

DETERMINANTS OF CHOICE IN CONSUMER DISPOSITION OF DURABLE GOODS

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ABSTRACT

Product disposition, as an aspect of micro consumer behavior, has received little attention in marketing or behavioral science literature.

To remedy this void the present research experimentally investigates the impact of predecisional perceived risk and the functional condition of the product on the nature of selected disposition alternatives. Also, it identifies factors influencing the choice of disposition alternatives.

Findings reveal significant relationships between perceived risk and product condition and disposition choice alternatives. Selling to others and giving away to charity are the two most attractive choices. Economic factors are paramount in guiding choice.

INTRODUCTION

Product disposition as an aspect of micro consumer behavior has not received much attention in the literature which reveals only a handful of studies that address directly the issue of product disposition (Burke, Conn and Lutz 1978, Conn 1978, Hanson 1978, Jacoby, Berning, and Dietvorst 1977, and Razzouk 1977). Most of these studies are exploratory in nature, aimed at identifying probable disposition alternatives for selected products, and the factors that influence individuals to decide to dispose of a particular product. None of the existing studies address specifically the question of "choice" in a disposition process. The purpose of this study is to fill this information void in the literature. More specifically, the research experimentally investigates the impact of predecisional perceived risk and the functional condition of the product, on the nature of the selected disposition alternative. Also, it identifies the factors influencing the choice of a disposition alternative.

DEVELOPMENT OF HYPOTHESES

Perceived Risk

The concept of perceived risk has been closely connected to the issue of consumer acquisition behavior. Bauer (1960), and subsequent researchers (e.g., Capon and Burke 1977, 1980, Lutz and Reilly 1974, Swan 1972, and Weigl 1975) investigated the relationship between perceived risk and elements of the consumer buying process.

When a consumer is considering the purchase of a product, three forms of risk become salient: Financial Risk; Psycho/Social Risk (the risk of losing one's position in a group and/or the support and approval of peers); and Functional Risk

(the risk that the product may not function as expected).

In a disposition situation, the nature and intensity of risk are different. The financial risk of making an improper choice is less intense than in a buying situation. The intensity of this risk depends on the consumer's knowledge of available disposal alternatives and their relative rewards. Social risk may be stronger in communities that are more ecologically or environmentally oriented. In such an environment, a consumer who repeatedly throws away products may be considered careless or socially irresponsible. Functional risk is at a minimum or non-existent at the time of disposal. Exceptions exist as when disposing of products such as aerosol cans, light bulbs, and similar products that may prove very hazardous when disposed of in some particular ways (e.g., thrown in the fireplace).

Functional State

The functional state of the product at the time of the disposal is reported to have a significant impact on the disposition-decision process. Conn (1978) found that thrown away products needed repair 95 percent of the time. Even when compared on the basis of original price, all of the products costing \$30 and over, and 97 percent of the products costing under \$30 were thrown away in need of repair. This finding suggests a definite interaction between the level of perceived product risk and the functional state of the product.

According to Conn (1978), the functional state of the product is positively associated to the level of satisfaction with the product. Further, the greater the satisfaction, the less willing is the consumer to part with the product. It follows, then, that consumers who are satisfied with their products (working condition) seek optimality and search for the "best" alternative. Where available, selling the product would seem the most logical alternative to maximize the economic utility of consumers.

When the functional state of the product is not satisfying (non-working, in need of repair), the consumer engages in a limited problem-solving process and usually makes a routinized decision to throw away the product or, where readily available, give it to charity.

Hypotheses

The general effects of perceived risk and the functional state of the product on the nature of the disposal option selected are summarized in the following two null hypotheses:

- H1: There is no significant difference in the selected disposal alternative for high versus low perceived risk products.
- H2: There is no significant difference in the selected disposal alternative for working versus non-working products.

METHOD

A 2 x 2 factorial experiment was employed in this study in which two levels of perceived risk (high and low) and two levels of product functional condition (working vs. non-working) were operationalized.

Product Selection Process

The two household durable goods used in this research are a stereo-component system and a hair blow-dryer. These products were chosen on the basis of a two stage pretest that helped determine the level of consumer perceived risk for a number of products.

The functional state of the products used in this study was experimentally manipulated to fit one of two levels: Working, or not working (needing repair). This manipulation was achieved through written and oral instructions given to the subjects at the outset of the experiment. For the "working" condition, the subjects were told that the product they were asked to dispose of was in good working condition. For the other level, subjects were told that the product had quit working and was in need of repair. The cost of repair appeared on the display board as was determined in the pretest.

PROCEDURES

One hundred subjects were individually placed into a simulated disposition situation and instructed to dispose of a given product in the manner in which they would normally do so. Each subject was randomly assigned to one of the four experimental conditions: High perceived risk/working condition, high perceived risk/non-working condition, low perceived risk/working condition and low perceived risk/non-working condition.

A booklet with instructions and the independent variables was handed to each subject. The purpose of the study was explained as gaining insight about how consumers make decisions to dispose of some common durable products after these products have been used for awhile. To increase the level of task involvement (involvement in the disposition-decision process), subjects were requested to assume that they had already decided on terminating the present useful life of the assigned product and that they were presently seeking and evaluating information for a final selection of a disposition alternative. Subjects were also told to make their final disposal decision taking as much or as little information as they desired to arrive at their disposition decision, and that they need not acquire any information if this is how they would normally dispose of that product.

The information was presented to the subjects via a twenty-inch by thirty-inch Information Display Board (IDB) (Jacoby et al., 1978) and was arranged in two matrices. The first was a one-vector matrix that contained information on product attributes most likely to be considered for a disposition decision (original price, brand, size, energy consumption, years in use, repair history, present condition).

The other matrix contained information about the possible array of disposition alternatives. Six attributes of the disposal alternatives were available for evaluation: The financial cost of each disposal alternative, the effort involved, the financial benefits realized, the functional feasibility, availability, and the social acceptability attached to each alternative (Conn 1978, Jacoby et al., 1977, and Razzouk 1977). The values of these dimensions for the most part were assigned on the basis of pretest information and were used consistently for all subjects in a particular condition. Both matrices appeared on the same board, and all of the information cells were labeled.

Post-Experimental Questionnaire

After the subjects arrived at their disposition decision, they were asked to list, then rate the salient product factors that influenced their choice of a disposal alternative. Subjects were also asked to rate each disposal-alternative attribute on how important it was in influencing their choice of a disposal alternative.

The last part of the written questionnaire asked for some demographic and psychographic information that were used as covariates for the analysis. Subjects were then thanked for their participation and dismissed.

ANALYSIS

One basic dependent measure was considered in this study: The type of disposal alternative selected. The data gathered was categorical in nature and consisted of ten possible alternatives. Subjects could select to: Store the product, convert it to serve some new purpose, lease it, loan it, throw it away, give it away to be used, give it away to be resold, trade it, sell it direct to a consumer, or sell it to a middleman. While the list is not exhaustive, it covers a wide range of possibilities. Given the nominal nature of the data, a Bartlett Chi Square Analysis was used to test the effect of the two independent variables on the dependent measure of disposal option selected.

RESULTS

The results reported in Table 1 indicate that very few subjects selected to store, convert, or lease the products. None of the subjects selected the loan option and only four considered the throw away option.

A series of Bartlett Chi Square tests were performed to test the hypotheses for the

independence of the response variable from the independent measures of perceived risk and the functional state of the product. High perceived risk products were disposed of differently from low perceived risk products ($p [X^2 : 11.025] = 0.026$). Also, a significant Chi-square value was reported for the effect of the functional state on the nature of the disposal option selected ($p [X^2 : 12.631] = .013$) indicating that products in working condition were disposed of in a different manner than non-working products. Therefore, neither of the two null hypotheses were supported.

The demographic variables of sex, age, income, education, task experience and the self-ratings of concern with pollution and social responsibility did not produce any significant effect on the nature of the disposal alternative selected, and thus were dropped from the analysis.

After the subjects announced their selection of a disposal alternative, they were asked to list the determinants that influenced their choice. They were then asked to rate the importance of these determinants on a scale of 1-10.

Table 2 presents frequencies and ratings for sixteen determinants cited by the subjects as having influenced their choice of a disposal alternative. The most cited influencing factor was the "financial benefit" of a particular disposal alternative ($f=71$), the financial cost incurred in the execution of the decision ($f=44$), the original price of the product ($f=41$), the relative availability of an alternative ($f=35$), and the present condition of the product ($f=35$). Other factors were cited, but less frequently.

The high frequencies reported for "financial benefit," "financial cost," and "original price" indicate the paramount importance of perceived monetary risk and economic considerations in the process of selecting a disposal option. This generalization was also supported by the subjects' ratings of the six alternative attributes used in the study. Both "financial cost" and "financial benefit" had an average rating of 7.0 on a scale of 1-10, followed by the "effort involved" with an average rating of 6.5. "Availability" and "functional feasibility" had average ratings of 5.5 and 5.0 respectively. The lowest average rating of 3.0 was reported for "social acceptability." This finding, when coupled with the fact that only nineteen subjects cited this factor as influencing their disposal decision, indicates the relative disconcern of these consumers with the social acceptability of their disposal behavior.

DISCUSSION

Aside from the unexpectedly low interest in the throw-away option, the overall results resemble reality. Valuable products (high perceived risk) are sold more often than disposed of in any other way. (Jacoby, et al., 1977, Razzouk 1977). The perceived financial benefits of selling these products would expectedly exceed the costs involved in seeking buyers and executing the sale. On the other hand, low value products (low perceived risk) are given away to charity quite often

because the expected costs of searching for buyers and executing a sale could exceed the financial benefits gained from such a transaction. Also, giving away a product to charity may involve minimal effort and allows for a possible tax write-off.

Working products were sold more often than non-working products, but only three of the fifty subjects disposing of a non working product chose to throw it away. The reason for this unexpectedly low interest in the throw-away option may have been the result of experimental demand characteristics. Subjects could have been influenced by the presence of information dimensions such as "energy consumption," and "social acceptability" on the display board, and might have been sensitized against appearing wasteful or socially irresponsible. Data from the post-experimental questionnaire, however, revealed no such conscious effect of social acceptability on the nature of the disposal alternative selected.

Another explanation may be that the availability of an array of alternatives in this study may have diverted the attention of the subjects to a more optimizing alternative than throwing away the product. After all, the subjects did not incur significant costs in evaluating more information. In an actual situation, consumers may not have ready information on most of the possible disposition alternatives; to acquire more information they must spend time, effort or even money. In such cases, when the costs of information search exceed the perceived benefits, the search ceases and a decision to throw away the product may be reached. Previous research on consumer disposition behavior (Conn 1978, Jacoby, et al., 1977, Razzouk, 1977) indicate that consumers often choose to throw away non-working products especially if they cost \$30 or less.

IMPLICATIONS

In recent years, the scope of marketing was broadened to include social marketing, societal marketing, and marketing for not-for-profit organizations. It is therefore acceptable to think of institutions such as government, charitable organizations, conservationists, and others in these categories, as marketers involved in exchange processes. These and other groups (e.g., new-product manufacturers, used-product dealers, junk yard operators, recycling centers, etc.) could benefit from the results of this study.

Government has long been concerned with the escalating problems of solid waste disposal. In the absence of information on the availability of disposal alternatives, consumers often make decisions to throw away products they have no more use for. The results of the present study indicate that such trends could be changed by providing information on the availability, costs, and benefits of other possible disposal options. Overall, the decisions made by participants in the experiment were very utilitarian in nature. Subjects appeared anxious to maximize their financial gain while minimizing the costs and effort involved in the execution of an alternative. This reported phenomenon has strong and

direct implications for the promotion and reverse-distribution strategies of charitable organizations, recycling centers, used-product dealers and other organizations interested in reprocessing consumer goods. These marketers should not only promote their availability, but should emphasize the convenience, and the financial benefits that accompany their exchange transactions. In planning their accumulation (reverse-distribution) strategy, convenience and accessibility must be attained. Home pickups, specialized containers and possibly some form of reverse-vending system would enhance the time and place utility which consumers demand for reverse-channel transactions.

SUMMARY

The consideration of product disposition as a focus for this research broadens the scope of existing literature on consumer behavior. Jacoby, Berning and Dietvorst (1977) defined consumer behavior as the "acquisition, consumption, and disposition of goods and services, and ideas by decision making units." This definition places disposition in the domain of marketing. The present study constitutes one further step toward a better understanding of the disposition process. Some of the findings reported here could be utilized in the development of paradigms and as bases for future research in this area.

TABLE 1
DISPOSAL ALTERNATIVE SELECTED
N=100

Disposal Alternative	HIGH PERCEIVED RISK		LOW PERCEIVED RISK	
	Working	Not working	Working	Not Working
1. Store	0	0	1	3
2. Convert	1	0	1	0
3. Lease	3	0	1	0
4. Loan	0	0	0	0
5. Throw away	0	0	1	3
6. Give away to charity	4	10	7	16
7. Give away to family or friend	2	7	6	2
8. Trade it	3	1	1	1
9. Sell to other users	11	6	7	0
10. Sell to middleman	1	1	0	0
Totals	25	25	25	25

Note: Cells 1, 2, 3, and 5, and 9 and 10 were combined to compute Chi Square values.

TABLE 2
FREQUENCIES AND RATING OF FACTORS INFLUENCING THE SELECTION OF A DISPOSAL DECISION

Factors Influencing Choice of Alternative	(Ratings 1-10 10 Being Most Important)										TOTALS
	1	2	3	4	5	6	7	8	9	10	
1. Original Price	-	1	-	3	5	1	8	9	8	6	41
2. Effort Involved	-	2	-	4	4	14	6	9	7	11	57
3. Financial Benefit	1	-	1	1	3	4	12	11	8	30	71
4. Social Responsibility	3	4	1	3	2	2	1	1	-	2	19
5. Functional Feasibility	1	1	2	2	3	2	5	-	-	1	18
6. Present Condition	0	0	4	1	3	6	5	10	2	4	35
7. Availability	1	1	2	2	1	7	5	9	2	5	35
8. Financial Cost	1	1	0	2	2	5	5	8	14	6	44
9. Repair History	0	0	4	1	3	2	2	4	3	2	21
10. Years in Use	0	0	1	2	4	4	3	4	4	2	24
11. Goodwill	0	1	2	0	1	3	3	2	3	5	20
12. Avoid Waste	-	-	-	-	2	-	1	2	2	2	9
13. Size	-	1	-	-	3	1	-	1	-	-	6
14. Brand	-	2	2	1	2	1	2	1	1	2	14
15. Habit	0	0	0	1	1	-	-	-	-	-	2
16. Repair	-	-	-	-	-	-	-	3	-	4	7
Totals	7	14	18	23	38	53	55	79	54	82	423

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