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Exploring the Relationship between the Segments of Cross-cultural Values and Forest Tourism Service Quality

The purpose of this study is to explore the relationship between perception of forest tourism service quality and cross-cultural values segments using Hofstede's measure of cultural values in an ethnically diverse population in a forest tourism context. The results showed that respondents can be segmented into three homogeneous groups, labeled Modernist, Mixed, and Postmodernist, based on Inglehart's Modernization and Postmodernization values. Findings revealed that the Mixed segment tended to perceive lower service quality than the Modernist segment. Discussion of the findings and research implications are suggested.

Key words: Cross-cultural values, segmentation, service quality, forest tourism

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Introduction

Visitors to national forests are not all alike. Marketing applications have used values as one criterion for segmenting the population into homogeneous groups of individuals (Madrigal, 1995). Values can provide potentially powerful explanations of visitor behavior because they are inner- and centrally-oriented within a person's cognitive system, remarkably stable over time and serve as the standards of conduct. Research has demonstrated the relationship between cross-cultural values and service quality (e.g., Furrer, Liu, & Sudharshan, 2000). Because culturally diverse populations may have varying values, and values may influence more specific perception of service quality and behaviors, it is important to study these values among increasingly diverse populations in a variety of contexts. Therefore, in this paper, I explore the relationship between perception of forest tourism service quality and values in an ethnically diverse population in a forest tourism context using Hofstede's measure of cultural values (1991).

Methods

In 2002, visitors to the Angeles National Forest (ANF) near metropolitan Los Angeles were surveyed. I adopted a systematic random selection approach; that is, at each 14 sites selected in ANF, every third visitor was asked to complete the on-site questionnaire. A total of 1,332 visitors were approached, 156 of whom declined or were unable to participate the on-site survey. Of the 1,176 informants who responded, four survey questionnaires were incomplete. This resulted in 1,172 usable surveys, with a net response rate of 88 percent. Overall, 38 percent were white (n = 444), 27 percent Hispanic (n = 312), 27 percent Asian (n = 319), and 8 percent "other" including African-American, American-Indian, "other", and missing values (n = 97).

Results

Creating the segments of cross-cultural values

The first step of the analyses was to use Confirmatory Factor Analysis (CFA) to examine Hofstede's four dimensions of cultural values. These are power distance, individualism, masculinity, and uncertainty avoidance. This test (with four items per dimension) revealed a poor fit according to several indicators¹ via the LISREL 8.72 program. Given the poor fit of the original four-dimensional cultural values model, Exploratory Factor Analysis (EFA) was used to explore the dimensionality of the items in the national forest tourism context. The results revealed three interpretable factors of cultural values. The first factor, I labeled "Hierarchical beliefs", the second factor, "Uncertainty avoidance", and the third factor, "Femininity." Overall, the three factors (dimensions) accounted for 52.3 percent of total variance.

K-means cluster analysis (via SPSS 14.0 software) was used to cluster respondents into relatively homogenous groups based on their scores on cultural values dimensions and age. The reason for combining age into analysis was because research has demonstrated a relationship between values shift and age groups (e.g., Inglehart, 1977). A three-group solution provided the most meaningful and distinct result. The labels I used for each cluster reflected the intensity of each group's cultural values and age differences. Taken from the perspective of Inglehart's Modernization and Postmodernization (1997), the three segments of values were labeled "Modernist", "Mixed", and "Postmodernist." Among specific clusters, Modernists scored highest and Postmodernists scored lowest on Hierarchical beliefs

¹ For instance, the result of CFA showed that Normed Fit Index (NFI) = 0.70 and Root Mean Square Residual (RMR) = 0.13. According to Bollen (1989), the acceptable fit rules of thumb were when NFI > 0.90 and RMR = 0.05 to 0.10.

dimension, whereas for the members of the Mixed group, they tended to score neutrally for three cultural values dimensions².

Perceptions of service quality differences among subgroups

There were 22 service quality items which belonged to four dimensions including facilities, service, information, and management, and were coded on a 5-point scale from “1 = Strongly disagree” to “5 = Strongly agree” (Table 1). This four-dimension model was tested and shown to be useful in different forest and outdoor recreation settings throughout the U.S. These service quality items represented the customer service measures in ANF. The analysis of variance showed that four service quality dimensions significantly differed among three values segments and followed the same pattern. The results indicated that the Mixed group was likely to perceive lower service quality than those Modernists. To test the individual 22 service quality items among three segments, I adjusted the level of significance due to multiple tests. That is, an adjustment for the alpha level was used to avoid making a type 1 error (incorrectly accepting that an observed difference or relationship is true). I corrected the significant level of .05 by divided by 22 tests and derived the value of .002 as a new criteria of significant level. The results showed that 19 out of 22 service quality items were significantly differed among the three groups (differences were not found for 3 items in the facilities dimension). Moreover, a consistent pattern was found among the 19 significant differences. In each case, the Mixed group perceived lower service quality than the Modernists.

Discussion

Research on the relationship between cross-cultural values and service quality has been well documented in the service marketing literatures (e.g., Donthu & Yoo, 1998; Mattila, 1999;

² Details of the statistical analysis between values dimensions (from EFA) and values groups (from cluster analysis) are available from the author.

Table 1. Comparison of perceptions of service quality of Modernist, Mixed, and Postmodernist groups in the Angeles National Forest, USA.

Service quality Dimension/item ¹	Modernist n = 287		Mixed n = 358		Postmodernist n = 230		F for ANOVA
	Mean ²	SD	Mean	SD	Mean	SD	
Facilities	3.94 _a	.59	3.64 _b	.72	3.80 _{ab}	.60	17.43*
1. Access to the place(s) I like to visit	4.34 _a	.65	3.98 _b	.90	4.22 _a	.74	14.71*
2. Facilities that are accessible to all visitors	4.11	.76	3.86	.93	4.00	.90	5.55
3. Trails clearly marked and signed	4.07	.80	3.84	.93	4.00	.85	5.54
4. Trails clean & well maintained	4.15 _a	.76	3.82 _b	.94	4.01 _{ab}	.83	10.34*
5. Enough campgrounds	3.74 _a	.96	3.43 _b	.96	3.51 _b	.88	7.87*
6. Enough parking space	3.34	1.2	3.07	1.2	3.07	1.2	4.04
7. Facilities are convenient	3.92 _a	.87	3.63 _b	.92	3.74 _{ab}	.81	7.41*
8. Facilities are well maintained	3.93 _a	.90	3.53 _b	.96	3.76 _a	.86	13.28*
Service	4.00 _a	.67	3.72 _b	.81	3.87 _{ab}	.74	11.02*
9. Forest Service staffs who make me feel welcome	4.06 _a	.78	3.80 _b	.92	3.97 _{ab}	.87	6.73*
10. Forest Service staffs who are available	3.94 _a	.81	3.62 _b	.93	3.71 _b	.88	8.92*
11. Forest Service staffs who are willing to answer questions	4.12 _a	.73	3.82 _b	.90	4.00 _a	.84	9.39*
12. Opportunity to make comments/provide feedback to Forest Service	3.97 _a	.81	3.62 _b	.93	3.85 _a	.86	11.48*
Information	3.86 _a	.72	3.50 _b	.76	3.55 _b	.75	20.59*
13. Comprehensive information about recreation opportunities	3.93 _a	.78	3.75 _b	.86	3.67 _b	.85	13.70*
14. Information that is easy to find	3.89 _a	.82	3.53 _b	.88	3.61 _b	.86	12.55*
15. Accurate and current information available about the area	3.94 _a	.81	3.54 _b	.90	3.60 _b	.84	16.05*
16. Natural and history information available	3.76 _a	.86	3.41 _b	.92	3.39 _b	.92	13.33*
17. Information about safety and emergency	3.81 _a	.85	3.43 _b	.90	3.59 _b	.91	12.34*
Management	4.02 _a	.62	3.69 _b	.74	3.87 _{ab}	.65	19.12*
18. Feel safe and secure	4.22 _a	.66	3.80 _b	.90	4.05 _a	.72	20.47*
19. Rules/regulations that are enforced	4.00 _a	.75	3.66 _b	.87	3.73 _b	.81	12.26*
20. Fees are reasonable	3.93 _a	.99	3.54 _b	1.1	3.76 _{ab}	1.0	9.55*
21. Fair prices about maps, etc.	3.88 _a	.90	3.50 _b	1.1	3.72 _a	1.0	10.22*
22. I am treated courteously	4.17 _a	.71	3.93 _b	.87	4.11 _a	.81	6.74*

*Significant at $p = .002$ (Correction of multiple tests for 22 service quality items via $.05/22 = .002$).

¹ Variables within dimension/item coded on a 5-point scale from 1= Strongly disagree to 5 = Strongly agree.

² Mean with different subscript letter significantly differed at the $p = .05$ level after post-hoc test adjustment. The dimension index was created by taking the mean of the items within the same dimension.

Pizam & Calantone, 1987; Segal, Segal, & Niemczycki, 1993; Winsted, 1997). Based on this earlier research, several perspectives on why Modernists tended to perceive the highest service

quality among three values groups were considered. For instance, Donthu and Yoo (1998) found that western consumers preferred to act as individuals rather than as members of groups.

Consequently, they expected higher overall service quality in addition to customization and assurance services from the service provider. Indeed, individuals of different cultural backgrounds form sets of different cultural values as a result of their backgrounds, so their assessments of service quality differ (Hofstede, 2001).

In this study, Modernists tended to agree with and take hierarchical beliefs for granted, and they tended to tolerate commonly recognized authority. This may be because National Forest regulations (e.g., rules and regulation enforcement) help to maintain order, and Modernists accept a considerable power difference between visitors and the service providers. National Forest officers (rangers) often have power over their visitors that results from their expertise, professional skills, and/or equipment (e.g., rangers in the Angeles National Forest are usually equipped with firearms) and often maintain a certain professional distance from visitors. This is consistent with Inglehart's (1997) findings that Modernists tend to tolerate power hierarchy, tight control, vertical top-down communication, and differentiation by age, gender, family background, education level, race, and occupation.

Whereas Modernists tended to endorse such power distance and authority and to perceive higher service quality, to some degree, the Mixed group might view power distance and authority as unfairness and inequality between people. Consequently, they would be less likely to accept the traditional professional distance between service providers and visitors and tend to perceive lower service quality. From the management perspective, managers can

translate abstract cultural values to actionable portraits on which different values segments were based. The service and product development as well as other marketing actions can be tailored to match different visitor segments' value orientations. In sum, the findings provided evidence in support of the relationship between values and forest tourism service quality in a cross-cultural context. Future research is needed to completely understand these relationships. This line of research should bring insights to customer service in parks, recreation, and tourism contexts that cater to a culturally diverse clientele.

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