- D. Punishment (Pearsons $r = .24$):
1. Our organization would significantly reduce the *quantity* of purchases from a vendor whose product performed below expectations.
 2. Our organization will "*blacklist*" and never do business with any vendor found to have knowingly delivered poor quality for this product.

^a Responses to this variable were converted to a five-point categorical scale, based on the frequency distribution of raw scores, measured in years. Thus, each level of the scale represents approximately 20 percent of the data.

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