

A REVISION AND EMPIRICAL TEST OF THE EXTENDED PRICE- PERCEIVED QUALITY MODEL

Joe Chapman
Ball State University

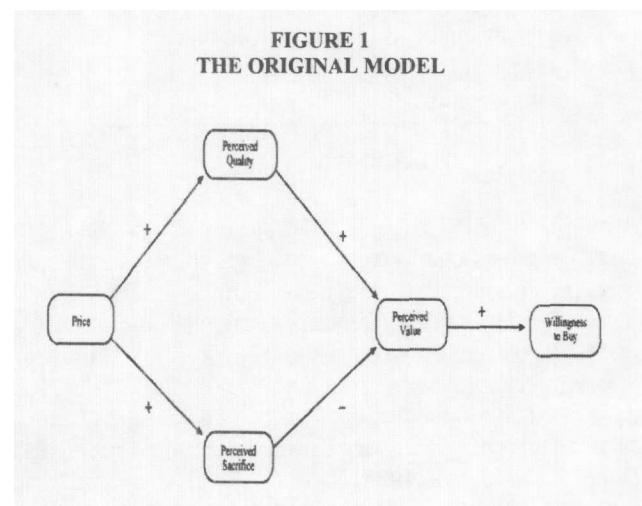
Russ Wahlers
Ball State University

This article examines the price-perceived quality paradigm. The subjects were 150 junior and senior marketing principles students with ages ranging from twenty to twenty-two years old. The sample was sixty percent female. Subjects were given a questionnaire containing the description of a product, the regular price charged for the product, and coupon information. Five price levels and five coupon offers were set for the research design. PACKAGE and LISREL were used to analyze the relationships between the dependent variables of the model. All of the dependent variable relationships were supported at the $p < .005$ level.

INTRODUCTION

Price has been used by marketers for many years to influence buyer behavior. Many marketers continue to search for better ways to manage information cues such as price to create more effective behavior change in both consumers and marketers. For years, price was look at as only an indication of the sacrifice made for a purchase. Scitovsky (1945) was the first to suggest that buyers not only use price as an index of sacrifice, but also as an index of product quality. The relationship between price and product quality has received a substantial amount of attention by marketing researchers, particularly since the mid-1980s. A conceptual model proposed by Monroe and Krishnan (1985) defined the influence of price on buyers' perceptions of product quality, monetary sacrifice, perceived value, and willingness to buy (Figure 1).

The model indicates that price has a positive affect on a consumer's perception of quality as well as a positive affect on a consumer's perception of sacrifice. In other words, the



model suggests that as price increases, a consumer's perception of both quality and sacrifice will increase. The model also suggests that perceived quality will have a positive

impact on a consumer's perception of value for a product and that perceived sacrifice will have a negative impact on the consumer's perceived value for a product. Therefore, as long as a consumer's perception of quality is greater than the perception of sacrifice, the consumer will have a positive perceived value for the product. The model also indicates that there is a positive relationship between the consumer's perception of value and the consumer's willingness to buy a product. This relationship means that the higher a consumer's perceived value, the higher the consumer's willingness to buy. The definitions for each of the four constructs of the model are presented below (Monroe and Krishnan 1985):

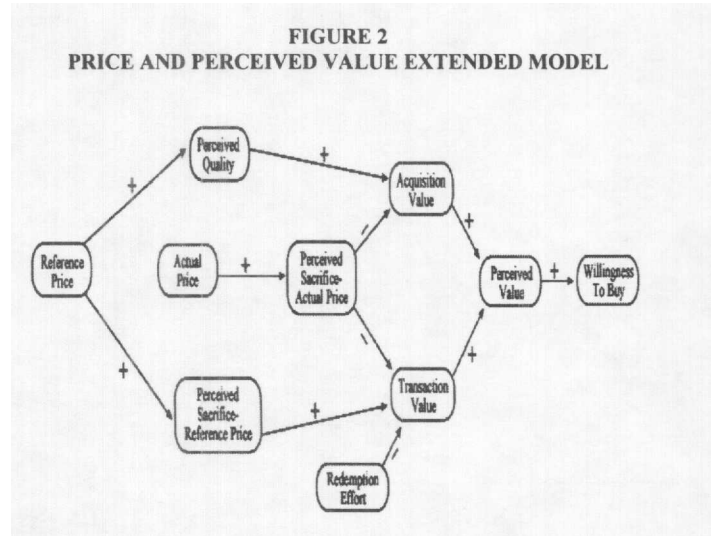
Perceived Quality:	the belief in the overall "goodness" of what is received
Perceived Sacrifice:	the feeling towards giving up something
Perceived Value:	an evaluation of the "fairness" of the transaction, i.e., the tradeoff between perceived quality and perceived sacrifice
Willingness to Buy:	the intention to buy the product

This original price-perceived quality model has been validated by several studies (Dodds and Monroe 1985; Rao and Monroe 1988; Zeithaml 1988; Dodds, Monroe, and Grewal 1991; and Chapman 1993). The original price-perceived quality model has also served as a building block for more elaborate models integrating brand name and store name (Dodds and Monroe 1985; Dodds, Monroe, and Grewal 1991), intrinsic cues (Zeithaml 1988), and product familiarity (Rao and Monroe 1988). Dodds (1996) expanded the original model to include the effect of brand name and perceived risk on the model's constructs, and Dodds (1995) also examined the effect of perceived store quality on perceived product quality, perceived sacrifice, and willingness to buy.

THE EXTENDED PRICE-PERCEIVED QUALITY MODEL

A buying situation not explained by research on the original price-perceived quality conceptualization is when the actual price is discounted to the buyer, i.e., when the buyer is presented with both a reference price (regular price) and a sale price. Based on Kahneman and Tversky's (1979) prospect theory, psychophysics, and economic reasoning, Thaler (1985) developed a model for consumer judgement and choice. Thaler's reasoning was very similar to the ideas proposed by Dodds and Monroe (1985), in that, Thaler suggested buyers first judge the value of an offer and then decide whether to make a purchase. Thaler's transaction utility theory also suggested that the utility (value) obtained during a transaction will depend on how great a difference there is between the perceived gain in a transaction compared to the perceived sacrifice. Drawing upon Thaler's transaction utility theory,

Chapman (1987) extended the original price-perceived quality model to include situations where both the reference price and discounted price are presented to consumers. The extended price-perceived quality conceptualization is presented in Figure 2.



The extended model suggests that consumers have a perception of quality and sacrifice based on the higher reference price and that consumers also obtain a perception of sacrifice based on the lower actual price (discounted price). Acquisition value is defined as the net value that accrues from the tradeoff between the actual price charged and the perceived benefits of acquiring a product.

Monroe and Chapman (1987) suggest that acquisition value is just one aspect of the total value received in a transaction. Total value (perceived value) is defined as acquisition value plus transaction value, where transaction value is defined as the perceived merits of a "deal." The perceived merits of a deal are a tradeoff between the perceived sacrifice based on the reference price and the perceived sacrifice based on the actual price. Transaction value can be reduced by the amount of redemption effort required to obtain the deal. The notion that redemption effort affects consumers' purchase behavior is also supported in research by Tat and Schwepker, Jr. (1998). Examples of redemption effort would be the amount of effort it would take to obtain the lower price using a coupon or rebate. As indicated by the model, a positive perception of value should lead to a willingness to buy.

Urbany and Bearden (1989) tested the lower path of the Chapman (1987) model and reported support for the causal relationships in the path. Their findings suggest that the closer the sale price is to the reference price, the less impact the reference price will have on perceived sacrifice; and secondly, that a perceived "good" lower price may lead directly to purchase rather than following the path suggested by the extended model. Overall, Urbany and Bearden (1989) found



that the causal ordering of constructs in the extended model were "generally supported." They concluded by calling for a more extensive test of the extended price-perceived quality model proposed by Chapman (1987).

Two extensive tests of the extended price-perceived quality model have been conducted. Chapman (1993) used LISREL (Joreskog and Sorbom 1984) to assess the overall goodness of fit for the extended conceptual model and found that, overall, the extended model fit the data well. The analysis of the data also significantly supported the causal relationships of the dependent variables except for two very important relationships: 1) the relationship between perceived sacrifice actual and transaction value was not statistically significant and, 2) the relationship between perceived sacrifice reference and transaction value was not statistically significant.

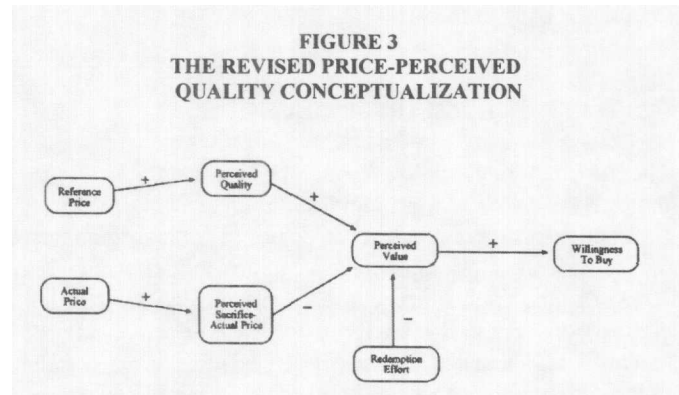
Chapman and Brown (1992) also tested the extended price-perceived quality model. Again, there was no significant relationship found between the two price-perceived sacrifice variables and transaction value. The results of these two experiments suggest price promotions that include a discounted price may have a slightly different effect on consumers' purchase evaluations than originally purported by the extended conceptualization.

A REVISION OF THE EXTENDED PRICE-PERCEIVED QUALITY MODEL

The results presented in the Chapman (1993) study and the Chapman and Brown (1992) study indicate that transaction value and perceived value may essentially be the same construct. An examination of each construct's definition supports this notion. Perceived quality is defined as the perceived benefits obtained from acquiring the product. Perceived sacrifice is defined as the perception of what one sacrifices monetarily to obtain the product. Perceived value, therefore, is the tradeoff between the perceived benefits of the offer and the perceived monetary sacrifice. At the same time, transaction value has been defined as the perceived merits of a "deal." The perceived merit of a deal is the perceived tradeoff between what one is gaining and what one is losing. The larger the gain, the greater the transaction value; and the larger the loss, the less the transaction value. By definition perceived value and transaction value can be considered the same concept.

A closer look at the original extended model (Figure 2) may indicate another drawback to this conceptualization. The model shows that given a reference price, consumers perceive a monetary sacrifice. Since consumers know that they do not have to pay the amount of money indicated by the reference price, there should not be any perception of sacrifice associated to the reference price for that purchase; therefore, there should be no perceived sacrifice reference price

construct in the model. These arguments suggest a revision to the original extension of the price-perceived quality model. The revised conceptualization is presented in Figure 3.



Based on the above discussion, the constructs of acquisition value, perceived-sacrifice reference price, and transaction value have been dropped for the revised price-perceived quality extended model. The remainder of this paper presents an empirical test of the revised price-perceived quality extended model.

RESEARCH HYPOTHESES

The following hypotheses are based on the relationships postulated by the revised price-perceived quality extended model (Figure 3).

- H1: There is a positive relationship between the reference price and perceived quality; that is, as price increases, consumers' perceptions of quality will also increase.
- H2: There is a positive relationship between the actual (sale) price and perceived sacrifice; that is, as the actual price paid by consumers decreases, the amount of perceived sacrifice will decrease.
- H3: There is a positive relationship between perceived quality and perceived value; that is, the greater the perception of quality of the product, the greater the perception of value.
- H4: There is a negative relationship between perceived sacrifice and perceived value; that is, the more a consumer must give to obtain the product, the lower the perception of value.
- H5: There is a positive relationship between perceived value and willingness to buy; that is, the greater the perception of value of an offer, the more likely the consumer will be to purchase the product.
- H6: There is a negative relationship between redemption

effort and perceived value; that is, the more effort it takes for the consumer to take advantage of a discount offer, the lower the perception of value related to the offer.

RESEARCH METHODS

The research methodology used for this study, including pretests, research design, and data analysis procedures, followed the same methods as those used for the original test of the extended price-perceived quality model (Chapman 1993). The same procedures were followed so that comparisons could be easily made between the original extended model results and the revised extended model results presented in this paper. The previous test of the price-perceived quality extended model used both coupons and rebates to discount the regular price. Both coupons and rebates were used in that study to compare redemption efforts between the two forms of discounts. Since the objective of this study is just to test the revised extended model (and not to compare coupon and rebate redemption effort), only one discount method was used to measure redemption effort. Coupons were chosen to be consistent with the past test of the extended model and because of the continued vast use of coupons by marketers as well as consumers. In 1996 in the United States, 269 billion coupons were issued with approximately 5.3 billion redeemed for a savings of approximately \$3.7 billion dollars (Ramaswamy and Srinivasan 1998).

Pretests

A pretest was used to select a product for the main study and to determine an acceptable price range for the chosen product. The product was chosen based on whether or not the subjects were familiar with the product, whether or not the subjects were potential buyers of the product, and whether or not the product was conducive to the use of coupons for discounting the price. Five products were chosen for the pretest. The five pretest products were selected because it was felt that the subjects would be familiar with all five products, and because it was felt that each of the products were conducive to coupon promotions.

The five products chosen were:

1. A trimline touch tone desk telephone
2. An AM/FM stereo alarm clock radio
3. A CD player
4. A personal computer
5. A television set with remote control

The sample for the pretest was fifty marketing students from a marketing principles class at a mid-western university in the United States. Each subject evaluated the product

descriptions of all five products. The product descriptions were actual descriptions taken from product catalogs. For each of the five products, subjects were asked to indicate their knowledge of the product on a five point scale. Subjects were also asked if they had purchased, owned, or were planning at some point to purchase the product; and, whether or not they had ever seen a coupon offer for the product. The results indicated that the subjects had purchased, owned, or were planning on purchasing each of the five products presented. Based on their knowledge of the products, the pretest indicated that the subjects were most knowledgeable about the television set, the personal computer, and the CD player; however, a majority of subjects indicated that they had not seen a coupon promotion for personal computers or television sets. Therefore, based on the results of the pretest, a CD player was chosen as the product for the study.

The second part of the pretest was to determine an acceptable price range for the product. For each product description, subjects were asked what price they felt would be too high for the product, what price they thought would be too low for the product, and what price they felt would be normal or reasonable. For the CD player, the average "too high price" was \$287, the average "too low price" was \$93, and the average "reasonable or normal price" was \$224. Based on these results, it was decided to use a price of \$225 for the regular or reference price and a low price of \$180 (\$225 minus \$45 coupon) for the actual paid price. It was felt that these prices were well within the acceptable price range for the subjects and that the range was wide enough to offer four distinctive coupon reduced prices.

Sample

The subjects for the study were marketing principles students from a medium-sized, mid-western university. One hundred and fifty subjects were surveyed from three marketing principles classes on the same day. The subjects were informed that their participation was voluntary. The subjects were junior and senior students with ages ranging from twenty to twenty-two years old and with sixty percent being female. Subjects were chosen from the same population as the pretest without replacement and were randomly assigned to one of the treatment cells. The same number of questionnaires for each cell were distributed to the subjects in class resulting in 30 subjects per cell for the final data analysis. Since the questionnaires were checked for completeness when turned in, all the questionnaires were useable for the data analysis.

Calder, Phillips, and Tybout (1983) state that if the objective of the research is to test theoretical propositions and not to generate findings that can be directly applied to a particular situation, then more precise theoretical understanding can be obtained by using a sample of homogeneous respondents. Petroschius (1983) suggests that if statistical generalization of

the findings is not the goal of the research, then a more representative sample of the population is not necessary and any relevant sample, such as students, will allow for the theoretical findings to be interpreted. Since the objective of this study is to test the extended theoretical model, students were used for the sample. Further studies of the model using more representative samples should be conducted in the future to broaden the ability to generalize the results.

Research Design

The research was conducted by presenting subjects with a reference (regular) price and a coupon for a product offer. A coupon was used to reduce price so that redemption effort could be measured for the model. Given a coupon offer, consumers' face a buying situation where they have both a reference price (the regular price shown) as well as an actual price (the regular price minus the coupon offer). Subjects were given a questionnaire containing a description of the product, the regular price charged for the product, and information on the amount of the coupon for the CD player. The product description was an actual description taken from a catalog and typed into the questionnaire. There was no picture of the product presented to the subjects. Subjects were informed that they would have to clip the coupon from an advertisement and redeem it at the point of purchase.

Five price levels which fell within the subjects' acceptable price ranges were set for the research design. The regular price set for the CD player was \$225, and four coupons levels were valued at fifteen dollars, twenty-five dollars, thirty-five dollars, and forty-five dollars. A fifth price was presented without a coupon. Since it is hypothesized that the perceived quality is based on the reference (regular price), a reference price that was higher or lower than the \$225 price was needed so that the price-perceived quality relationship could be measured. The no coupon cell also allows for measurement of the effect of redemption effort on perceived value. A price of \$150 was selected because it was substantially below the \$225 price and was still well within the subjects' acceptable price range for the product. Each subject viewed only one price situation (only one of the coupon offers or the no coupon offer). The only difference in the information presented to each subject was the amount of the coupon, i.e., no coupon, \$15, \$25, \$35, \$45. The research design is presented in Table 1.

TABLE 1
RESEARCH DESIGN

	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5
Reference Price	\$150	\$225	\$225	\$225	\$225
Coupon	No Coupon	\$15 Coupon	\$25 Coupon	\$35 Coupon	\$45 Coupon

Based on the product description, the price information, and the coupon information (when provided), each subject was asked to evaluate the product offer. The scales (indicators) used to measure perceived quality, perceived sacrifice-actual, perceived value, redemption effort, and willingness to buy were those used and developed by Chapman (1987). Each construct was measured using multiple indicators (Appendix A).

To accurately measure perceived sacrifice actual, the subjects were asked to calculate what the final price would be after the coupon offer. (See Appendix A, perceived sacrifice actual). All the subjects were able to accurately perform the calculation. The calculation was needed to guarantee that the subjects in each cell were basing their evaluation on the same reduced price. Without the accurate calculation, the analysis would not provide accurate results. There was no need to have the calculation statements for the cell with no coupon offered.

ANALYSIS AND RESULTS

The first step of the data analysis was to test the reliability of the indicators for each construct. One way of assessing whether or not the multiple indicators being used are measuring the same construct is with PACKAGE. PACKAGE is a data analysis technique that aids in "cleaning up" the measurement model (Hunter and Cohen 1969). It is a system of computer routines for the analysis of correlation data. The coefficient alphas provided by the Package analysis indicate the reliability of the multiple measures for each construct. Nunnally (1978) suggests that a coefficient alpha of .70 indicates minimum acceptable reliability for early, basic research. As shown in Table 2, all the coefficient alpha scores for the five constructs satisfy this requirement.

TABLE 2
COEFFICIENT ALPHA SCORES
FOR DEPENDENT VARIABLES

Dependent Variable	Coefficient Alphas
Perceived Quality	.92
Perceived Sacrifice Actual	.89
Redemption Effort	.85
Perceived Value	.89
Willingness to Buy	.91

Overall Fit of the Data to the Model

Before addressing each of the specified hypotheses, LISREL (Joreskog and Sorbom 1984) was used to determine the overall fit of the data to the revised model. LISREL is a statistical tool that analyzes the linear structural relationships of dependent variables by the method of Maximum Likelihood. LISREL provides statistical information that can be used to assess the overall fit of the data to the model as well as statistics that indicate whether or not there is a statistically significant relationship among the hypothesized dependent variables.

Based on the LISREL analysis, three separate measures were used to assess the overall fit of the data for the conceptual model: 1) goodness of fit index (GFI), 2) adjusted goodness of fit index (AGFI), and 3) root mean square residual (RMR). The goodness of fit and adjusted goodness of fit values should be "large", i.e., the values should be close to one to indicate good overall fit. A root mean square residual value that is "small" indicates that the model fits the data well (Hunter and Cohen 1969). GFI is a measure of the relative amount of variances and covariances jointly accounted for by the model, AGFI is adjusted for degrees of freedom, and RMR is a measure of the average of the residual variances and covariances (Joreskog and Sorbom 1984). The results of the LISREL analysis for the revised model found that the GFI was .905, the AGFI was .838, and the RMR was .107, indicating a good overall fit of the data to the model.

Testing the Hypothesized Relationships

Since LISREL only examines the relationships among the dependent variables of a model, effect sizes were calculated to measure the relationship of price (the independent variable) to perceived quality and perceived sacrifice actual for the revised model. In essence, an effect size is the magnitude of the effect of the independent variable upon the response variable. An effect size is calculated in the following manner:

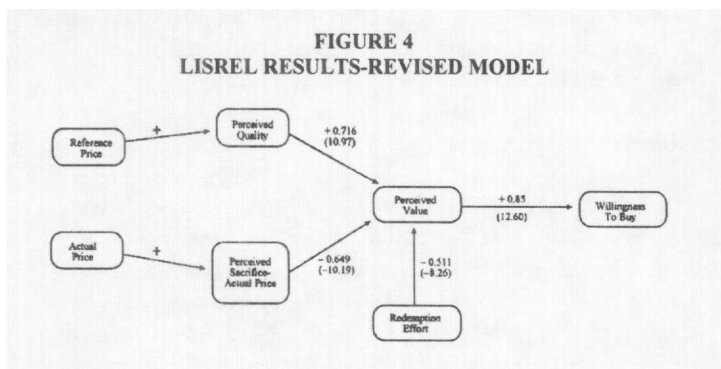
$$\text{Effect Size} = (f \times df \text{ between}) / (df \text{ between} + df \text{ error}),$$

where f = f-value of the relationship (1)

According to Cohen (1977), effect sizes greater than 0.14 are large, effect sizes between 0.14 and 0.06 are moderate, and effect sizes less than 0.06 are small. The values obtained for the price-perceived quality relationship (0.13) and the price-perceived sacrifice actual relationship (0.10) are moderate effect sizes, thereby, supporting hypotheses 1 and 2 for the revised model. In other words, the data supports the hypotheses of a positive relationship between price and perceived quality and of a positive relationship between price and perceived sacrifice actual.

To test hypotheses 3, 4, 5, and 6 for the revised model, t-

values and maximum likelihood estimates (MLE) were obtained through the LISREL analysis. The maximum likelihood estimates and the t-values (in parentheses) for the relationships between the dependent variables of the extended model are presented in Figure 4.



The third hypothesis states that there will be a positive relationship between perceived quality and perceived value. The analysis produced a t-value of 10.97 which is significant at $p < .005$. The results of this analysis show a positive perceived quality-perceived value relationship. The fourth hypothesis states that there will be a negative relationship between perceived sacrifice and perceived value. The results of the analysis produced a t-value for this relationship of negative 10.19 which is significant at $p < .005$, indicating support for the negative perceived sacrifice actual-perceived value relationship. The fifth hypothesis states that there will be a positive relationship between perceived value and willingness to buy. The results also support this hypothesis with a t-value of 12.60 which is significant at $p < .005$. The sixth, and final, hypothesis states that there will be a negative relationship between redemption effort and perceived value. The results of the analysis produced a t-value of -8.26 which is significant at $p < .005$, therefore, supporting the sixth hypothesized relationship. In sum, the analysis for the revised model provided support for all six hypotheses.

DISCUSSION

Part of the analysis for this research enabled replication of past research on the original model tested by Dodds and Monroe (1985). From a theoretical viewpoint, these results lend support for the entire original price-perceived quality paradigm proposed by Monroe and Krishnan (1985). It should also be noted that this is only the third study to show support for the positive price-perceived sacrifice actual relationship. The revised extended model presented in this paper resulted in a better fit of the data than the original extended conceptualization; however, further research should be conducted testing both models to see if the comparison holds.

A plausible explanation for variation in results of past price-

perceived quality studies has been the use of many different rating scales. Thus, by using the same set of scales in programmatic research, variation due to the use of different rating scales is reduced. The scales used for this research were the same scales used by Chapman (1987, 1993) and Chapman and Brown (1992). Also, the constructs measured in the research were assessed using multiple indicators of each construct which enables assessment of the reliability of the measures within a single study; therefore, future refinement of the scales used for this research is possible.

MANAGERIAL IMPLICATIONS

With the price conscious consumer in today's marketplace, marketers need to be aware of the role that price plays in the consumer's buying process. This study helps promote a greater understanding of the effect of price on a purchase decision by empirically testing the impact of price on the perception of quality of a product and on the perception of the perceived sacrifice for a product. The study supports the idea that a consumer perceives the quality of a product based on the reference (regular) price listed for a product, but bases the sacrifice for the product on the discounted (actual) price. If this is true, marketers may want to use sale or discounted prices in combination with the reference price in promotions to increase a consumer's willingness to buy. However, since the subjects in this study actually were informed to do the calculation to reduce the price by the amount of the coupon, further tests are needed to check whether consumers actually make this calculation on their own. All six research hypotheses were empirically supported by the results of the study. Each of these hypotheses offer implications for marketing managers interested in using couponing (or other discounting methods where both the regular and discounted prices are presented) as a promotional tool.

The data support the notion that there exists a positive link between a product's reference price and the consumer's perception of that good's quality. While to some this observation may appear rather obvious short of empirical verification, the results underscore the importance for the marketer to provide reference price cues to consumers in a clear and prominent fashion. Reference price cues may be provided in a number of ways: on product labels, on the package, in advertisements, and certainly on in-store point-of-purchase materials. While many consumers develop a fairly keen sense of reference prices for various product categories, particularly in response to purchase frequency and experience, it is a safe bet that many consumers do not. Since perceived quality is directly linked to perceived reference price, the importance of providing reference price cues to consumers cannot be overstated.

The results of the study also supported the hypothesized direct

relationship between the actual price paid and the consumer's perception of sacrifice necessary to obtain that item. In the context of a couponing campaign, this implies that as the size of the discount reflected on a coupon increases, the consumer's perceived level of sacrifice declines. Managers can use coupon promotions to make the consumer feel better about their purchase. This could possibly lead to increased consumer loyalty. While not addressed in this study, there may well be some minimal effective price reduction offered by a coupon below which there exists no consumer impact with respect to lessening perceived sacrifice. Managers can use the extended model framework to determine whether or not the price reduction would be significant enough to affect consumer behavior.

A third hypothesis suggesting a positive linkage between perceived quality and perceived value was supported by the reported data. Clearly one would expect quality and imputed value to be directly related. From an implications perspective, it is important for the marketing manager to pay constant attention to creating a perception of strong product value. While perceived quality is a function of both price and non-price cues beyond the scope of our study, one method of enhancing quality perceptions is to provide appropriate reference price information to consumers.

The results reported in this paper further support the hypothesis that perceived sacrifice and perceived value are inversely related. The more a consumer must give up (sacrifice) to obtain an item, the less the perceived value associated with the potential transaction. Since coupon promotions lessen the perceived sacrifice involved in a purchase situation confronting the consumer, the better the deal offered by a coupon measured in terms of money units — the greater will be the consumer's perception of value. The implication here is to clearly communicate and emphasize to the consumer the amount of savings (i.e., sacrifice reduction) represented by a particular coupon. The same may hold true for other discounting situations. This research should be expanded to determine if the use of rebates would have the same impact on the consumer's perception of sacrifice and value.

The fifth research hypothesis suggesting a positive link between perceived value and willingness to buy was also confirmed by the data. Anything that marketers can do to enhance value can be expected to enhance probability of purchase. Given the relationship between perceived sacrifice and perceived value, this underscores the strategic potential of an effective coupon promotion.

Finally, the hypothesized inverse relationship between coupon redemption effort and perceived value was empirically supported. This implies that marketing managers should think of creative ways to reduce coupon redemption effort to

enhance value. One increasingly popular method of accomplishing this involves the use of in-store coupon dispensers which eliminate the need for the consumer to clip and organize coupons at home prior to entering the store. Another popular method involves including the coupon directly on the product package. This method may also help reduce perceived redemption effort and, therefore, result in a higher perceived value of the product offer. The negative result found between perceived value and redemption effort indicates that the easier marketers make it for the consumer to take advantage of discounts, the more likely consumers will be to buy the product. This implies that marketers might want to consider in-store or instant discount promotions compared to discounts requiring a significant amount of effort by the consumer to obtain the savings.

With the ever-changing marketplace, marketing managers need to implement the most effective promotional tools available to them. The extended price-perceived quality model may prove a useful tool in showing managers the best discount option for various products. A manager could use the model to determine how much of a price increase would be needed to affect a consumer's willingness to buy a product. Better decisions regarding the increasing and decreasing of the price of a product can have a positive impact on a company's bottom line.

FUTURE RESEARCH

In addition to managerial implications, this study offers several implications for further research. The methodology used here was confined to a single product category, a single reference price, and a limited range of coupon "deal" amounts. Research dealing with various products and services at varying reference price levels and involving wider ranges of coupon discounts is needed to further examine the hypothesized relationships of the extended model. Research for the

original model, the extended model, and the revised extended model should continue using different products, populations, and/or settings to examine the robustness and boundaries of the findings. The range of products tested within these conceptual models should be increased to include products that are relatively inexpensive and products that are relatively expensive. The product used for this study, a CD player, had not been used in previous tests of any price-perceived quality model.

A further research extension would examine the relative impact of coupon discounts versus outright price reductions on the dependent variables. We have already begun to see a widespread movement toward value pricing in the auto industry and meal deals in the fast food sector, neither of these being coupon or rebate type promotions. Given the growing impact of these straight forward price reduction promotions, an interesting question might involve the relative impact of price cutting versus coupon promotions on perceived redemption effort. It would be a logical assumption that simple price cutting involves no redemption effort. An interesting issue might involve determining whether or not an indifference point exists wherein the consumer might equally value a price cut to a coupon promotion where redemption effort is the moderating variable associated with the coupon promotion.

Future research should be expanded to test a variety of discounting strategies used by marketers. The extended model framework could be used to determine if the use of rebates would have the same impact on the consumer's product evaluations as coupons. The research could also be expanded to check the impact of advertisements that include both a regular price and discount price together in the same advertisement. With the relatively few tests of the extended price-perceived quality model, much more research is needed to verify the usefulness of the model for marketing researchers as well as practitioners.

REFERENCES

- Chapman, Joseph D. (1987), "The Impact of Discounts on Subjective Product Evaluations," unpublished doctoral dissertation, Marketing Department, Virginia Polytechnic Institute and State University, Blacksburg, Va.
- _____ (1993), "The Effect of Discounts on the Price-Perceived Quality Paradigm," *Journal of Marketing Theory and Practice*, Winter, Vdo. 2, pp. 1-11.
- _____ and Joseph Brown (1992), "The Extended Price-Perceived Quality Model," Working Paper, Department of Marketing, College of Business, Ball State University, Muncie, Indiana.
- Cohen, Jacob C. (1977), *Statistical Power Analysis for the Behavioral Sciences*, Academic Press Inc., New York.
- Calder, Bobby J., Lynn W. Phillips, and Alice M. Tybout (1983), "Beyond External Validity", *Journal of Consumer Research*, 10, June, pp. 109-111.
- Dodds, William B. (1996), "Perceived Value, A Dimension of the Consumer Risk Construct," *Mid-American Journal of Business*, Volume 11, Number 1, Spring, pp. 15-22.
- _____ (1995), "Market Cues Affect on Consumers' Product Evaluations," *Journal of Marketing Theory and Practice*, Volume 3, Number, 2, Spring, pp. 50-63.

- _____ and Kent B. Monroe (1985), "The Effect of Brand and Price Information on Subjective Product Information," *Advances in Consumer Research*, Vol. 12, Elizabeth Hirschman and Morris Holbrook, Eds., Provo, UT: Association for Consumer Research, pp. 85-90.
- _____ Kent B. Monroe, and Grewal (1991), "The Effects of Price, Brand, and Store Information on Buyers' Product Evaluations," *Journal of Marketing Research*, 28, August, pp. 307-19.
- Hunter, John and Stanley Cohen (1969), "PACKAGE-A System of Computer Routines for the Analysis of Correlational Data," *Educational and Psychological Measurement*, 29, pp. 697-700.
- Joreskog, Karl G. and Dag Sorbom (1984), *LISREL VI: Analysis of Linear Structural Relationships by the Method of Maximum Likelihood*, Mooresville, IN: Scientific Software, Inc.
- Kahneman, Daniel and Amos Tversky (1979), "Prospect Theory: An Analysis of Decision Under Risk," *Econometrica*, 47, March, pp. 263-91.
- Monroe, Kent B. and Joseph D. Chapman (1987), "Framing Effects on Buyers' Subjective Product Evaluations," *Advances in Consumer Research*, Vol. 14, Melanie Wallendorf and Paul Anderson, Eds., Provo, UT: Association for Consumer Research, pp. 193-97.
- _____ and R. Krishnan (1985), "The Effect of Price on Subjective Product Evaluations," *Perceived Quality: How Consumers View Stores and Merchandise*, J. Jacoby and J. Olson, Eds., Lexington, MA: D. C. Heath, pp. 209-232.
- Nunnally, Jum C. (1978), *Psychometric Theory*, New York: McGraw-Hill Co.
- Petroshius, Susan M. (1983), "An Experimental Investigation of Product Line Pricing Characteristics on Product Line Evaluations," unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.
- Ramaswamy, Venkatram and Srin S. Srinivasan (1998), "Coupon Characteristics and Redemption Intentions: A Segment-Level Analysis," *Psychology and Marketing*, Volume 15, Number 1, January, pp. 69-80.
- Rao, Akshay R. and Kent B. Monroe (1988), "The Moderating Effect of Prior Knowledge on Cue Utilization in Product Evaluations," *Journal of Consumer Research*, 15, September, pp. 253-64.
- Scitovsky, Tibor (1945), "Some Consequences of the Habit of Judging Quality by Price," *The Review of Economic Studies*, 12, Winter, pp. 100-105.
- Tat, Peter K. and Charles H. Schwepker, Jr. (1998), "An Empirical Investigation of the Relationships Between Rebate Redemption Motives: Understanding How Price Consciousness, Time and Effort, and Satisfaction Affect Consumer Rebate Redemption," *Journal of Marketing Theory and Practice*, Volume 6, Number 2, Spring, pp. 61-71.
- Thaler, Richard (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4, Summer, pp. 199-214.
- Urbany, Joel E., and William O. Bearden (1989), "Reference Price Effects on Perceptions of Perceived Offer Value, Normal Prices, and Transaction Utility," *Proceedings of the Summer Educators' Conference, Chicago: American Marketing Association*, pp. 45-49.
- Zeithaml, Valarie A. (1988), "Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence," *Journal of Marketing*, 52, July, pp. 2-22.

**APPENDIX
MEASURES FOR THE DEPENDENT VARIABLES**

Perceived Quality

1. The likelihood that the CD player will be reliable is:

1	2	3	4	5	6	7
very low	moderately low	slightly low	neither high nor low	slightly high	moderately high	very high

2. This CD player appears to be of:

1	2	3	4	5	6	7
very poor quality	moderately poor quality	slightly poor quality	neither good nor poor quality	slightly good quality	moderately good quality	very good quality

3. This CD player would seem to be dependable:

1	2	3	4	5	6	7
strongly disagree	moderately disagree	slightly disagree	neither agree nor disagree	slightly agree	moderately agree	strongly agree

Perceived Value

1. Overall, this CD player is a good value for the money:

1	2	3	4	5	6	7
strongly disagree	moderately disagree	slightly disagree	neither agree nor disagree	slightly agree	moderately agree	strongly agree

2. Overall, I would consider this CD player to be a good buy:

1	2	3	4	5	6	7
strongly disagree	moderately disagree	slightly disagree	neither agree nor disagree	slightly agree	moderately agree	strongly agree

3. Overall, the offer for this CD player is a:

1	2	3	4	5	6	7
very poor value	moderately poor value	slightly poor value	neither good nor poor value	slightly good value	moderately good value	very good value

Willingness to Buy

1. Given the offer described, the likelihood that I would purchase this CD player is:

1	2	3	4	5	6	7
very low	moderately low	slightly low	neither high nor low	slightly high	moderately high	very high

2. Given this offer, my willingness to buy this CD player is:

1	2	3	4	5	6	7
very unwilling	moderately unwilling	slightly unwilling	neither willing nor unwilling	slightly willing	moderately willing	very willing

3. I would not consider buying this CD player given the offer described:

1	2	3	4	5	6	7
strongly disagree	moderately disagree	slightly disagree	neither agree nor disagree	slightly agree	moderately agree	strongly agree

Redemption Effort

1. It would take very little extra effort to obtain the benefits of this offer:

1	2	3	4	5	6	7
strongly disagree	moderately disagree	slightly disagree	neither agree nor disagree	slightly agree	moderately agree	strongly agree

2. The amount of effort necessary to qualify for the benefits of this offer is:

1	2	3	4	5	6	7
very low	moderately low	slightly low	neither high nor low	slightly high	moderately high	very high

3. It probably would not be worth my time to do what is necessary to minimize my actual monetary expense when purchasing this CD player:

1	2	3	4	5	6	7
strongly disagree	moderately disagree	slightly disagree	neither agree nor disagree	slightly agree	moderately agree	strongly agree

Perceived Sacrifice Actual

Please indicate a price for the following statement in the space provided.

After all terms of the offer have been met, the actual amount of money paid would be _____.

Please answer the following questions based on the price indicated.

1. The monetary sacrifice that I would be making if I purchased this CD player at this price is:

1	2	3	4	5	6	7
very low	moderately low	slightly low	neither high nor low	slightly high	moderately high	very high

2. I feel that this CD player is expensive at this price:

1	2	3	4	5	6	7
strongly disagree	moderately disagree	slightly disagree	neither agree nor disagree	slightly agree	moderately agree	strongly agree

3. The amount of money required to acquire this CD player at this price is:

1	2	3	4	5	6	7
very low	moderately low	slightly low	neither high nor low	slightly high	moderately high	very high

AUTHOR BIOGRAPHY

Joe Chapman (Ph.D., Virginia Polytechnic Institute and State University) is currently an associate professor of marketing at Ball State University and associate director of Ball State University's Professional Selling Institute. Professor Chapman teaches primarily professional selling, sales management, and advanced selling courses. His research interests have focused primarily on professional selling topics such as training, selection, communication, education, and buyer/seller relationships. Secondary research topics include pricing and sales promotion. His works have appeared in the following journals: *Journal of Personal Selling and Sales Management*, *Marketing Education Review*, *Journal of Business Ethics*, *Mid-American Journal of Business*, *Review of Business*, and *Journal of Marketing Theory and Practice*.

AUTHOR BIOGRAPHY

Russell G. Wahlers (D.B.A., Kent State University) is an assistant professor of marketing at Ball State University. Professor Wahlers' teaches primarily consumer behavior and marketing simulation courses. His research has focused on consumer decision making models and measurement methodology in the consumer behavior area. His works have appeared in the following journals: *Journal of Marketing Theory and Practice*, *Journal of Professional Services Marketing*, *International Journal of Retail and Distribution Management*, *Review of Business*, *Marketing Intelligence and Planning*, *Journal of Leisure Research*, and *the Journal of Travel Research*.