

## Do Consumer Choices Reflect Environmental Values?

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Protection of the environment has emerged as a priority issue on national and international political and social agendas. While the natural environment is verbalized as an important value for most United States citizens, there is no question that the jump from environmental concern to environmental consumerism is easier said than done (Dadd, 1990; Denver, 1970; Elkington, Hailes, & Makower, 1990; Hamrin, 1984; Haney & Richardson, 1990; Miller, 1991; Miller & Schwartz, 1991; Roper, 1990). Consumer values can be operationalized in choice criteria which consumers prioritize and use to evaluate products. Researchers have historically identified the three dominant consumer choice criteria of cost, brand, and convenience. It appears that a fourth criterion relating to concern for the environment, the "E" or environmental factor, must be added (Elkington et al., 1990) and that the environmental criterion may relate to the point in time when the consumer was socialized.

### *Cost, Convenience, and Brand Criteria*

Consumer behavior research informs us that underlying societal values affect consumption motives that, in turn, set the choice criteria used by individual consumers (Henry, 1976; Magrabi, Chung, Cha, & Yang, 1991). In a practical sense, choice criteria are the product characteristics that the buyer has prioritized as important and are used to evaluate products (Howard & Woodside, 1984). Three dominant consumer values -- money, time, and quality -- become evident in the criteria used to select one product over another. The high value consumers place on money is translated into a choice criterion of cost. The convenience choice criterion reflects the importance of time in our society and the brand choice criterion is used as an expression of quality (Gutfeld, 1991; Miller, 1991; Miller & Schwartz, 1991; Roper, 1990; Woods, 1966). Now, as the value of environmental preservation emerges, it appears that a new choice criterion is needed to reflect that value.

### *Environmental Criterion*

Recent research polls provide evidence that American consumers are using a fourth criterion that relates product packaging and the environment. In short, an environmentally protective decision is to choose the product that uses minimum packaging made of glass, aluminum, or paper that can be recycled (Dadd & Carothers, 1990; Denver, 1970; Elkington et al., 1990; Hollender, 1990; Olney & Bryce, 1991). Miller and Schwartz (1991) surveyed 1,000 adults and found that 35% used some type of packaging criterion in their food purchase decisions. They found that 14% bought products made from and packaged in recycled materials, 14% bought products in refillable packaging, and 7% avoided restaurants using styrofoam containers. Fierman (1991) reports that, in 1990, 26% of all new household items claimed to be ozone-friendly, recyclable, biodegradable, compostable, or another "shade of green," and that consumers are starting to look for and demand these products.

How do consumers prioritize the environmental choice criterion with respect to the traditional choice criteria of cost, convenience, and brand? Miller and Schwartz (1991) reported that 70% of the consumers in their study were more interested in convenience than in environmentally sound products.

Studies of the relationship between the cost choice criterion and environment choice criterion in consumer decision making report inconsistent patterns. In a *Wall Street Journal* poll (Gutfeld, 1991), 54% of the respondents reported buying a more expensive product because of their environmental concern. Pokorny (1991) found that 83% of the "green" consumers sampled were willing to pay more per month for goods and services if they were perceived as more environmentally safe. Elkington et al. (1990) found similar results with just over 75% of the respondents in their study stating they would be willing to pay as much as 5% more for a product packaged with recyclable or biodegradable materials. In contrast, other researchers have found that consumers are not willing to pay more for more environmentally protective products. A Miller and Schwartz study (1991) reported 53% of the consumers they surveyed were unwilling to pay more for environmentally friendly products. When consumers were asked if they would purchase eight hypothetical "green" products (Roper Organization, 1990), they were reluctant to make much of a

financial sacrifice. Fierman (1991) also reports the environmentalist of the 1990s is influenced by price.

### **Era of Socialization**

Stampfl (1981) suggests that dimensions of the environmental factor may be based on the consumer's era of socialization. Consumers who reached adulthood between 1920 and 1960 possess industrial-age consumer values that emphasize increased consumption, economic growth, and convenience and the belief that more is better and resources are limitless. Consumers with post-industrial-age values reached adulthood after 1990. They emphasize minimal consumption, economic stability, quality, conservation, and recycling based on perceived resource shortages and declining environmental conditions. Stampfl posits that a third group of consumers, who reached adulthood between 1960 and 1990, possess transitional-age values. These consumers have been taught industrial-age values but intellectually are moving toward post-industrial-age values. They experience conflict between consumption patterns and beliefs -- what consumers want and what consumers believe they ought to want are two different things.

It seems logical that a consumer armed with basic knowledge of the environmental impact of various types of packaging can quickly and easily identify the product alternative that is more environmentally sound. We would expect a "green consumer" will consider cost, brand, convenience, and packaging when making purchase decisions. Therefore, purchase decisions based upon environmentally sound packaging of a product could be a measure of the environmental value possessed by the consumer. Further, we would expect to find a relationship between a consumer's era of socialization and value prioritization, which would be operationalized in market choices. What influence does membership in one of Stampfl's three consumer classifications have on the prioritization of choice criteria, including the environmental factor, in decision-making? To date, these factors have not been investigated.

### **Purpose of the Study**

In an attempt to better understand the relationship between environmental values and consumer behavior, a research study was

designed to examine consumer purchase preferences to test: (a) whether post-industrial-age consumers choose products with more environmentally sound packaging than their industrial-age and transitional consumer counterparts; and (b) the priority of the environmental choice criterion in relation to the brand and convenience criteria. Because cost tends to override all other choice criteria, a decision was made to control for this factor to examine relationships with the remaining three criteria.

## Research Procedures

### *Data Collection*

This exploratory study employed a convenience sample of 60 students, 50 females and 10 males, who were enrolled in a lower division consumer course at a southern university and met the criterion of reaching adulthood (age 21) after 1990. According to Stampfl (1981), this group of consumers would be expected to possess post-industrial-age values. Eighty-eight percent were white and 12% were of minority status. Mean age was 21.5 years and 97% of the respondents were single.

To minimize respondent bias, student participants were not informed of the objectives of the study until its conclusion. The study was conducted in two stages during the quarter and three instruments were administered. An Environmental Value Cluster was used to classify respondents by the values expected in Stampfl's three eras of socialization. A product selection instrument asked respondents to select between two products with different types of packaging. The third instrument was a choice criteria rating scale that included the convenience, brand, and environmental choice criteria.

### *Environmental Value Cluster Instrument*

At the beginning of the term, students were administered an eight-item Environmental Value Cluster questionnaire adapted from Stampfl's work (1981). A seven-point Likert-type scale was anchored by statements such as: *I consume as much as I want and feel that more is generally better than less* (1) to *I consume only as much as I need and I feel that more is not necessarily better* (5). A low score was

classified as an industrial-age response, a high score a post-industrial-age response, with transitional-age responses in the mid-range. (A copy of the instrument can be obtained from the authors).

Responses to the eight items were used to calculate an unweighted overall environmental cluster mean score. The range for each value cluster era was calculated using the mean score (4.15) of the subjects and the standard deviation (.60). The result was an industrial-age cluster from 1.00 to 3.55; a transitional-age cluster from 3.55 to 4.74 (mean plus/minus one standard deviation); and an upper-range post-industrial cluster from 4.74 to 7.00.

### *Product Selection*

Midway into the quarter, students completed the second phase of the consumer decision-making study by selecting between a product with minimal/recyclable packaging and one with more excessive or non-recyclable packaging. Ten pairs of actual products were displayed and participants selected the products they were most likely to purchase in each pair. To control for cost factors, equivalent size and price products were used. The researchers had ranked the products in each group before the study with a score of one assigned to the product with the least amount of packaging, and a score of zero assigned to the alternate product. Responses were totaled to obtain a raw packaging score ranging from zero to ten, with higher scores reflecting a preference for minimal packaging.

### *Choice Criteria Rating Scale*

Upon completion of the product selection phase, students completed a choice criteria ranking scale for each item. Statements reflecting each choice criterion included: "The product is easy to use," "This brand is one I use regularly," and "Packaging is minimal and/or recyclable." A rank of one was the most important consideration, and a three indicated the least amount of consideration was given to that criterion. Reverse scoring was used to assure that a higher score reflected a more important consideration. All ten scores, one for each selected product, were totaled for each criterion yielding a brand score, a convenience score, and a packaging score.

## Analysis

To determine the extent that students reaching adulthood after 1990 reported post-industrial-age values, frequencies were calculated for each environmental socialization era. Analysis of variance was used to determine if there were differences among the three environmental eras for the four dependent variables: minimal-packaging product choices and the three choice criteria of brand, convenience, and packaging.

## Results and Discussion

The Environmental Value Cluster questionnaire revealed that 68% ( $n = 41$ ) of the students in this study fell in the transitional-age value cluster group, 16% ( $n = 10$ ), were labeled as post-industrial-age consumers, and 15% ( $n = 9$ ) responded as industrial-age value consumers. Therefore, for this group of students, who reached adulthood after 1990, the majority did not possess the post-industrial-age values that Stampfl would suggest. One possible explanation for these findings is that while there are distinguishable differences in age cohorts with regard to environmental concern, the 1990 date may be imprecise. Clearly polls suggest that consumers are becoming aware of environmental problems and are gaining this awareness at an increasingly earlier age. However, this study's group of young adult consumers may have been socialized by parents who modeled industrial-age behavior or experienced conflict between verbalized values and actual behavior. Moreover, this society as a whole has not fully embraced post-industrial-age values and appears to be in conflict over the priority that should be given environment concerns, as evidenced by ongoing national and local debates. States in the southern region are typically ranked low in terms of their attention to the natural environment, suggesting that environmental concerns are not a top priority. Further, spurious results may be influenced by the small sample size and the limitation of using a college student sample.

As reported in Table 1, transitional consumers had the highest brand choice criterion scores. As expected, industrial-age consumers had the highest scores on the convenience choice criterion. The post-industrial-age consumers had the highest packaging choice criterion

scores and industrial-age consumers had the lowest packaging scores, as was expected. Surprisingly, post-industrial-age consumers chose the fewest minimally packaged products.

Table 1. Means and Standard Deviations for the Environmental Value Groups with Choice Criteria and Product Selection.

	<u>Post-Industrial</u> ( $n = 9$ ) Mean ( $sd$ )	<u>Transitional</u> ( $n = 41$ ) Mean ( $sd$ )	<u>Industrial</u> ( $n = 9$ ) Mean ( $sd$ )
Brand	23.10 (4.65)	23.93 (3.31)	23.67 (4.30)
Convenience	18.70 (3.46)	18.61 (3.67)	20.22 (3.87)
Packaging	18.10 (3.28)	17.46 (3.89)	16.11 (2.85)
Product Selection	4.20 (1.69)	5.15 (1.73)	5.11 (1.36)

An ANOVA analysis (see Table 2) compared the three environmental socialization eras: industrial-age consumers, transitional-age consumers, and post-industrial-age consumers, on the four dependent variables: minimal-packaging product choice, brand choice criterion, packaging choice criterion, and convenience choice criterion. There were no significant differences between the eras on product choice, brand, packaging, or convenience. These results confirm research poll data (Fierman, 1991; Miller, 1991; Miller & Schwartz,

1991; Roper, 1990). Consumers who were classified as post-industrial-age values did not necessarily choose more environmentally sound products, nor did they prioritize packaging over brand or convenience in their choice selection more than their "less green" counterparts.

Table 2. Analysis of Variance for the Three Socialization Eras with the Three Choice Criteria and Product Choice

	<u>F Value</u>	<u>(df)</u>	<u>p value</u>
Brand	.203	(1,59)	.817
Convenience	.725	(1,59)	.489
Packaging	.742	(1,59)	.481
Product Choice	1.32	(1,59)	.276

Overall, when student participants reported that brand was the most important consideration in product selection, packaging was the second most important consideration. This finding may reflect the age of the consumers in this study; because young consumers are typically brand conscious they may readily employ the brand choice criterion (Woods, 1966). When brand was not a consideration, packaging emerged as the most important consideration in product selection.

Respondents who chose the minimally packaged product reported that while packaging was more important than convenience, brand was the most important criterion. Therefore, it appears that even when choosing the minimally packaged product, consumers ranked quality, environmental soundness, and convenience in that order. It is important to note, however, that the packaging criterion consistently ranked above convenience for each minimally packaged product selected. This finding suggests that the environmental criterion was important in consumer decision making for some consumers.

## Implications for Consumer Education

As issues related to environmental protection become more pronounced, consumers may become more interested in how their choices affect the environment. Educators are key facilitators in helping consumers develop the necessary skills for environmentally-responsible decision making. There are many ways this can be done in the classroom and in the community. Stampfl's Environmental Value Cluster questionnaire can serve as a springboard to discuss various aspects of "environmental consumerism." Students can debate what social, economic, and political changes might be necessary to rank environmental protection in personal purchases, lifestyles, and public policy decisions.

A marketplace simulation, such as the one used in this exploratory study, may give children, youth, and adults hands-on experience in making environmentally sound product packaging decisions. For a more realistic exercise, consumers could take a shopping list to a local grocery store and select the specified product with the most environmentally-friendly packaging. Products could then be compared based on cost, convenience, brand, and packaging to examine trade-offs that one must consider when making these choices. Discussion can include the different packaging alternatives and their various impacts on the environment.

Consumer educators can play an expanded role in the development of industry-wide standards and policies for environmental claims. Additionally, they can improve consumers' abilities to assess information regarding alternative products' potential environmental impact (Solheim, Read, & Toelle, 1991). The terms such as "green," "environmentally friendly," "recyclable," "reusable," biodegradable," and "ozone friendly" need to be standardized and consumers need to understand their meanings.

In summary, as concern for the environment grows, consumers will increasingly be asked to consider the environmental impact of their purchase decisions. They will need to decide where environmental preservation falls in relation to their other choice criteria. Further, consumers will need information about the impact that various packaging alternatives have on the environment. Consumer educators should play a pivotal role in this emerging era of environmental

concern as they help consumers learn how to incorporate the "E-factor" into their decision making processes.

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