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**THREE SATISFACTION MODELS COMPARED IN
SURVEY OF TAIWANESE TOURISTS**

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INTRODUCTION

Tourism, as a \$4 billion international industry, is dependent upon satisfied customers for its continued growth. However, satisfaction has many definitions, which in turn, leads to different ways to measure that satisfaction. Three of the approaches include the discrepancy model, the performance based measure, and the importance-performance action grid.

LaPage (14) thought that a high quality recreation experience is "one that meets or exceeds each visitor's expectations". This is consistent with the discrepancy model approach, which basically states that satisfaction occurs when a product or service has performance that meets or exceeds expectations ($S=P-E$) (3, 6). Parasuraman, Zeithaml, and Berry (7, 8, 9) utilize this concept as the key "Gap 5" measurement in their classic model of service quality, called SERVQUAL.

Cronin and Taylor (2), and Teas (11) differed with the discrepancy model by saying that satisfaction is based purely on performance ($S=P$). They suggest that the performance based model, SERVPERF, is more construct-valid than SERVQUAL.

Another approach is the importance-performance (IP) technique pioneered by Martilla and James (5). This technique plots the interaction of product/service attribute importance scores and performance scores on an "action grid." Based upon the location on the action grid, "satisfaction" becomes a matter of strategic interpretation. The strategies are: in Quadrant I, "Concentrate Effort Here" (to improve the performance); in Quadrant II, "Keep Up the Good Work;" in Quadrant III, "Low Priority (ignore);" and in Quadrant IV, "Possible Overkill" (unappreciated performance).

The purpose of this paper is to compare the use of the three previously mentioned satisfaction models in an exploratory study of satisfaction among Taiwanese tourists.

This comparison helps illustrate some of the strengths, weaknesses, and inter-relationships of the three models.

METHOD

Attributes of a high quality group (escorted) tour were identified through a review of literature and input by a tour director of a Los Angeles based international tour company. The attributes were formulated into "quality expectation" statements (clean restroom on the bus, tour guide gives accurate information, etc). After a pre-test and revision, thirty three attributes were used in a questionnaire administered to 84 Taiwanese tourists on a seven day tour of the American West.

To operationalize the discrepancy model approach, and the importance-performance technique, the quality expectation statements were used in a two part format. Part I, administered before the tour began, asked the importance of each quality expectation on a seven point Likert scale. Part II, administered at the conclusion of the tour, asked about the tour's performance on the same attributes. To operationalize the SERVPERF, performance based approach, four additional questions were asked in Part II: overall satisfaction with the tour, intent to return to the U.S., intent to use the tour company again, and recommendation of the tour to friends. Previous studies have shown the relationship between satisfaction and repeat purchase intentions (1, 2), and between satisfaction and word of mouth recommendation (10).

Discrepancy scores ($S=P-E$) were calculated for each attribute, and importance-performance scores were plotted on the action grid. Among the statistical tests conducted, Pearson correlation coefficients

were calculated to test the relationships between data generated by the three satisfaction models.

RESULTS

A summary of the sample's demographic characteristics is shown in Table 1. The majority were female, non-residents of the U.S., aged 18 to 44, married, students and professionals with at least some college education, and travelling with family and/or friends.

The scale of 33 attributes had an Alpha reliability score of .917, with individual attribute scores ranging from .911 to .922. This indicates that the scale had a high level of internal consistency.

The mean scores of the importance, performance, and calculated discrepancy for each of the 33 attributes are shown in Table 2. The highest importance was placed on safe driving, comfortable seats, a clean bus, and clean guestrooms. Performance ratings were highest for safe driving, clean bus, beautiful scenery, and friendly explanations from the guide. Discrepancy scores (P-I) were highest (negative) for having a good interpreter at the destination, variety of snacks and drinks on the bus, pamphlets with Chinese translation, and opportunity to talk with local residents. Overall, 29 of the 33 attributes had negative discrepancy scores.

As indicated in Table 3, the mean score for the single item measure of overall satisfaction was 5.526 on a seven point scale. On the other hand, the mean satisfaction score calculated by the discrepancy model was negative at -.428. Intention to recommend the tour to other had a higher mean score (5.421) than either

intention to return to the U.S. (4.912) or intention to return with the same tour company (4.597).

Table 4 shows the correlations between satisfaction (both discrepancy model and single item measure) and the three key variables: intention to return to the U.S., intention to return with the same tour company, and intention to recommend the tour to others. Discrepancy model satisfaction scores had a significant (at .05) and negative correlation to intention to return to the U.S., and very weak positive correlations to the tourists' intention to use the same tour company again and intention to recommend the tour to others. On the other hand, the overall satisfaction measure had significant and positive correlations to intention to use the same tour company and intention to recommend the tour. Further, there was a weak positive correlation to intention to return to the U.S.

Next, a calculation was made of the mean number of attributes per person that were located in each quadrant of the Importance Performance Action Grid. The mid-points or "cross hairs" for the action grid were set at "5" rather than "4" because many managers in the hospitality and tourism industry believe that "fair" (4) is not high enough to delineate an acceptable quality of services. As indicated in Table 5, Quadrant II, the only positive quadrant, had a mean of 18.86 attributes per person. The negative quadrants I and IV had only 5.333 and 2.632 attributes per person. Quadrant III, "Low Priority," had 6.175 attributes per person.

As shown in Table 6, the two satisfaction measures (discrepancy and single measure) and the three intention variables (return to the U.S., return with the same tour company, and recommend the tour to others) were correlated with the mean

number of attributes, per person, located in each of the quadrants of the importance-performance action grid. Both of the satisfaction measures and two of the intention measures had negative correlations to Quadrant I, which should be expected. All five of the measures had positive correlations to Quadrant II, which is also expected. There were mixed and non-significant correlations to Quadrant III. For Quadrant IV, the three intention measures (return to the U.S., use the same tour company, and recommend the tour) had negative correlations. However the discrepancy model satisfaction scores had a strong positive correlation, and the overall satisfaction measure had a weak positive correlation.

DISCUSSION

The discrepancy model satisfaction scores in this study were generally negative, as is often the case because of inflated expectations (9). Further, some of the discrepancy model correlations seem either weak or illogical. For example, the discrepancy model had no significant positive correlations to any of the three intention variables. Also, the discrepancy model had a strong positive correlation to Quadrant IV of the I-P Action Grid, where expectations are weak and performance is strong. This is the "Overkill" quadrant where tourists get more performance than they might desire. Indeed, all the "intention" correlations are negative in this quadrant. However, the discrepancy model was blind to this concept.

The single item overall satisfaction measure seemed to exhibit more logic, having positive correlations to all three of the intention variables, with "intention to recommend the tour to others" having the

highest correlation. It is logical that this measure would have a higher correlation with overall satisfaction than "intention to return to the U.S." does. Tourists who are satisfied will probably recommend the tour to friends, yet may seek different destinations for their next vacation. Repeat purchase behavior may not be very strong for relatively allocentric travelers, or for people who view this trip as a "once in a lifetime" experience. This idea may also help explain why discrepancy model satisfaction had a negative correlation to intention to return to the U.S.

The importance-performance technique also seemed to exhibit logical results with the three intention variables. Correlations were mostly negative for Quadrant I, positive for quadrant II, low and mixed for Quadrant III,

and negative for Quadrant IV. These are all as expected. Further, the I-P technique was the only model to match the "overkill" concept of Quadrant IV with negative correlations to the three intention variables.

Overall, the importance-performance technique may be superior to the other two models for measuring and interpreting tourist satisfaction. However, there need to be further studies with larger samples to explore the relationships, strengths, and weaknesses of these and other models of satisfaction. Would similar results occur with different participants in other recreation and tourism settings? It seems worthy to explore these questions further.

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TABLE 1
Demographic Characteristics

Characteristic	Percent
Female	61.4
Not U.S. Resident	65.0
Age 18 to 44	72.4
Married	55.4
Professional Occupation	40.8
Student	21.0
Clerical Occupation	17.1
Completed College	44.6
Some College	20.5
Income \$60,000 & Over (U.S. equiv.)	29.2
Income \$40,000 to \$59,999	27.1
Income \$20,000 to \$39,999	35.4
Traveled with Family	58.4
Traveled with Friends/Associates	27.3

TABLE 2

**Mean Scores of Importance, Performance,
and Discrepancy of Attributes
Ranked by Performance Score**

Attributes	Perfor.	Import.	Descrerp.
1. Safe drive	6.65	6.88	-.23
2. Clean bus	6.11	6.51	-.40
3. Beautiful scenery	6.06	6.27	-.21
4. Guide gives friendly explanations	5.96	6.36	-.40
5. Clean restroom on the bus	5.93	6.18	-.25
6. Comfortable seats in the bus	5.81	6.52	-.71
7. Guide gives accurate information	5.69	5.69	-.76
8. Variety of attractions	5.67	6.06	-.39
9. Ease of hotel check in & out	5.65	5.83	-.18
10. Clean guestrooms	5.63	6.43	-.80
11. Quality of attractions	5.59	6.28	-.69
12. Guide's neat appearance	5.51	5.39	.12
13. Flexible departure schedule	5.44	5.52	-.08
14. Convenience of dining	5.38	5.52	-.14
15. Convenience of departure points	5.31	5.94	-.63
16. Attitude of local people	5.23	5.59	-.36
17. In-room amenities	5.17	5.23	-.06
18. Efficient luggage handling	5.16	5.34	-.18
19. Entertainment at destination	5.02	5.83	-.81
20. TV/VCR in the bus	5.02	4.77	.25
21. Shopping opportunity	4.82	4.59	.23
22. Opportunity to visit historic place	4.80	5.65	-.85
23. Opportunity to talk w/other tourists	4.78	4.67	.11
24. Quality room service in hotel	4.77	5.65	-.88
25. Opportunity to view wildlife	4.77	5.24	-.47
26. Availability of inexpensive food	4.76	5.24	-.48
27. Recreation amenities in hotel	4.73	4.98	-.25
28. Variety of types of food	4.64	5.11	-.47
29. Good interpreter at destination	4.30	5.36	-1.06
30. New experiences in dining	4.04	4.62	-.58
31. Pamphlets with Chinese translation	3.93	4.82	-.89
32. Opportunity to talk w/local residents	3.89	4.28	-.89
33. Variety snacks/drinks on the bus	2.60	3.62	-1.02
Mean	5.12	5.54	-.42

TABLE 3
Mean Variable Scores

Variable	Cases	Mean	Std Dev
Intention to return to the U.S.	74	4.912	1.829
Intention to return to the U.S. with the same company	77	4.597	1.591
Intention to recommend this to others	83	5.421	1.700
Single item score for overall satisfaction	83	5.526	1.151
Satisfaction by discrepancy model	84	-.428	0.872

Note: Satisfaction by discrepancy model: $D = \sum (P_i - I_i)$

TABLE 4
**Correlations Between Satisfaction (discrepancy model),
 Single Item Overall Satisfaction,
 and Three Variables**

Correlations: satisfaction)	N = 57 Satisfaction (Discrepancy model) (Mean = -.428)	N = 74 Satisfaction (Overall) (Mean = 5.526)
Intention to return to the U.S.	r -.257 p -.027* (M 4.912)	r .162 p .084 (M 4.959)
Intention to return to the U.S. with the same company	r .109 p .221 (M 4.560)	r .440 p < .001* (M 4.662)
Intention to recommend this tour to others	r .063 p .320 (M 5.421)	r .690 p < .001* (M 5.419)

Note: Discrepancy Model Satisfaction: $\sum (P_i - I_i)$

*** Significant at $p < 0.05$**

TABLE 5

**Average Attributes per Person Located in
Importance/Performance Quadrants**

Variable	Mean	Std Dev
Quadrant I (Concentrate here)	5.333	5.667
Quadrant II (Keep up good work)	18.860	7.463
Quadrant III (Low priority)	6.175	5.594
Quadrant IV (Possible overkill)	2.632	3.172

Note: The data based on 1 to 7 scale, 5 as mid point

TABLE 6
Correlations Between Quadrants and Variables

Variables	Intention to return U.S.	Intention to return with same company	Intention to recommend this tour	Satisfy $\sum (P_i - I_i)$	Satisfy single item
Quadrant I (Concentrate)	<i>r</i> .124 <i>p</i> .180	<i>r</i> - .175 <i>p</i> .097	<i>r</i> -.109 <i>p</i> .209	<i>r</i> -.809 <i>p</i> < .001*	<i>r</i> -.222 <i>p</i> .049*
Quadrant II (Continue)	<i>r</i> .096 <i>p</i> .239	<i>r</i> .225 <i>p</i> .046*	<i>r</i> .184 <i>p</i> .086	<i>r</i> .262 <i>p</i> .024*	<i>r</i> .185 <i>p</i> .084
Quadrant III (L. priority)	<i>r</i> -.109 <i>p</i> .211	<i>r</i> .050 <i>p</i> .356	<i>r</i> -.053 <i>p</i> .348	<i>r</i> .172 <i>p</i> .101	<i>r</i> -.081 <i>p</i> .274
Quadrant IV (Overkill)	<i>r</i> -.256 <i>p</i> .028*	<i>r</i> -.129 <i>p</i> .169	<i>r</i> -.143 <i>p</i> .144	<i>r</i> .527 <i>p</i> < .001*	<i>r</i> .103 <i>p</i> .223

* Significant at $p < 0.05$