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Business-to-Business Buying Behavior and the Price-Perceived Quality Paradigm

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ABSTRACT

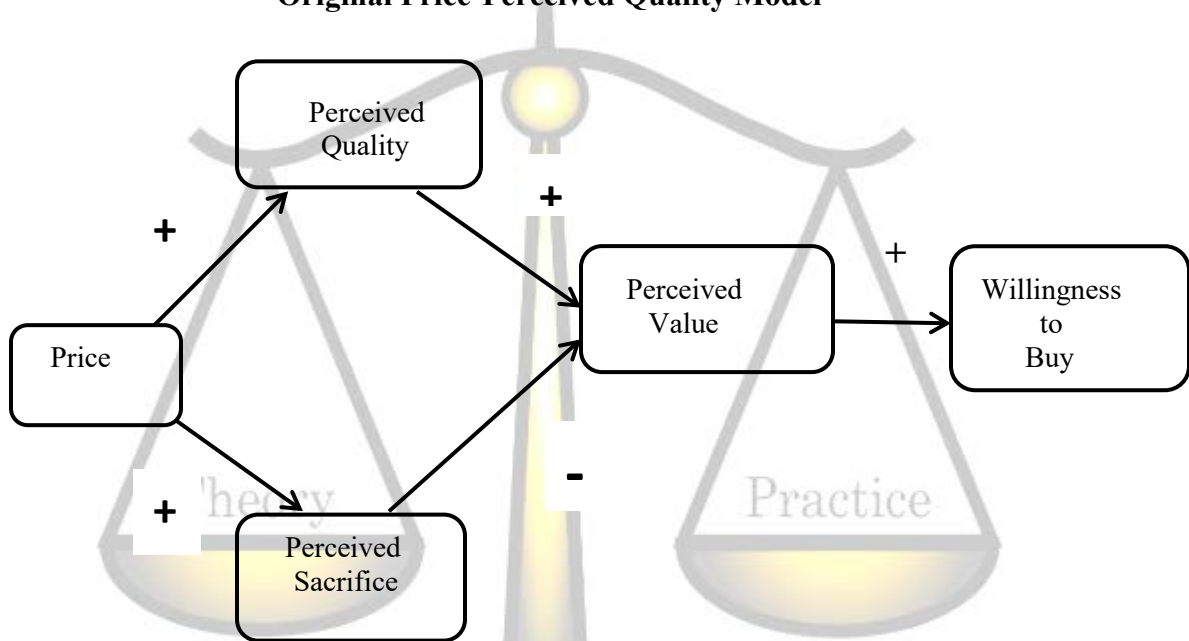
This article gives an overview of the development of the price-perceived quality paradigm. The original price-perceived quality model is presented to show the impact of price on consumer behavior. An extended model is discussed which shows the impact of presenting two prices to consumers in a purchase situation as well as showing the impact of various promotions such as coupons and rebates on consumer behavior. Based on two tests of the extended model, a revised model was developed to address the shortcomings of the extended model. All the previous research on the price-perceived quality model has been based on consumer buying situations. There have not been any tests of the model for business to business buying situations. This research presents a test of the revised model for a business to business buying situation.

INTRODUCTION

Before the 1940s, price was looked 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. In the 1980s, the relationship between price and product quality received a substantial amount of attention by marketing researchers. In 1985, Monroe and Krishnan (1985) proposed and tested a conceptualization showing the influence of price on buyers' perceptions of product quality, monetary sacrifice, perceived value, and willingness to buy. This conceptualization is the original price-perceived quality model (Figure I). The model indicates that price has a positive effect on a consumer's perception of quality as well as a positive effect 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 (Monroe and Krishnan 1985).

The original price-perceived quality model has been tested in several research 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.

Figure 1
Original Price-Perceived Quality Model



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 research by Kahneman and Tversky (1979), Thaler (1985), and Dodds and Monroe (1985), 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.

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 and Brown (1992) tested the extended price-perceived quality model. They found that there was no significant relationship found between the two price-perceived sacrifice variables and transaction value. 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. Based on these two studies, a revised price-perceived quality model (Figure 3) was suggested by Chapman and Wahlers (1999).

Figure 2
Extended Price-Perceived Quality Model

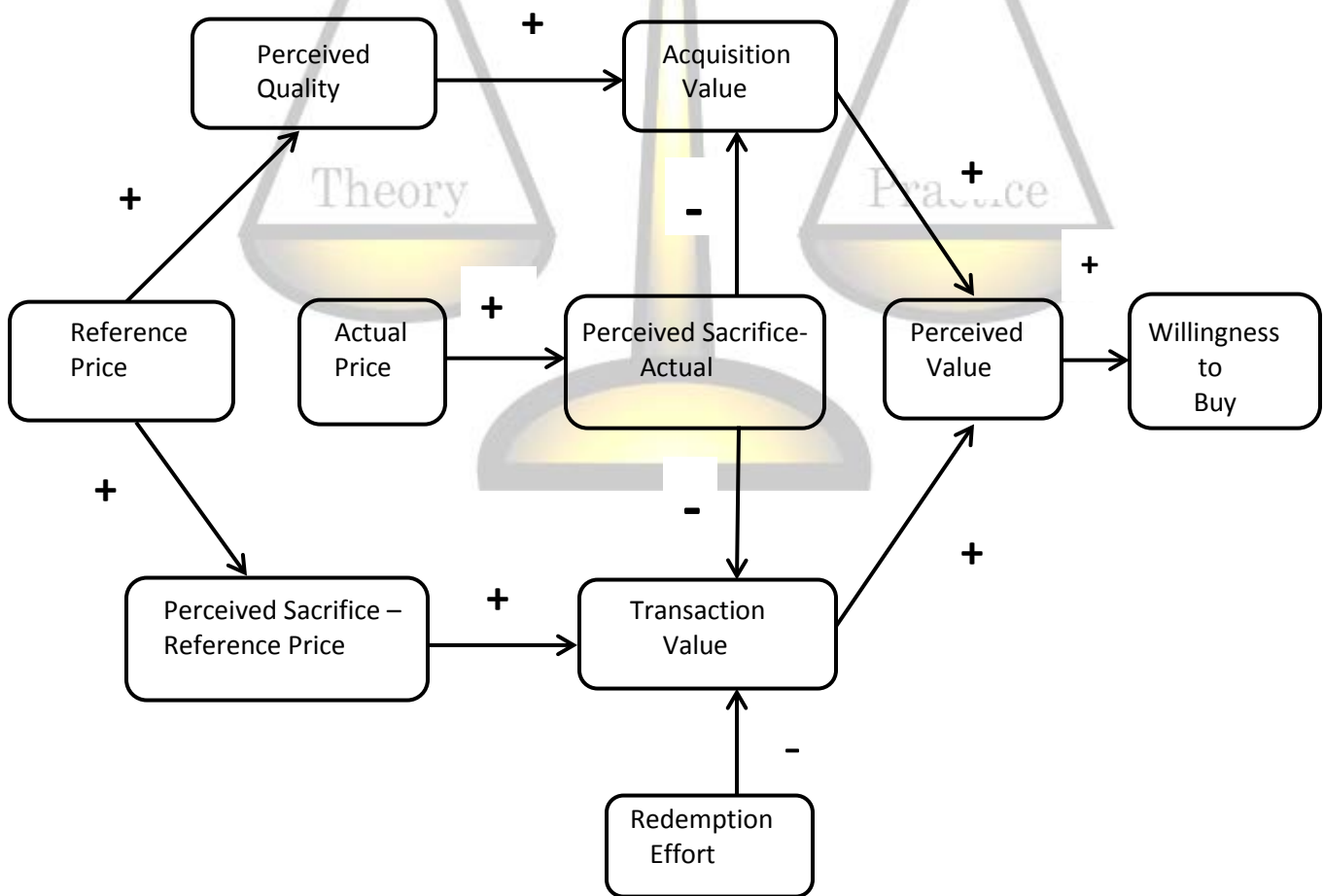
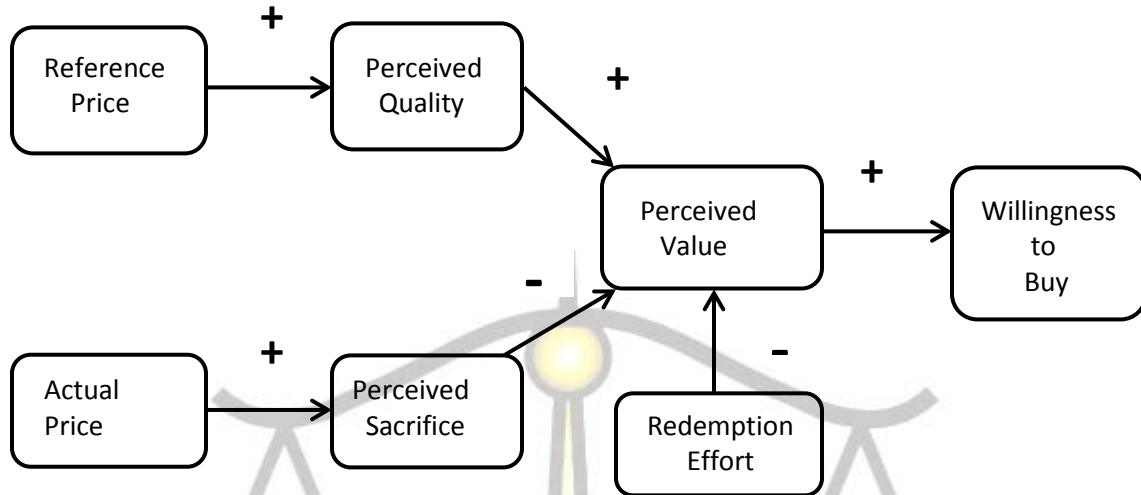


Figure 3
Revised Price-Perceived Quality Model
Consumer Buying Situations



A REVISION OF THE EXTENDED PRICE-PERCEIVED QUALITY MODEL

Chapman and Wahlers (1999) revised the extended price-perceived model and tested the revised model in their 1999 study. They found support for all the relationships proposed in the model. In other words, all the relationships in the model were found to be statistically significant. A search of the literature shows that there wasn't any additional research based on the price-perceived quality paradigm until a study by Chapman and Wahlers in 2014. Chapman and Wahlers (2014) noticed that all the research in the price-perceived quality paradigm had been based on consumer buying situations. There had been no research testing the price-perceived quality model for business situations where buyers are presented a Manufacturer's Suggested Retail Price (MSRP) as well as the actual price the retail buyer would be paying. This paper presents the results of testing the price-perceived quality model in business-to-business buying situations. Since we will not be examining redemption effort in the business-to-business buying situations for this study, the redemption effort construct has been removed from the model. The price-perceived model tested in this study is presented in Figure 4. There were four hypotheses tested for this study which were derived from the relationships of the constructs in the revised model. Those hypotheses are:

H1: There will be a positive relationship between Reference Price (MSRP) and Perceived Quality

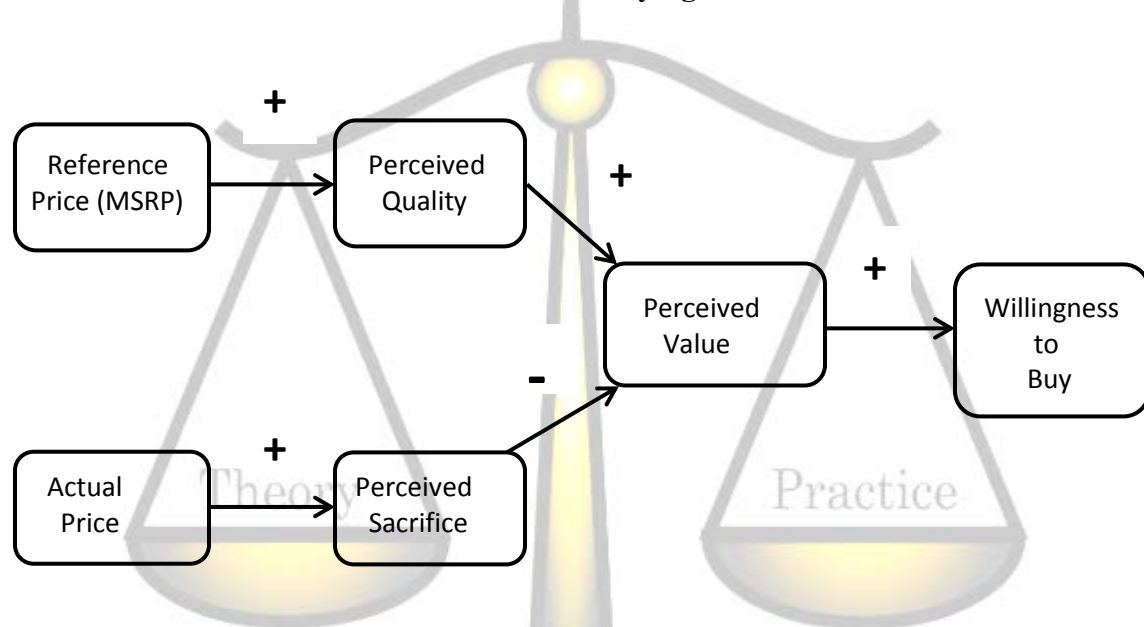
H2: There will be a positive relationship between Actual Price (Price to the Retailer) and Perceived Sacrifice

H3: There will be a positive relationship between Perceived Quality and Perceived Value

H4: There will be a negative relationship between Perceived Sacrifice and Perceived Value

H5: There will be a positive relationship between Perceived Value and Willingness to Buy

Figure 4
Revised Price-Perceived Quality Model
Business-to-Business Buying Situations



METHODOLOGY

The first step in the research process was to select a product for the study and to select a price that the buyers' felt was in the acceptable price range for the product in terms of both the MSRP and the price paid by the retailer. The sample of buyers used for the study was buyers in the electronics departments for a large retail chain. Based on interviews with five of these buyers, the product selected for the study was a 49" wide-screen television. Given the features on the television, an MSRP and price to the retailer were chosen that were felt to be toward the higher end of the acceptable price range for both prices. The MSRP selected for the television for this study was \$995.00. As part of the agreement for participating in the study, the retailer asked that the price to the retailer not be published and that the retailer not be identified; therefore, there will be no specific price to the retailer listed. However, as previously indicated, the price to the retailer was considered to be at the higher range of the acceptable price range for the product; yet, still within the acceptable range.

The sample for the study was sixty buyers responsible for buying electronics for a large retail chain. The sixty buyers all participated in completing the survey. The buyers were divided into 2 groups of 30 participants. One group was shown a promotional piece from an unknown seller that included a product description with an overview of the features of the television, the MSRP, and the price to the retailer. The second group was shown a promotional piece that included the same information as the first group; however, there was no MSRP included. The second group was considered to be the control group. The television was described as follows: 49" Class (48.5" Diag.), LED, 2160p, Smart TV with 4K Ultra HD, Black. Since the company was supporting the research project, all surveys were completed by the 60 buyers and used for the data analysis.

ANALYSIS AND RESULTS

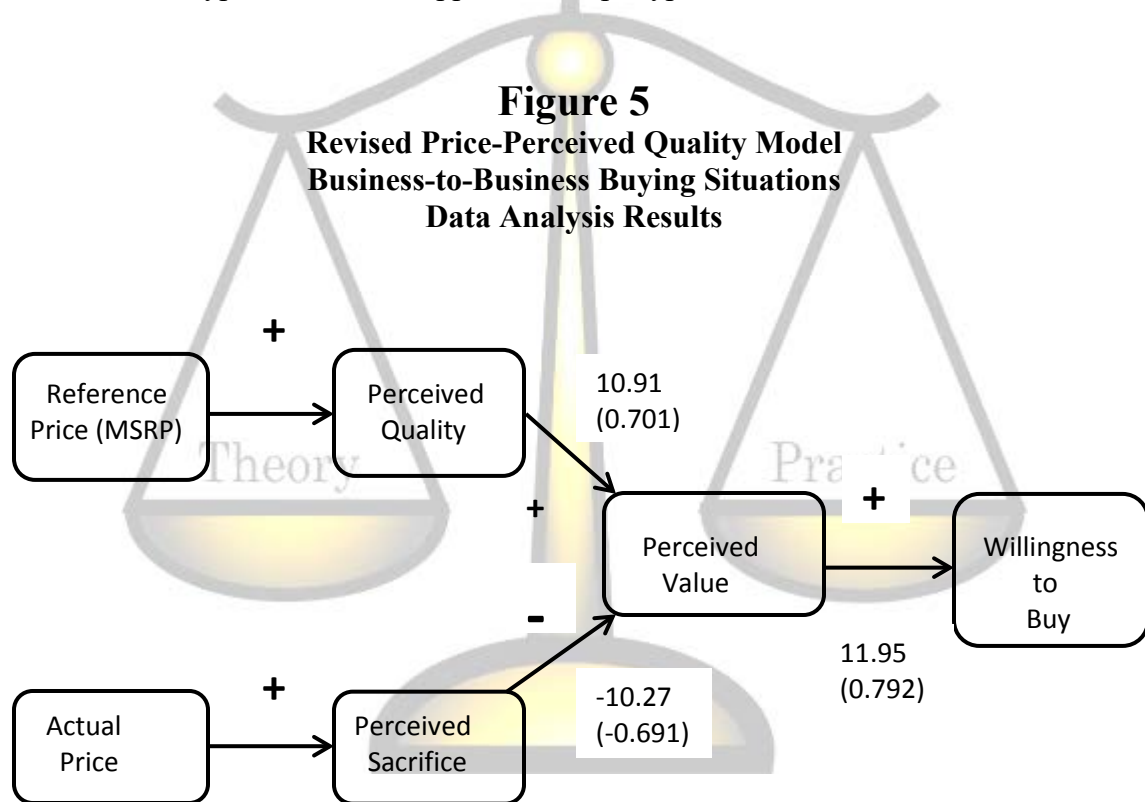
PACKAGE was used to test the reliability of each of the constructs in the revised price-perceived quality model (Figure 4). PACKAGE is a data analysis that provides coefficient alphas to indicate the reliability of the multiple measures used for each construct. Please note, the survey used for the research study incorporated multiple measures for each construct which were previously developed and used in several of the tests of the previous price-perceived quality models. Nunnally (1978) indicates that a coefficient alpha score of .70 indicates the minimum acceptable reliability for early, basic research. As shown in Table 1, the coefficient alphas for the 4 constructs satisfy this requirement.

Table 1
Coefficient Alpha Scores for Dependent Variables

Dependent Variable	Coefficient Alphas
Perceived Quality	.89
Perceived Sacrifice	.91
Perceived Value	.87
Willingness to Buy	.92

Before examining the proposed hypotheses, LISREL was used to test 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, provides statistical information to assess the overall fit of the data, and provides information to indicate whether there is a statistically significant relationship among the hypothesized dependent variables. The Goodness of fit index (GFI), adjusted goodness of fit index (AGFI), and root mean square residual (RMR) were used to test the overall fit of the data to the model. According to Cohen (1969), GFI and AGFI values should be “large,” i.e., close to one, and RMR should be “small.” The data analysis produced a GFI of .872, an AGFI of .842, and a RMR of .111, indicating a good overall fit of the data to the model.

Since LISREL only measures the relationship among the dependent variables, effect sizes were used to determine the relationship between the independent variable MSRP and Perceived Quality as well as the relationship between the independent variable Actual Price and Perceived Sacrifice. An effect size is the magnitude of the effect of the independent variable upon the response variable. Effect sizes greater than 0.14 indicate large effects, effect sizes between 0.14 and 0.06 indicate moderate effects, and effect sizes below 0.06 indicate small effects. The value obtain for the MSRP-Perceived Quality relationship 0.05 indicating a small effect; therefore, not supporting hypothesis 1. The value obtained for the Actual Price-Perceived Quality relationship was 0.15 indicating a large effect; thus, supporting hypothesis 2. To test hypotheses 3, 4, 5, t-values and maximum likelihood estimates (MLE) were obtained through the LISREL analysis. The MLE and t-value results for the relationships between the dependent variables are shown in Figure 5. All t-values were significant at the .005 level, indicating support for hypotheses 3, 4, and 5. Overall, all hypotheses were supported except hypothesis 1.



MANAGERIAL IMPLICATIONS

The insignificant relationship between MSRP and Perceived Quality suggests that retail buyers might be using something other than MSRP to judge the quality of a product. It could be that the buyers are using the actual price (price to retailer) to compare the quality of competitive offers. If they are using the actual purchase price to evaluate product quality, that implies that the buyers in this business-to-business buying situations are following more of a type of buying behavior represented by the original price-perceived quality model (Figure1). Marketers, therefore, would

not need to include information on the MSRP for buyers to evaluate the quality of the product in the product offer. If the buyer is using the actual price to evaluate both perceived quality and perceived sacrifice, marketers need to make sure the perception of quality associated with the actual price outweighs the perception of sacrifice in order to lead to a positive perceived value and, thus, a positive willingness to buy. Marketers might also try to find other ways to enhance the perception of quality of their products. Using sales representatives to call on buyers to emphasize the quality of product features and the effectiveness of the manufacturing process could help support a positive product quality perception. Marketers may also want to find ways to elevate perceived value of a product to enhance the chances of a purchase. Perhaps buyers use the MSRP and compare it to the actual price to determine profit potential. The perceived profit potential might help elevate the perception of value of the product offer.

FUTURE RESEARCH

This is the first study conducted that tests the price-perceived quality paradigm in relation to business to business buying situations. Obviously, more research needs to be conducted regarding this type of buying situation to be able to verify this study's results. If business to business buyers are not using MSRP to help evaluate product quality, future research needs to be conducted to determine what other information is being used to judge product quality. As mentioned above, buyers might be using MSRP compared to the actual price to assess profit potential of the product offer. Future research could test if there is an impact of profit potential on the perceived value component of the model. Another future research area would be to test the effect of quantity discounts on the price perceived quality paradigm. Research should also be conducted using a variety of products and a variety of price offers to help verify the validity of the price-perceived quality model in business-to-business buying situations. One final suggestion for future research for the revised model would be to examine the impact on the model of services (such as setting up end of aisle displays, free shipping, inventory checks, etc.) offered by marketers to retail businesses.

CONCLUSION

This research builds on the body of research on the price-perceived quality paradigm. The original model, extended model, and revised model were presented and reviewed. A problem with past research related to the price-perceived quality paradigm is that all the research had been conducted based on buying situations in the consumer market. This paper builds on the research in the price-perceived quality area by using the revised price-perceived quality model to measure the impact of price on perceived quality, perceived sacrifice, perceived value, and willingness to buy in business-to-business buying situations. It was discovered that all hypotheses specified for the revised model were supported, except for the hypothesis regarding the relationship between MSRP and perceived product quality. This suggests that buyers are not using the MSRP to judge product quality in business-to-business buying situations. Future research needs to be conducted to check the validity of the research findings for this study.

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