

ECOLOGICAL ATTITUDES AND BEHAVIORS IN CONVENIENCE ORIENTATION SEGMENTATION: A CROSS-CULTURAL SURVEY

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ABSTRACT

This research investigates the differences in ecological orientation between Americans and Australians employed by environmental agencies. The purpose of this investigation is to verify a supposition about utopian countries, those with high ability to pay and low convenience orientation, made by Luqmani et al [6]. The results suggest that the supposition may require further investigation. Other possible reasons for these results are discussed.

BACKGROUND

For many firms, expansion into global markets is not only a strategic imperative but a matter of survival. Understanding consumer behavior across global markets is fundamental to this endeavor. To simplify the task of global marketing, multinational firms often group countries based on similar cultural, political, and economic conditions. This process of market segmentation is considered fundamental to developing effective global marketing strategies. To take advantage of global markets, marketers are required to attain a thorough understanding of what drives consumer behavior in different markets and to detect the extent to which similarities exist and can be engaged through marketing efforts.

Global markets are often segmented along cultural dimensions with marketing mixes developed to exploit commonalities in these segments [4]. Research using Hofstede's [3] national cultural dimensions scale suggests that consumption behavior can be explained by four national culture dimensions (power distance, uncertainty avoidance, individualism-collectivism, masculinity-femininity) [4]. Congruence on Hofstede's national cultural dimensions suggests similarities that can lead to the expectation that implementing equivalent marketing practices in culturally congruent countries (based on Hofstede's culture dimensions) will have similar effectiveness. The knowledge that consumers are "culturally conditioned" and that culture affects how people respond to the environment is familiar to many in academia and marketing, providing guidance for understanding differences in the "collective mental conditioning of people" while at the same time provides caution to organization developing global marketing strategies [7]. While understanding where a country identifies with respect to national culture dimensions is useful, this insight by itself is insufficient for developing effective marketing strategies. The "psychic distance paradox" [8] demonstrates that even with culturally similar countries, important differences may exist between consumers such that implementing similar marketing practices in countries psychically close to home may result in poor performance or even failure. Consequently, other variables must be used when segmenting global markets. To this end, homogeneous consumer segments are often identified using additional factors such as economic, geographic, political, cultural, religious or resource variables.

These variables must be supplemented by variables that consider the nature of the product and the purchase orientation of consumers to be effective. This approach has been useful in assessing global market opportunities; however it has not been particularly successful in identifying commonalities among global markets required for developing strategies directed at global segments [5, 9].

The convenience orientation of consumers within a country along with measures of the economic affluence of these consumers has been proposed as a potentially useful variable for segmenting global markets [6]. Convenience orientation in this context refers to the value placed on products and services that provide personal comfort and/or save time for the consumer [1]. Countries in the high convenience orientation/high ability to pay quadrant, also known as the innovator/leader countries, include the United States, Japan, Saudi Arabia, Kuwait, Singapore, Germany, France, and Britain. These provide the most significant and immediate market opportunities. Countries in the high convenience orientation/low ability to pay quadrant, also known as the latent/emulating countries, include Israel, Spain, Portugal, Greece, Russia, Turkey, Hungary, and Pakistan. These provide product redesign opportunities. Countries in the low convenience orientation/low ability to pay quadrant, also known as the traditional countries, include Bangladesh, Sudan, Somalia, and Afghanistan. These provide limited market opportunities. Countries in the low convenience orientation/high ability to pay quadrant, also known as the utopian countries, include Switzerland, Denmark, Sweden, Norway, Australia, New Zealand, and Guam. These provide somewhat enigmatic market opportunities.

Luqmani et al. [6] asserted that "Many people in utopian countries think that their convenience consumption is having undesired consequences on the environment, such as increased pollution. Consequently, they are attempting to redefine their values, lifestyles, and concept of time and its proper use." Thus it is expected that consumers in the utopian countries should be more ecologically oriented than those in innovator/leader countries, where the difference between the two groups is their convenience orientation, not their ability to pay. This study was designed to examine whether consumers in a utopian country (Australia) were more ecologically oriented than those in an innovator/leader country (United States).

METHOD

Surveys were completed by members of two divisions of the Commonwealth Scientific and Industrial Research Organization (CSIRO) in Australia and by members of one division within the Texas Natural Resource Conservation Commission (TNRCC) in the United States. Both groups had similar professional ecological awareness as both were involved with environmental issues, in particular fish-kills. Although the power of the hypothesis tests was negatively impacted, the sample sizes were limited to twenty-one within each agency to reduce the potential risk of bias induced by the sampling methodology.

Golden et al. [2] developed indices for environmental attitudes and behaviors after an in-depth literature review. The Ecological Concern Index (ECI) measures the respondent's concern with the ecology on both a local and global level. The Recycling Behavior Index (RBI) measures the respondent's frequency of recycling and his desire to recycle. The Ecological Packaging Response Index (EPRI) measures the extent to which the respondent's intention to purchase a product is influenced by ecological packaging options. The Ecological Buying Behavior Index (EBBI) measures the extent to which the respondent's buying behavior is influenced by ecological issues. The Ecological Self-Perception Index (ESPI) measures the respondent's perception of himself as an ecologically conscious and ecologically

responsive person. The Receptiveness to Ecological Information Index (RII) measures the respondent's interest in additional ecological information. A seven point Likert scale (1 = "Strongly agree", "Always", or "Very much" and 7 = "Disagree", "Never" or "Not at all" depending on the question wording) was used as the response variable for each question. One question from the ECI, "I am concerned about pollution in the Rio Grande River" was modified due to the nature of the samples. As the TNRCC group surveyed was located in Austin, the Colorado River was substituted for the Rio Grande River on their surveys. The CSIRO group was located in Melbourne, thus the Yarra River was substituted for the Rio Grande River on their surveys.

The order of the questions was randomized and demographic questions were placed at the end of the survey. Information on sex, age, educational level, and occupation were requested. Age was broken into 6 categories (under 25, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 and over). Educational level was broken into 7 categories based on the highest level attained (grammar school, high school diploma, some university/associates degree, bachelors degree, masters degree, doctoral degree, postdoctoral studies). At the request of the management of one of the agencies, income questions were not asked.

ANALYSES

First, the two groups were examined for demographic differences. While the proportion of males in the US group (61.9%) was higher than that of the Australian group (42.9%), this difference was not significant ($Z = 1.26$, $p = .208$). The median age for the US group (35 to 44) was significantly older ($W = 562.5$, $p = 0.0027$) than the median age of the Australian group (25 to 34). The median education level of the US group (master's degree) was also significantly higher ($W = 580.5$, $p = .0008$) than the median education level of the Australian group (bachelor's degree). This difference however was on the order of one category and may be due to the fact that the Australian education system is based on the British model, not the American model.

Next, the questions were examined in relation to the indices through factor analysis. Ten factors were initially fit via principal components with varimax rotation. Eight of the resulting factors had eigenvalues greater than one accounting for 87.1% of the variance. However, only one question loaded on each of the seventh and eighth factors. In the next iteration, only six factors were fit. These six factors account for 84.1% of the variance. As certain questions in the ECI, EBBI, and RII groupings cross-loaded, they were thus removed in the next iteration. The six factors fitted to the remaining questions account for 89.3% of the variance. From these results, summated Likert scales were then formed which conceptually corresponded to those developed by Golden et al. [2]. Scores for each of these scales were then calculated for each respondent.

The differences between each group on the ecological indices were then examined (table 1). The Australian group consistently scored higher on each of the indices, significantly so ($p < .05$) on all of the indices except ECI. This corresponds to a lesser ecological orientation for the Australians when compared to the Americans, contrary to expectation.

Index	Total possible	Overall mean	Mean for Americans	Mean for Australians	t	p
ECI	14	5.33	4.75	6.06	-1.48	.075
RBI	21	8.21	6.86	9.57	-1.95	.029
EPRI	30	12.36	9.29	15.43	-4.17	.0001
EBBI	14	7.43	5.95	8.90	-3.37	.0008
RII	21	12.19	10.57	13.81	-2.35	.012
ESPI	28	9.52	7.33	11.71	-3.30	.0011

Table 1: Mean scores on the ecological indices and test results for $H_0: \mu_{\text{Americans}} = \mu_{\text{Australians}}$

DISCUSSION

The statement by Luqmani et al. [6] is not supported by the data collected on this survey. Those in the utopian country, Australia, do not appear to be as environmentally oriented as those in the innovator/leader country, the United States. Thus the perception that “many people in utopian countries think that their convenience consumption is having undesired consequences on the environment” may be faulty.

These results may be due to a bias induced by the groups sampled. While both agencies were involved in ecological issues, the primary mission of the TNRCC group was to protect the environment, while the primary mission of the CSIRO group was to explain the environment. These professional orientations may have led to a more environmentally aware group being sampled in the United States.

Another possible source for these differences could be that the Australians may be anchoring their responses at a higher value than the Americans. Consider the situation where the Australians anchor their answers one point higher than the Americans do. When one point per question is subtracted from each of the Australian responses and the analyses rerun, the results in table 2 are obtained. Now, all of the indices are no longer significant. Thus the discrepancy previously noted between the two groups may not be due to genuine differences in their environmental orientation, but rather an anchoring effect due to the respective cultures.

Index	Total possible	Overall mean	Mean for Americans	Adjusted Mean for Australians	t	p
ECI	14	5.333	4.75	3.06	1.90	.067
RBI	21	8.214	6.86	6.57	.21	.84
EPRI	30	12.357	9.29	10.43	-.78	.44
EBBI	14	7.429	5.95	6.90	-1.09	.28
RII	21	12.190	10.57	10.81	-.17	.86
ESPI	28	9.524	7.33	7.71	-.29	.78

Table 2: Mean scores on the ecological indices and test results for $H_0: \mu_{\text{Americans}} = \mu_{\text{Australians(adjusted)}}$

CONCLUSION

Although this study was not generalizable, it is suggestive. Those surveyed in the United States appeared to be more environmentally oriented than those in Australia, contrary to the assertion that the lower convenience orientation in utopian countries is due to the perception among consumers that convenience consumption has undesired consequences on the environment [6]. Findings provide additional evidence of the psychic distance paradox and further suggest that additional caution need be taken by marketers when developing global marketing strategies. Although the United States and Australia appear to be outwardly similar to each other on a number of cultural dimensions, important differences exist that must be considered when developing global marketing strategies. As this study was not designed to measure biases induced by the nature of the two agencies involved or to measure a cultural anchoring effect, further study into the relationship between the environmental orientations of consumers in innovator/leader countries and consumers in utopian countries is recommended.

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