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EVALUATING A SKI AREA PRODUCT
WITH IMPORTANCE-PERFORMANCE ANALYSIS

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ABSTRACT

The purpose of this study was to describe and evaluate the quality of the skiing product at a Northern California ski area through the application of importance-performance analysis.

Intercept surveys, employing personal interviews, were completed by 461 respondents during the winter of 1985-86. The resultant median scores from the data were plotted on a Management Action Grid. Open-ended data were assessed as a qualitative component. Both types of data were utilized to describe and evaluate the skiing product.

Significant findings include:

1) Employee friendliness, attentiveness, and courteousness were three of the major product attributes.

2) The physical limitations of the ski area were a source of dissatisfaction for many guests.

3) The service components of the skiing product were significant determinants of skier satisfaction.
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INTRODUCTION

The objectives of commercial recreation businesses revolve around business survival and profitability. In this context the relative importance ascribed to the individual product attributes, as well as measures of these attributes' performances, play an elemental role in the effective marketing of services.

The difficulty of identifying product attributes is compounded by the intangible nature of services. Yet, it is of primary concern to marketers to define this intangibility as much as possible. In this vein, establishing a methodology for the identification of product attributes coupled with a measure of attribute performance is the first step in more fully understanding the nature of the commercial recreation product and evaluating the product's ability to meet the needs of its consumers.

The intangibility factor underlies the experiential and subjective nature of services in general. This is no less true in the business of providing the skiing experience. The unique marketing challenge for service marketing researchers thus lies in the ability of research to comprehensively describe the skiing product, design quality control systems, describe the customer/firm interface and establish a strong marketing orientation within the service organization.

Quality control of service output cannot be standardized as in manufacturing where the product can be evaluated for inadequacies at every step of the process from the initial manufacturing process to the wholesaler and on to the retailer. In the manufacturing sector, each part of the manufacturer-to-customer link offers a check of the item's quality before it reaches the consumer.

The consumers themselves are another check of quality control as they can examine the product before purchase. In many cases—even after the purchase—the consumer can return the product and exchange it for money or other products. This process is usually not possible when purchasing services.

Due to the extreme difficulty of standardizing the product to insure quality control in a service business, the management will usually find it one of their greatest challenges to evaluate whether the service being delivered is in a manner consistent with the way it was originally planned and promoted. Along these same lines is the difficult task of evaluating whether the product is meeting the consumer's expectations raised through product familiarity, accepted industry standards and the promotional material of the area. If for any reason the actual experience of the service is not commensurate with the consumers' expectations, then either the expectations or the actual experiences must be modified.
NEED FOR THE STUDY

It is apparent that the application of a methodology which seeks to describe the nature of the skiing product is the first step in better understanding the variables at work in the marketing of a ski area. This research will explore the nature of the skiing product, including the relative importance of employee-guest interaction and other product attributes, in conjunction with an assessment of the service delivery quality.

GUEST-SATISFACTION AND EXPECTATIONS

Intimately tied to business survival and profitability is modern marketing theory which clearly outlines the tremendous importance of satisfying consumer needs and wants in order for the business to be successful. The theory also defines and illustrates the crucial importance of understanding and effectively utilizing various parts of the marketing mix; i.e., product, promotion, place (or the channels of distribution), and price. (4)

Behavioral theorists have noted a high correlation between satisfaction and expectation. (5, 6) This knowledge and other processes that may determine consumer satisfaction should be of interest to both marketing theorists and practitioners. Yet the topic has enjoyed limited attention in literature. (7)

A growing number of studies have analyzed perceived product performance and expectations, but they have had difficulty finding relationships between expectations, performance, and satisfaction. (8, 9) It has been observed that the field of consumer satisfaction has been a neglected area of research and theory formation, and that more substantial research identifying the general dimensions of product performance and the relationship between expectations, performance and satisfaction is needed. (10) These researchers also suggest that in assessing product performance, respondents be encouraged to talk about an especially satisfactory and unsatisfactory item so that specificity is gained.

IMPORTANCE-PERFORMANCE ANALYSIS

The use of an instrument which measures the important attributes of the product and these attributes' performance is the next logical step in a systematic approach to the problem. Measuring consumer ratings of importance must be the first step in better understanding a product because of the possible difference in the service organization's perception of what its customers want, and what the customers actually want. (11) This point increases in importance as the product becomes more complex and intangible such as that represented by the skiing product. Perceptions of product attributes, both in their importance and
performance to the consumer's own unique point of view, should be considered invaluable from a marketer's perspective.

Quality service is a complex issue and is specific to not only the service industry being addressed but to each individual business enterprise. The ski industry has its own set of specific attributes, and each resort has its own unique blend of attributes to be evaluated. The importance of rendering services in the correct amount with the necessary service delivery quality cannot be overemphasized.

Importance-Performance Analysis (I-P) first appeared in the literature when Martilla and James described the technique in an application measuring an automobile dealer's service success. The I-P analysis offers a number of advantages in meeting these requirements of a service industry by assessing consumer perceptions of the importance and performance of product attributes instead of just one or the other. It also has the potential to present a more complete picture of the importance and performance of attributes affecting consumer-orientation and even more specifically, employee-guest interaction. This potential is particularly significant in light of the reviewed research highlighting the importance of the human element in service delivery.

On evaluation of the effectiveness of Importance-Performance Analysis, the technique was found to yield useful insights into consumer perception of the importance and performance of product attributes. The use of the Importance-Performance Management Action Grid (MAG) allowed the positioning of attributes on a horizontal and vertical axis and a comparison to be made of importance to performance. This process permitted data to be interpreted into management and marketing strategies which were easily understood by practitioners.

The technique is well-suited in primary marketing research in the ski industry where the goal is to identify the nature of the product and evaluate in a detailed fashion the quality of the service delivery. An advantage of using the I-P is the relative ease in which these data are translated into management action. The I-P instrument also appears to offer a method for regularly and economically assessing the ever-changing perceptions of the importance of product attributes and evaluating service performance. The evaluation of service performance may be the first move in establishing a more effective quality control program for the ski industry.

METHODOLOGY

Four hundred and sixty-one (461) skiers were intercepted and interviewed at a Northern California ski area. In order to minimize temporal bias, the interviews were conducted systematically throughout the 1985-86 skiing season. Only individuals who had purchased skiing privileges and were at least 13 years of age were interviewed.

The majority of the data collection involved a random sample chair lift interview technique described by Goeldner in which respondents are chosen by counting back in the chair lift line a specified number of
skiers (ten in the case of this study). Potential participants in the study are asked if they would mind being interviewed on the way up the chair lift.

Occasionally, days of extremely poor weather prevented use of the chair lift interview technique. On these occasions the tagging method pioneered by Mills et al. (17) was utilized. This method originally involved the three-step process of random sampling and tagging the respondent on the slope, recontacting him to complete a short questionnaire, and the mailing of a more extensive questionnaire to his residence. In this study it was only necessary to use the first two steps in order to collect the required data.

All respondents were interviewed and were not required to do any writing or reading. However, respondents were encouraged to read along with the enumerator if they so desired. All of the respondents' scores were repeated by the enumerator in order to check that the responses had been recorded properly.

The instrument sought to meet the requirements of measuring both consumer perceptions of product importance and product performance and presenting these measurements in such a manner that inferences could be drawn from the relationship between the two variables. Historically, many research designs have only measured one side of the consumer acceptance equation. Thus, they have elicited only ratings of product importance or product performance, rather than both. (18)

The measures of importance and performance (I-P) in this study consisted of a seven-point Likert-type scale. Although other researchers have used a five-point Likert-type scale (19, 20) which was recommended by Martilla and James (21), the spread of ratings has been deemed inadequate. (22) Open-ended questions were asked at the conclusion of the I-P section of the survey in order to add an additional qualitative element to the survey and as a check of I-P effectiveness and sensitivity.

The placement of the open-ended questions at the end of the questionnaire was predicated on Dillman's (23) recommendation that information of a sensitive nature follow questions asking for less sensitive information. Dillman's view is based on the theory that researchers will have a much better chance of retrieving sensitive data if the respondent feels some measure of increased rapport with the enumerator.

**TREATMENT OF THE DATA**

Past use of I-P analysis has utilized the mean values of each variable. However, there has been controversy in the literature over use of the means. (24) Since the data may be disproportionately skewed, Hodgson (25) and Martilla and James (26) have suggested employing median values as a measure of central tendency. This suggestion was incorporated in this study.
Each median value was placed on either the vertical axis if it measured the importance variable, or on the horizontal axis if it measured the performance variable. The I-P grids were scaled from 3.5 to 7. The exclusion of 0 to 3.5 on the grid was made since none of the variable measures fell in this area.

Interpretation of the I-P grid is dependent on each variable's positions on the grid. (Figure 1). The variables perceived as having the greatest relative importance are plotted high on the grid. Their relative importance decreases the lower they occur on the grid. Variables perceived as having the greatest relative performance are plotted on the right side of the grid. The relative performance decreases as they are plotted from right to left.

FINDINGS

Figure 2 shows the results of the Facilities and Programs Management Action Grid, and is followed by Figure 3 which shows the results of the Personnel Management Action Grid. A key and explanation can be found following the grids.

The results of the qualitative components of the research are shown in Tables 1 through 4. Two questions were asked of the respondents: (1) What do you like least about the Lassen Ski Area? and (2) What do you like most about the Lassen Ski Area? The data are rank-ordered by frequency of response so that those items mentioned most often by respondents are followed by items mentioned less often. Discussion of these data will be in concert with the I-P data and be separated into the following two sections: (1) Facilities and Programs (Tables 1 and 3) and (2) Personnel (Tables 2 and 4).

Due to space constraints, only the three most highly ranked items from the qualitative section will be discussed in this paper. In a similar vein, discussion will be restricted to the three most important items from each MAG. This discussion will thus highlight critical areas of skiing product importance and demonstrate the explicatory value of the research technique.

DISCUSSION

Facilities and Programs

Viewing the Facilities and Programs Management Action Grid, the product attribute ranked most important is lift ticket price. From the extremely high importance rating of 6.8 and a moderate performance rating of 5.5 it appears that guests would be better satisfied if the price were lower. However, it is possible that on any rating of price, consumers would prefer a lower one whether or not the price is perceived as being relatively too high. Since the high price was only mentioned in what skiers liked least about the resort five times and mentioned forty-six in
what they liked most, the significance of the disparity between the
ratings of importance and performance appears to be minimal.

Waiting in lines is a close second with an importance rating of 6.7. The
performance rating of this attitude was 5.1 which indicates a
substantial disparity between importance and performance. The open-ended
questions found that guests mentioned long lines as what they liked least
twenty-eight times, suggesting a significant problem, and general
crowdedness thirty-one time. In what skiers liked most, the uncrowded
response numbered sixty-one. These data support the hypothesis that
waiting in line is an extremely important product attribute which some
guests feel could be improved.

Those guests surveyed during the midweek period rated performance
high on this item while the weekend respondents were divided. Many
respondents noted that they currently only skied on weekdays because of
the unpleasant weekend crowds. These findings have implications for
targeting in terms of reaching and attracting the potential midweek
market. Another spin-off of this crowding situation is guest hesitation
at using the area rental facilities for fear of having to wait in line an
inordinate amount of time. Because guests are unsure about the length of
lines at the area rental shop they often rent their skis elsewhere,
resulting in a loss of revenue whether the area is crowded or not.

Facility cleanliness also rated 6.7 on the importance axis with a
slightly higher rating of performance than the length of lines at a 5.6.
Although cleanliness of the bathrooms was mentioned in the least section
of the open-ended component only six times, it is interesting to note the
extremely high importance rating it received. When this is coupled with
the performance rating, it appears that improvement in this area may be
advantageous.

PERSONNEL

In general, the spatial relationships of attributes on the personnel
grid as compared to the facility and program grid are characterized by a
grouping of the attributes in the upper end of both the importance and
performance axis. This supports the theory that guests find
employee-guest interaction (EGI) a vital feature of the recreational
skiing product.

Six attributes were located on the 6.8 level of importance which
illustrates the extreme importance with which guests perceive EGI. Lift
price is the only other attribute which was rated as high in the facility
and program grid. The ramifications of EGI being the second most
important attribute in the skiing product are noteworthy in terms of
resource allocation for personnel training, quality control, internal
marketing and other employee programs.

Items two, three, and four are all near 6.2 range on the performance
axis and will thus be discussed together. Friendly employees, attentive
employees, and courteous employees were expected to be rated similarly,
but the exceptionally close proximity of these attributes was still
The least and most sections of the open-ended component support these findings in the following manner: forty-eight guests noted that employees were the least liked attribute at Lassen while 182 guests rated the employees at Lassen as being the attribute they liked most at the area. These ratings support the notion that EGI is an integral aspect of the guests' experience. The disparity between the importance and performance ratings are at a minimal level, yet, due to the outstanding importance of these attributes, the disparity does leave room for improvement.

Items eleven, thirteen, and fourteen are also located very near to 6.6 on the performance axis. Friendly ski instructors and friendly ski patrol were rated almost equally between importance and performance, indicating that most guests are satisfied with this attribute's performance. The least and most section of the open-ended component support this finding in that the ski instructors received no complaints and the ski patrol only three. In the most section, friendly ski instructors were mentioned by eight guests. These findings suggest that these departments are doing an admirable job in the EGI area and should keep up the good work.

The high performance of friendly rental shop employees is one of the anomalies of the research. The least section of the qualitative component was in contrast to the I-P ratings in that this department had the highest liked, least-liked rating relative to all other personnel attributes. Twenty-eight guests complained about the unfriendliness of the rental shop employees. Although this only amounts to 6 percent of those surveyed, it is important to note that less than an estimated 50 percent of all guests use the rental facility, which pushes the percentage of dissatisfied guests up to at least 12 percent, which is nearly one-eighth of all rental shop users.

One explanation is that patrons may have given the rental shop a high rating even though they did not have any direct contact with the department. In this case, guests may have generalized considering other employee performance they had witnessed in other area departments. Guests may also be reluctant to rate a personnel attribute poorly for fear of managerial reprisal against the department. In addition, guest may not wish to reflect poorly on a department if only one of the department's employees was involved in a negative incident. Despite the I-P ratings, the qualitative component has identified a problem which needs correction. Rectifying the negative EGI in the rental shop is particularly significant in light of the importance which guests have rated all attributes of EGI.

RECOMMENDATIONS

The following recommendations were made based upon the need of the importance-performance and open-ended question methodology. A number of potential pitfalls exist in using these methodologies, yet their application appears to hold promise for accurately describing and evaluating products at ski areas and perhaps other commercial enterprises.
1. Efforts should be made to include every possible product attribute which may have a bearing on guest satisfaction. Missing attributes would obviously not allow a complete picture of the guest's expectations to be presented. The management, employees, and guests should be consulted regarding potential product attributes which might be included in the study in order to broaden the list and decrease the chance of missing an important attribute.

2. The importance-performance methodology should only be used in a face-to-face interview setting due to the confusion resulting from the double presentation of the attributes in both the importance and performance sections. A large number of respondents in this study also had a difficult time discriminating between the importance and performance questions and tended to make the mistake of rating the attributes only on their performance. It is hypothesized that since a majority of surveys ask for performance rather than importance data, respondents are biased in this direction. Without face-to-face administration of the I-P instrument, survey validity is jeopardized.

3. The use of other instruments which have the potential to provide the research with a more holistic view of the complete business arena is advised. One example is a survey of employees which would double-check the I-P findings and assess employee satisfaction. In pioneering research not included in this study, the researchers have noted positive correlation between employee-satisfaction and guest-satisfaction. The relationship between employee-satisfaction and guest-satisfaction should be an area of future research.

4. Many respondents who had been involved in a highly negative experience with a specific department were noted as being reticent in rating the department poorly. Perhaps this reticence was based on a fear of reprisals against not only the offensive employee but the entire department. Consequently they modified their answer so that it did not reflect their highly negative experience. This response bias could call into question the validity of the findings. Future researchers are encouraged to be aware of this propensity on the part of the respondent. The addition of another methodology (i.e., the open-ended questions) and trained structured probing by the enumerator to mitigate this tendency is advised.

5. Care should be taken when using the I-P instrument by itself, as the inherent weaknesses previously discussed appear to reduce its ability to present a complete picture of guest perceptions. The major problem encountered in this study was the inability of the data collected from the I-P instrument to identify small numbers of guests who had highly negative responses due to the averaging of their responses by measures of central tendency. In terms of the market research and strategy the highly negative and highly positive responses are important. The instrument is not highly sensitive to this type of data. For example, use of the I-P alone would not identify the lacking in service quality caused by one employee in one department. Yet, if this employee were negative enough, the results on service quality could be severe.

Possible solutions include use of other instruments with the I-P
which are more sensitive to the extreme ratings by a small number of respondents. Another possibility is altering the method by which the I-P data are analyzed. For example, standardizing the data might better discern extreme data points. Further research utilizing the I-P technique should test the soundness of the approach.

6. The liked least/liked most qualitative component should be modified so that more specific data can be gathered. Breaking down the question by department is possible as well as into the two main categories of (1) facilities and programs, and (2) personnel. Respondents should be encouraged to be as detailed as possible regarding all incidents included in this feature of the research. It should be stressed that names or descriptions of the personnel involved, the time of day, and the specific nature of the incident are a necessity. Respondents should be encouraged to think of their entire experience at the area in probing for specific occurrences of an extreme nature.

CONCLUSION

This study was developed to better understand the nature of the skiing product at a northern California ski area by examining the importance of various product attributes and by evaluating how these specific attributes were performed. In addition, the open-ended, more qualitative aspect of the research served to provide information which the I-P was not designed to yield, such as extreme responses and responses outside the realm of identified attributes. Using the two instruments in concert allowed the researchers to address problems which were widely perceived as well as those which were less scattered but perhaps more extreme. Thus, guest concerns which were unidentified at the beginning of the research were revealed.

Woodrow Wilson said that men grow great only because they are inspired by great dreams. Perhaps this is also true with any business which is people-dependent. For a leisure business to grow great, its development and improvement must be inspired by owners', managements', employees', and guests' dreams. Importance-Performance analysis offers a practical methodology for transposing this inspiration into quality leisure service delivery.

REFERENCES


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TABLE 1

TOP TEN RANK ORDERED RESPONSES FROM THE QUESTION "WHAT DO YOU LIKE LEAST ABOUT THE LASSEN SKI AREA?"  
FACILITIES AND PROGRAMS

<table>
<thead>
<tr>
<th>Item</th>
<th>Subject</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Short runs</td>
<td>172</td>
</tr>
<tr>
<td>2</td>
<td>Limited lodge space</td>
<td>79</td>
</tr>
<tr>
<td>3</td>
<td>Only one lift</td>
<td>78</td>
</tr>
<tr>
<td>4</td>
<td>Not enough terrain</td>
<td>51</td>
</tr>
<tr>
<td>5</td>
<td>Too crowded</td>
<td>31</td>
</tr>
<tr>
<td>6</td>
<td>Long lift lines</td>
<td>28</td>
</tr>
<tr>
<td>7</td>
<td>Short intermediate tow</td>
<td>24</td>
</tr>
<tr>
<td>8</td>
<td>Small beginner/intermediate area</td>
<td>21</td>
</tr>
<tr>
<td>9</td>
<td>Poor slope grooming during storm</td>
<td>17</td>
</tr>
<tr>
<td>10</td>
<td>No warming hut on top of hill</td>
<td>17</td>
</tr>
<tr>
<td>Item</td>
<td>Subject</td>
<td>Number of Responses</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>1</td>
<td>Close to home</td>
<td>199</td>
</tr>
<tr>
<td>2</td>
<td>Uncrowded</td>
<td>61</td>
</tr>
<tr>
<td>3</td>
<td>Price</td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td>Natural beauty/scenery</td>
<td>39</td>
</tr>
<tr>
<td>5</td>
<td>Variety of skiing</td>
<td>33</td>
</tr>
<tr>
<td>6</td>
<td>Family area</td>
<td>15</td>
</tr>
<tr>
<td>7</td>
<td>Small area</td>
<td>14</td>
</tr>
<tr>
<td>8</td>
<td>Good for beginners</td>
<td>12</td>
</tr>
<tr>
<td>9</td>
<td>Good conditions</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>Good weather</td>
<td>10</td>
</tr>
</tbody>
</table>
TABLE 3

RANK ORDERED RESPONSES FROM THE QUESTION "WHAT DO YOU LIKE LEAST ABOUT THE LASSEN SKI AREA?"
PERSONNEL

<table>
<thead>
<tr>
<th>Item</th>
<th>Subject</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Treatment by rental shop employees</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>Treatment by food service employees</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Unfriendly park rangers</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Treatment by ski patrol</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Treatment by lift operators</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Treatment by ticket sellers</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Treatment by parking attendant</td>
<td>1</td>
</tr>
</tbody>
</table>
TABLE 4

RANK ORDERED RESPONSES FROM THE QUESTION "WHAT DO YOU LIKE MOST AT LASSEN SKI AREA?"
PERSONNEL

<table>
<thead>
<tr>
<th>Item</th>
<th>Subject</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Friendly employees</td>
<td>142</td>
</tr>
<tr>
<td>2</td>
<td>Personal attention from employees</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Friendly ski instructors</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Relaxed employees</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>Lots of ski patrol</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Great service</td>
<td>1</td>
</tr>
</tbody>
</table>
Figure 1
Sample Management
Action Grid
Figure 2
Facilities and Programs Management
Action Grid

LEGEND

- Base lodge facilities
- Food quality
- Food portions
- Waiting in lines
- Availability of seating and tables
- Facility cleanliness
- Adequate size of facility
- Lift ticket price
- Lift ticket price
- Grooming of icy or hard packed runs
- Removing of moguls
- Grooming of slopes after storm
- Race program
- Rental shop facility
- Quality of rental equipment
- Length of wait for rental service
- Kids are people too program
- Special events
Figure 3
Personnel Management
Action Grid

LEGEND

Base lodge service ......................................................... 1
Friendly employees ......................................................... 2
Attentive employees ......................................................... 3
Courteous employees ......................................................... 4
Grooming and appearance of employees .................................. 5
Feeling welcome at ski area ............................................... 6
Friendly food service employees .......................................... 7
Friendly ticket booth employees ......................................... 8
Friendly lift service employees ............................................ 9
Rental shop service ......................................................... 10
Friendly rental shop employees .......................................... 11
Ski school service ......................................................... 12
Friendly ski instructors .................................................... 13
Friendly ski patrol ......................................................... 14