

EXTENDING THE UNDERSTANDING OF CONSUMER PRODUCT WARRANTY
THEORIES VIA BRAND SPECIFIC TESTING

Craig A. Kelley, Arizona State University¹

ABSTRACT

This paper discusses two competing theories from economics that attempt to explain the function of a consumer product warranty. Two methodologies illustrate how these theories might be tested. The managerial and public policy implications of these theories are then presented.

INTRODUCTION

Marketing practitioners utilize consumer product warranties for a variety of purposes. On the one hand, these warranties have been used as legal documents designed to relieve the manufacturer of the responsibility for product service in the event that the product is defective or happens to malfunction (Feldman 1976). Alternatively, it is not uncommon for the advertisements of some products to emphasize a superior warranty, in terms of coverage and duration, in an effort to promote the product and develop a competitive advantage.

Despite the frequency of warranty usage by marketers, the literature contains only a few attempts to advance and test competing theories of the consumer product warranty (Gerner and Bryant 1981; Priest 1981; Spence 1977). Furthermore, relatively few attempts at theory development and justification have been conducted by marketing scholars.

Economists have advanced two theories to explain alternative marketing uses for the consumer product warranty. The first theory has been termed the Exploitation Theory because it postulates that manufacturers use warranties as a means of unilaterally limiting their legal obligations; thus, exploiting the consumer's position of ignorance (Priest 1981). The second theory, referred to as the Market Signal Theory, proposes the function of a product warranty to be a cue that relates information about the product's reliability to the consumer (Gerner and Bryant 1981; Priest 1981; Spence 1977).

Both theories have been empirically tested in recent years (Gerner and Bryant 1981; Priest 1981), but it is uncertain whether the existing research provides an adequate test of these theories. This skepticism arises because the prior studies have used aggregate industry data rather than individual brand information. Industry concentration ratios were used as a surrogate for brand share figures to test the Exploitation Theory in the Priest (1981) study, and no measure of brand reliability was used to test the Market Signal Theory in either the Priest (1981) or Gerner and Bryant (1981) studies. This paper contributes to the growing body of warranty research by introducing the Exploitation and Market Signal Theories and illustrating how each might be tested with appropriate brand-specific data. In offering this perspective, the present paper provides an interdisciplinary theory perspective by taking theoretical contributions from economics and examining them

in a more specific and relevant marketing context.

The paper is organized into four sections. The first two sections of this paper discuss the theoretical rationale behind the Exploitation and Market Signal Theories. The next section illustrates how these theories might be tested. Finally, the concluding section discusses the managerial and public policy implications of these theories.

THE EXPLOITATION THEORY

A warranty is a contract between a buyer and seller that specifies certain legal obligations that the seller must perform in the event that his product malfunctions during a predetermined period of time. Contracts are normally negotiated, but over time most industries have standardized their warranties such that they are not negotiated when an exchange is consummated (Bogert and Fink 1930). The Exploitation Theory, as first suggested by Kessler (1943), is built on this lack of negotiation and postulates that product marketers unilaterally draft warranty terms that are more favorable to them because they possess greater bargaining power relative to that of individual consumers. In general, the theory predicts that an inverse relationship exists between a firm's market power and the terms of its warranty. Based on this theory, the standardization of warranty terms in concentrated industries is the result of a single firm's market power. In less concentrated industries, a trade association may be the vehicle used to achieve standardization (Bogert and Fink 1930). Regardless of the manifestation of the market power, the effect is that the consumer does not possess a choice of warranty terms.

A major criticism of the Exploitation Theory is that it does not specify the relationship between decisions regarding warranty terms and other production and marketing decisions. However, Priest (1981) counters this point by stating that with or without a theory, these relationships have not been explored thoroughly in either the economic or legal literature. The Exploitation Theory received some support until the early 1970s, when a competing theory that implicitly considers such relationships was advanced.

THE MARKET SIGNAL THEORY

The Market Signal Theory as conceptualized by Akerlof (1970) views a consumer product warranty as a source of product information. Spence (1977) formalized the theory as a relationship between the probability of a product failure (i.e., reliability), and the manufacturer's liability to the consumer in the event that the product did fail. According to Spence, the consumer observes only two product attributes that are related to reliability at the time of purchase: the product's price and the manufacturer's liability. The consumer cannot observe reliability directly, but may attempt to infer it from the price and/or the manufacturer's liability. Many cues may be used by the consumer in determining manufacturer liability such as brandname or materials used in production. Spence's Market Signal

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Theory implies that only the manufacturer's warranty reflects the manufacturer's liability. The failure to consider these other cues is a criticism of this theory.

The theory makes one key assumption, that the cost of servicing a longer, more comprehensive warranty is inversely related to the product's reliability (Gerner and Bryant 1981). The cost of servicing reliable products would be small, since these products do not require frequent repairs. Thus, the manufacturer of a reliable product can afford to offer extended warranty coverage. Conversely, manufacturers of less reliable products cannot afford to extend favorable warranty terms because of the frequency of repair needed. In sum, reliable products should have more comprehensive warranty terms than less reliable products.

Priest (1981) argues that the Market Signal Theory can also be used to predict what the terms of a warranty will be. The first of these predictions is that the warranties of similar product classes will be very similar in the coverage that they offer. The rationale behind this prediction is that since a consumer only occasionally purchases a particular durable good, s/he would be more likely to acquire warranty information common to a large set of consumer goods rather than acquire warranty information specific to any particular branded good. Thus, different products' warranties would be similar to take advantage of the consumer's acquisition of general rather than a brand-specific signals. In order to draw some conclusions regarding this prediction, the present author examined the warranties of some related household appliances. Thirty-five warranties of built-in dishwashers, clothes dryers, and refrigerators were compared, and it was found that all had the same minimum warranty; one year on parts and labor (Consumer Reports 1983; 1982; 1980). It appears that there may be some support for the rationale behind this prediction, but since only three product classes were examined, only an anecdotal inference can be drawn at this time.

Second, the Market Signal Theory predicts that if some firm warranties differ from the terms offered in most manufacturer warranties, generally, the deviate warranties will offer better terms. According to the first prediction, the consumer would expect a certain level of reliability of the product class as signalled by a standard warranty. If a seller offers less generous warranty terms than this standard warranty, consumers would clamor for warranty service even though the warranty did not extend the standard coverage. In not satisfying these consumers, added administrative expenses and the loss of goodwill would be imposed on the seller. To the extent that the costs of customer dissatisfaction are greater than the costs of improving the warranty, a seller would have the incentive to offer warranty terms more in line with the more frequently found warranty terms. Upon examination of the warranties of ten brands of built-in dishwashers, some support was found for this prediction. Five of the ten brands of dishwashers examined offered essentially the same warranty terms. The other five brands offered more favorable warranty terms of varying degrees.

The third prediction of the Market Signal Theory is that all secondary clauses in a warranty, those clauses that contain exclusions and disclaimers, will be more restrictive than the basic terms of the warranty. This prediction is based on the probability of consumer search. The prediction assumes consumers usually only search for and understand the basic terms of the warranty, but do not look at secondary clauses because too much effort is required. To the extent that this is true, this prediction somewhat resembles the Exploitation Theory. The warranty data included in Consumer

Reports did not provide the opportunity to read the entire warranty and, therefore, the validity of this prediction could not be determined. However, if it is assumed that secondary clauses usually deal with specific product parts or use situations (e.g., misuse of the product by the consumer), the secondary clauses might very well be perceived as more restrictive.

AN ILLUSTRATION OF THE EXPLOITATION AND MARKET SIGNAL THEORIES

This section of the paper illustrates how the Exploitation and Market Share Theories might be tested. These illustrations are also included in the paper to determine if there might be some preliminary support for either of the two theories.

The Exploitation Theory

The Exploitation Theory hypothesizes that an inverse relationship exists between a firm's market power and the quality of its warranty. A measure of market power is needed to test this theory. Since the economic definition of market power (i.e., the ability to control price), is rather elusive and difficult to operationalize, an appropriate surrogate measure would be a firm's market share.

Warranty quality is another concept that is difficult to operationalize. Shimp and Bearden (1982) operationalized warranty quality as the length of coverage, the extent of the coverage, and whether the warranty was full or limited. This operationalization was modified for the present paper. The warranties of many consumer durables seem to be composed of some minimum warranty, in terms of basic coverage and duration, plus an optional extension of coverage on certain parts. Combining the optional component with Shimp and Bearden's definition, warranty quality was operationalized in this paper as the sum of these components.

Based on the above discussion, the following functional relationships were used to operationalize and illustrate the Exploitation Theory.

$$\text{Market Power} = f(\text{market share})$$

$$\text{Warranty Quality} = f(\text{warranty duration, warranty coverage, extra warranty})$$

where:

Warranty Duration = the period of time that minimum warranty coverage is extended

Warranty Coverage = a full or limited warranty for the minimum warranty period

Extra Warranty = coverage of certain parts and labor that goes beyond the duration of the minimum warranty

and

Warranty Quality is negatively correlated to market power

A Spearman Rank Correlation test was used to illustrate how this theory might be tested. Built-in dishwashers were selected as the sample because they represent a typical consumer durable good (Consumer Reports 1980). The market shares of ten dishwasher brands were ranked from highest to lowest. Warranty Quality was then computed for each brand and ranked from highest to lowest. The Spearman Rank Correlation Coefficient for this sample was 0.6013 which was statistically significant at the 0.05 level. Although no broad generalizations can be drawn from this illustration because of the small sample size, the illustration does not provide support for the Exploitation Theory. It appears that the brands with larger market shares might offer more favorable warranties than brands with smaller market shares.

The Market Signal Theory

Spence (1977) hypothesized the following functional relationship in his discussion of the Market Signal Theory.

$$s = f(m)$$

where:

- s = the probability of product failure
- m = the manufacturer's liability

The probability of product failure and manufacturer liability were recast as the product's reliability and warranty terms, respectively. Priest (1981) used average produce life as a measure of reliability. However, this measure is not brand-specific. A possible source of brand-specific data can be found in Consumer Reports. Periodically Consumer Reports publishes a report on different consumer durable goods which includes each evaluated brand's warranty terms and its frequency of repair. The latter was used to operationalize reliability. In examining the former, it was found that the warranty terms of consumer durable goods usually have two components; a minimum warranty that is standard for the industry and an extra warranty that is brand specific. Using these two bits of information, the following regression function was used to operationalize the Market Signal Theory.

$$\text{Reliability} = f(\text{Warranty Index, Extra Warranty})$$

where:

- Warranty Index = the duration of the minimum warranty
- Extra Warranty = a 0,1 indicator variable which represents coverage on parts and labor that goes beyond the duration of the minimum warranty period

The same report on built-in dishwashers was also found to contain the necessary information needed to illustrate how one might test the Market Signal Theory (Consumer Reports 1980). Acknowledging that a sample size of ten is not enough to adequately test this theory, a regression model with the independent variables of Warranty Index and Extra Warranty was run to predict reliability. Reliability was operationalized on a five point scale using each brand's frequency of repair. Brands that were rated the best were assigned a five while those that were rated the worst were assigned a one. Warranty Index and Extra Warranty were quantified according to the operationalizations discussed above. The regression model was not significant ($F = 0.95$; $p = 0.456$; $df = 1,10$). This illustration does not provide support for the Market Signal Theory. It appears that warranty terms might not be a signal of a product's reliability.

MANAGERIAL AND PUBLIC POLICY IMPLICATIONS OF THE EXPLOITATION AND MARKET SIGNAL THEORIES

Attention is now directed toward the managerial and public policy implications of these two theories. To simplify the discussion, the Exploitation and Market Signal Theories can be viewed as offering opposing explanations of the purpose of a consumer product warranty. To illustrate the opposing concepts embodied in the two theories, first assume that the Exploitation Theory provides an adequate explanation and the Market Signal Theory does not. What effect would this assumption have for marketing managers and policymakers? One possible conclusion would be that the marketer need not be so concerned with conferring benefits to the consumer through the warranty because of the marketer's superior bargaining position. This would mean that there would be no incentive for the marketer to offer

warranty terms beyond a limited warranty of some industry-determined minimum duration. Offering a superior warranty would not be worth the added cost, since the marketer does not need to cue the consumer's purchase. For policymakers, the above assumption would mean that it was necessary to pass the Magnuson-Moss Act, as the Act attempts to prevent the exploitation of the consumer's ignorance and lack of bargaining power.

Now assume that the Market Signal Theory provides an adequate explanation of the purpose of a consumer product warranty and the Exploitation Theory does not. There would not have been the need for policymakers to pass the Magnuson-Moss Act since it would have been rational for the marketers of reliable products to disclose their warranty terms in order to cue and guide the consumer's purchase. The consumer would infer that those marketers who did not disclose their warranty terms offer inferior products. In addition, assuming that the consumer knows the difference between a full and limited warranty, the appropriate managerial decision would be to offer a full warranty of somewhat lengthy duration because the consumer would perceive the warranty to be a signal of a very reliable product. It would not be rational for the marketer to try to exploit the consumer's ignorance because the warranty cue is being used as a marketing tool to inform the consumer.

CONCLUSION

Most of the marketing literature investigating warranties lacks a theoretical perspective. Those studies that have included some theory have focused on the consumer's perception of warranties. The present paper differs from previous research by advancing two competing theories from economics that, either in their present form or through some modification, provide a different theoretical perspective. Both the Exploitation and Market Signal Theories could hold important implications for marketing managers and public policymakers. Future research needs to pursue a more rigorous test of these theories in order to aid marketing's understanding of the purpose of the consumer product warranty.

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