

Perceived Price and Product Perceptual Variables

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Recently, Lambert [4] studied the relationships between the price paid by the consumer and his perceptions of product variables for several product types. Using fictitious product brands priced at high, medium, or low levels, persons who chose the high-priced item perceived more quality variation within the product type and perceived more undesirable consequences from a bad choice than those who chose the low-priced item. Contrary to his original hypotheses, the high price group also tended to have more buying experience and to be more confident about their ability to judge quality.

The study reported here examines similar phenomena in order to assess the generality of Lambert's findings. For each subject, measures were obtained for perceived price paid for actual purchases of several product types and other product perceptual variables such as risk and information usefulness. The relationships between perceived price and these variables were then examined by using multiple regression. This study differs from Lambert's in that he used artificial brands and choices, while this study uses the price the subject recalls she actually paid when making her *normal* brand choice for a product type. This is an unusual variable, and may express the amount a subject feels is justified for a product type when she cannot recall a price, although the subject would not necessarily always choose a brand with that price when confronted with alternatives at varying prices. Thus, if the same results Lambert found occur with perceived price for actual brands, confidence in the findings can be increased.

METHODOLOGY

Ninety-seven housewives were paid \$5 to answer a questionnaire for nine product types: paper towels, dry spaghetti, furniture polish, toothpaste, beer, instant coffee, aspirin, margarine, and fabric softener. For each product type, eight variables were used. These variables were defined as follows: (a) Perceived Price is the perceived price paid for the brand normally chosen for each

product type; (b) Years Shopped shows how long the subject has been shopping for grocery products; (c) Standard Deviation measures the variation in the distribution of perceived product quality for brands of each product type; (d) Certainty measures whether an untried brand in a product class would work as well as the subject's current brand, measured on a 0 (almost never certain would work as well) to 9 (very certain would work as well) scale [1]; (e) Danger is the severity of the consequences of trying an unknown brand of a product class, measured on a 0 (no danger) to 9 (a great deal of danger) scale [1]; (f) Usefulness is the perceived usefulness for making choices of the information the subject has about the product class, measured on a 0 (not useful at all) to 9 (very useful) scale; (g) Percentage of Acceptable Brands is computed for a product type, showing how many brands the subjects feel are of acceptable quality; and (h) Perceived Risk is the relative risk for distinct pairs of product types.

The Standard Deviation variable for product quality (c above) was determined by having subjects rate sample brands for each product class on a twenty-point scale, ranging from 0 (very low quality) to 19 (very high quality). The standard deviation of these quality ratings is a direct measure of perceived quality variation, therefore, and not an indirect summary measure (e.g., 'Rate how much variation in quality you feel there is among brands of aspirin'). Arguments for such direct measures of cognitive variables have been made by Scott [5].

On the quality scale used to measure the standard deviation variable, subjects placed an X at the lowest quality level for that product that would just be acceptable to them. Brands rated at that level or above were classed as acceptable quality, and the percentage these brands formed of the total number of brands for each product type was computed to arrive at the Percentage of Acceptable Brands (g above).

From the set of distinct pairs of product types, the Perceived Risk variable (h above) was obtained by having the subject indicate for each pair which product type was more risky to shop for, and then rate *how much* more risky that type was than the other member of the pair on a 0 (equally risky) to 9 (very much more risky) scale. These extended paired comparison ratings were

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PERCEIVED PRICE: REGRESSION RESULTS BY PRODUCT TYPE

Product type (N)	Independent Variables ^a							R ²
	Years shopped	Standard deviation of product quality	Certainty of untried brand	Danger (severity of consequences)	Usefulness of information	Percent acceptable brands	Perceived risk	
Paper towels (96)	.052	-.026 ^b	-.203 ^c	-.045 ^b	.252 ^c	.145 ^{b,c}	.067	.115 ^c
	.50	-.24	-1.39	-.35	2.15	1.17	.61	
Dry spaghetti (97)	-.123 ^{b,c}	.097	-.350 ^c	-.090 ^b	.261 ^c	-.026	-.151 ^{b,c}	.206 ^f
	-1.18	.95	-2.27	-.68	2.37	-.24	-1.39	
Furniture polish (93)	-.043 ^b	-.049 ^b	.093 ^b	.299 ^c	-.083	-.277 ^c	.097	.187 ^e
	-.43	-.45	.69	2.43	-.80	-2.30	.86	
Toothpaste (97)	-.195 ^d	-.002 ^b	.004	-.070	.092 ^b	.175 ^c	-.155 ^c	.095 ^e
	-1.78	-.00	.03	-.50	.73	1.58	-1.33	
Beer (88)	.119	-.090	-.160 ^c	.058	-.203 ^d	-.112	.035	.086
	1.09	-.70	-1.27	.47	-1.67	-1.01	.30	
Instant coffee (90)	-.024 ^b	.010	-.119	-.159 ^c	.318 ^f	-.146 ^c	.112	.179 ^e
	-.23	.03	-1.03	-1.33	2.81	-1.40	.96	
Aspirin (96)	-.016	.074	-.045	.107	.085	-.237 ^c	.098	.181 ^e
	-.16	.64	-.30	.68	.79	-2.19	.82	
Margarine (96)	.032	-.101	-.218 ^d	.041	-.098	-.065	.004	.082
	.30	-.93	-1.67	.33	-.88	-.53	.03	
Fabric softener (90)	.130 ^c	.281 ^f	-.078	.139 ^c	.220 ^c	.095	-.134 ^e	.301 ^f
	1.36	2.70	-.65	1.24	1.96	.97	-1.31	

^a The *t* values are given below the standardized coefficient (beta weight) for each product class. The sample sizes differ because some subjects did not buy all product types.

^b Variable whose simple correlation with perceived price is opposite in sign from its coefficient.

^c Significant at $p < .25$.

^d Significant at $p < .10$.

^e Significant at $p < .05$.

^f Significant at $p < .01$.

then used to develop scale values for risk for each product type. The scales sum to zero across product types and measure the relative amount of risk.

Hypotheses suggested by Lambert [4, pp. 35-6] were that higher perceived price should be associated with less useful information, higher perceived quality variation, less shopping experience¹, less certainty, more danger, higher risk, and smaller percentage of acceptable brands. To test these hypotheses, a separate multiple linear regression analysis was run for each of the nine product types with perceived price as the dependent variable and the seven product perception and experience variables as independent variables.²

RESULTS AND DISCUSSION

The regression results for each product type are shown in the table. The R_2 values are significant at the .05 level or below for five of the nine products.³ The ta-

¹ Although rejected in Lambert's study, it was felt that this a priori hypothesis should not be discarded on the basis of a single finding.

² The seven variables described above were used after examining multicollinearity problems in a larger set of original variables. Ridge regression [3] was used to aid in this examination.

³ Examination of the residuals plotted against the independent variables showed no obvious nonlinearities in any of these regressions.

ble also shows that in some cases the coefficients have opposite signs from the simple correlation [2].

Examination of the significance levels of the coefficients shows that higher perceived prices are most strongly associated with decreased certainty and a smaller percentage of acceptable brands, supporting Lambert's hypotheses. The information usefulness coefficients are generally positive and significant, thus negating the hypothesis. One possible reason is that within a product type, package size selected may confound findings. That is, more useful information may be associated with buying larger package sizes of the product type, and therefore a higher perceived price. Finally, although significance levels are quite weak, the direction of the effect (taking into account the sign differences between the coefficient and the correlation for some product classes) is reasonably consistent for danger and standard deviation, with higher perceived price associated with increases in both.

The results for certainty, percentage of acceptable brands, and the much weaker results for danger and standard deviation of product quality support Lambert's hypotheses and findings. Finally, Lambert's finding, counter to his hypothesis, that increased experience and ability to judge product quality seemed to be associated with increased price paid, was indirectly supported in

this study. Confidence in Lambert's conclusions is somewhat enhanced since the methodology employed by Lambert was quite different from that used in this study.

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