There are many quality and service elements that contribute to overall customer satisfaction and loyalty. With these elements come numerous product, service, and other performance issues, as well as internal processes and activities, that require continuous improvement and innovation in order to meet customer needs and requirements. Assuming that an organization has limited people, financial, and other resources to invest in improvement/innovation, the crux is: How can priorities best be set? How can an organization determine in which areas to invest limited resources? How can it identify the quality and service elements which, if addressed effectively by improvement/innovation efforts, will lead to the greatest gains in customer satisfaction and loyalty, financial and market performance, and overall organizational effectiveness?

This paper describes an “outside-in” approach to defining customer-driven priorities for improvement and innovation. Founded on the principles of the Malcolm Baldrige National Quality Award, Kaplan and Norton’s (1996) “Balanced Scorecard” and Heskett, et al.’s (1997) “Service-Profit Chain” models, this approach emphasizes performance management based on alignment of all elements of an organization’s value chain. The goal is to ensure that “upstream” processes and activities can be managed in a way that leads to desired “downstream” business results.

The paper will show how an “outside-in” approach leads to the development of priorities for organizational improvement and innovation that drive business results. Advantages of an “outside-in” approach relative to other strategies also will be discussed.

In a classic importance-performance or quadrant analysis, data regarding customer perceptions about alternative product and service elements (typically gathered via surveys) are examined. Typically, the following procedures are followed:

• Respondents (consumers or customers) rate each element or attribute on: (a) an importance scale (e.g., not important = 1, extremely important = 10), and (b) a performance scale (e.g., poor = 1, excellent = 10).
• Summary scores (e.g., means, percentages, etc.) are computed for each element, for both importance and performance dimensions, and these scores are then plotted in a scatter diagram or xy graph for all product and service elements.
• Some criterion is used to split each axis in order to establish low and high levels of importance, and low and high levels of performance, respectively. This yields four categories or quadrants into which the various product and service elements are placed, and from which priorities for improvement are derived.

For more than two decades, numerous organizations have utilized an approach generally known as importance-performance analysis to address the first of the preceding questions, and to define customer-driven priorities for improvement and innovation. Introduced by Martilla and James (1977), this approach, also known as quadrant analysis, focuses on pinpointing those quality and service elements that: (a) are most important to customers and/or are likely to make the strongest contribution to overall customer satisfaction and loyalty; and (b) are in need of improvement because customers’ evaluations of the company’s performance on these elements are relatively unfavorable (i.e., customers are dissatisfied and/or perceive that the company’s performance is in need of improvement).
As Oliver (1997; p.36) observes, the four quadrants are given various names, but essentially result in the following interpretations, illustrated by the template shown in Figure 1 (see below):

1. **High importance, high performance.** These elements or attributes are assumed to be key drivers of customer satisfaction/preference, and management’s job is to ensure that the organization continues to deliver/perform well in these areas.

2. **High importance, low performance.** These elements or attributes, also assumed to be key drivers of customer satisfaction/preference, should be viewed as critical performance shortfalls, and management’s job is to ensure that adequate resources are invested in improving performance in these areas. These areas are priorities for improvement.

3. **Low importance, low performance.** These elements or attributes are assumed to be relatively unimportant, such that poor performance should not be given a great deal of priority or attention by management.

4. **Low importance, high performance.** These elements or attributes, also assumed to be relatively unimportant, should be viewed as areas of performance “overkill,” and management may want to redirect resources from these elements to high-priority areas in need of improved performance.

Vavra (1997) articulates the logic underlying use of importance-performance or quadrant analysis to identify customer-driven priorities for improvement and innovation. He states that “if the organization is truly listening to its customers, then attributes ought to be delivered in proportion to their importance…(thus) attributes lying in the lower left or upper right are perceived to be supplied in proportion to their importance, and the requisite action for attributes in these two quadrants is to maintain their current levels of delivery…(while) attributes in the upper left-hand quadrant are perceived as being underdelivered…and signal an opportunity for improvement” (pp.311-312).

There are a number of methods for determining which quality and service elements are most important to customers, and even more procedures by which performance strengths and areas for improvement are defined. Regardless, the method used to split the performance axes is a key issue, because it ultimately determines whether a given element is viewed as being important or not, as well as whether it is defined as being a performance strength or weakness. Unfortunately, and as Oliver (1997) has noted, “guidelines for these dichotomous splits are murky” (p.36).

In fact, one of the most frequent criticisms of quadrant analysis is the somewhat arbitrary manner in which the importance and performance axes are split. While this issue is relevant to both dimensions, the remainder of this paper will focus on the performance dimension, for it is this aspect of quadrant analysis that an “outside-in” approach has the most to offer.

**Figure 1: Template for a Quadrant Analysis**

<table>
<thead>
<tr>
<th>Higher Importance</th>
<th>Average Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>“Priorities for Improvement”</strong></td>
<td><strong>“Keep Up the Good Work”</strong></td>
</tr>
<tr>
<td><strong>“Lowest Priority”</strong></td>
<td><strong>“Possible Overkill”</strong></td>
</tr>
</tbody>
</table>

**COMMON APPROACHES TO EVALUATING PERFORMANCE IN QUADRANT ANALYSIS**

Most often, analysts use one of two methods to split the performance axis in a quadrant analysis:

1. **A distribution-based approach:** The distribution of importance and performance scores, regardless of their location or magnitude, determines the split.

2. **A performance comparison approach:** For the performance dimension, the split is determined based on how one firm’s performance scores compare to some normative or competitive benchmark.

In the case of the distribution-based method, one of the following is used as the cutting-point:

- The mid-point on the scale is used (e.g., a “3” on a 1-5 rating scale): Attributes or elements having means above the mid-point are placed on the high end of the importance or performance axis, and those having means below the mid-point are placed on the low end.

- The average of mean importance and performance ratings across all attributes is used: Attributes or elements having means above the all-attribute average are placed on the high end of the importance or performance axis, and those having means below this average are placed at the low end.

- The median of mean importance and performance ratings across all attributes is used: Attributes or elements having means above the all-attribute median are placed on the high end of the importance or performance axis, and those having means below the median are placed at the low end (ensuring, of course, that each quadrant will contain twenty-five percent of the attributes).

When a performance comparison is used as the basis for the cutting point, the analysis centers on:

- A comparison of how a brand or firm’s perceived performance compares to that of a key competitor, or

- How a brand or firm’s perceived performance compares to that of some normative or “world-class” benchmark.

Most descriptions of importance-performance analysis use some variation of either the distribution-based or performance comparison approach (Martilla and James, 1975).
LIMITATIONS OF A DISTRIBUTION-BASED APPROACH

Consider the hypothetical financial services results presented in the two quadrant maps shown in Figures 2.1 and 2.2 (see right). In the case of both maps, the all-attribute average is used to split the performance axis, and to distinguish attributes as either performance strengths or areas for improvement.

Clearly, in the case of the results presented in Figure 2.1, service elements identified as areas for improvement fall below the performance average for all attributes, and the scores for these elements are relatively unfavorable (i.e., means ranging from “1” to “2.5” on a 5-point scale). It is not hard to convince managers that such scores suggest the need for improved performance.

In contrast, the results presented in Figure 2.2 do not as clearly demonstrate the need for improvement. After all, while the ratings for some service elements fall below the all-attribute average, even the lowest-rated rated element falls somewhere between “very good” and “excellent” on the 5-point scale. Managers could reasonably ask the question, “Is the need for improvement clearly indicated, or are these results an artifact of the analysis?”

This illustrates a key limitation of a distribution-based approach: The results are guaranteed to produce both attribute strengths and areas for improvement because, by definition, some elements must fall below the average (or median, trimmed mean, etc.), and others above it. Whether improved performance truly is needed, or feasibly can be achieved (given the current level of performance) is not necessarily reflected.

PERFORMANCE COMPARISONS

An alternative strategy involves the use of performance comparisons as the basis for defining performance strengths and areas for improvement. Of the multiple types of comparisons identified by Brandt (1998), competitive and benchmark comparisons most often are used in conjunction with importance-performance analysis.

Whereas a traditional quadrant analysis looks at an organization’s perceived performance in isolation from the category or marketplace, a competitive quadrant analysis incorporates information on how that organization compares to one or more key competitors. In effect, the un/favorableness of the comparison is the standard by which performance in the area of customer service/satisfaction is evaluated, and strengths or areas for improvement are defined.
Figure 3 presents hypothetical results of a competitive importance-performance analysis of customer data regarding technical support services. In this instance, customers were asked to rate the importance of different service and support issues, and then were asked to evaluate two different providers in relation to these issues. The position of an organization on the performance axis is determined by assessing the significance of the difference between its perceived performance, and that of its competitor, on each issue. Unlike the distribution-based approach to quadrant analysis, the competitive comparison approach produces six (rather than four) categories, three of which are most critical:

1. **Competitive Strengths** — important service areas in which the organization’s perceived performance is significantly better than the competitor.
2. **Priorities for Improvement** — important service areas in which the organization’s perceived performance is significantly worse than the competitor.
3. **Pre-emption Opportunities** — important service areas in which there is no significant difference in perceived performance between the organization and its competitor.

A performance comparison approach has at least two advantages over the distribution-based approach: (1) It provides a clearer and seemingly less arbitrary basis for defining priorities for improvement (i.e., a significant, competitive disadvantage on an important service issue); and (2) It takes organizational, industry, and/or “state-of-the-art” capabilities (based on current or recent performance data) into account in defining such targets.

Performance comparisons also suffer from a couple of shortcomings. First, an organization might be perceived as being better than its competition in an industry where no provider is perceived as being particularly good, and this could result in overlooking an attribute in need of improvement due to a “false sense of confidence” stemming from one’s competitive advantage. Secondly, as with the distribution-based method, achieving improved performance in an area targeted for improvement may or may not lead to desired business results because the relationship between a given level of attribute performance and the desired business results has not been established.

The problems and limitations discussed above suggest the need to explore alternative approaches, particularly those that enable managers to define performance targets in a manner that is more likely to yield desired business results.

**AN “OUTSIDE-IN” APPROACH**

Brandt (1998) proposes and illustrates an “outside-in” approach to defining performance targets for measures of customer service and satisfaction. This same outside-in approach provides an alternative to distribution-based and performance comparison-based methods of determining priorities for quality and service improvement and innovation.

An outside-in approach attempts to define priorities for improvement/innovation by addressing the following questions:

1. What financial or market performance outcomes are critical to the organization’s success?
2. Which specific quality/service elements are most critical to the organization’s success or failure in achieving its financial/market performance goals?
3. With regard to these critical quality and service elements, how well must a company perform (i.e., what should be the performance target) in order to meet its financial/market performance goals?
4. Based on results of customer satisfaction and quality measurements, does the company’s performance on each critical element meet or fail to meet necessary performance targets?

Using an outside-in approach, the process of setting performance targets moves from outcomes to performance drivers. This process, along with an understanding of the strength and functional form of the relationship between each pair of elements in the chain, enable management to define performance targets: Knowledge of how a “downstream” element is impacted by the “upstream” element immediately preceding it furnishes the basis for defining performance targets for the latter.

With respect to determining priorities for improvement and innovation, an outside-in approach utilizes the logic and most of the procedures used in a more conventional importance-performance analysis, with one very important exception: In an outside-in approach, the basis for evaluating performance is whether targets are achieved or not. The rationale for this difference in procedures is simple: For an organization’s most critical quality and service elements, if performance targets have been set in a way (and at a level) that is intended to maximize the chances of achieving downstream financial and market results, then it is essential that performance deficiencies be reduced/eliminated in connection with any of these critical elements or “key drivers” of business results.

At this point, an actual case illustration should provide the reader with a better sense of how an outside-in approach to defining priorities for improvement and innovation works.

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**Figure 3:** Competitive Importance-Performance Analysis of Technical Support Services: Three Types of Importance Issues are Identified

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priorities for Improvement</th>
<th>Pre-emption Opportunities</th>
<th>Competitive Strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>• Frequency of Communication</td>
<td>• Response Time</td>
<td>• Technician’s Knowledge of My Sites Needs</td>
</tr>
<tr>
<td></td>
<td>• Efficiency of Service Call Handling</td>
<td>• Total Time to Resolve Problem</td>
<td>• Effectiveness of Problem Escalation</td>
</tr>
<tr>
<td>Lower</td>
<td>• Effectiveness of Customer Training</td>
<td>• Timeliness of Invoicing for Services</td>
<td>• Quality of Replacement Parts</td>
</tr>
</tbody>
</table>

**Mean Performance Rating**

- Significantly Worse Than Competitor
- At Parity With Competitor
- Significantly Better Than Competitor
A leading provider of telecommunications services recently implemented a set of service performance targets for selected elements of customer service. These targets, derived from the value chain illustrated in Figure 4 (see above), sought to achieve profit goals by building repeat business through customer retention. As shown in Figure 4, a number of service elements were determined to be key drivers of customer retention. The company sought to define performance targets for these service elements which, if achieved, would give the company a 70% or better probability of customer retention.

How well, in the eyes of the customer, must the organization perform in each of these key service areas? The answer depends on the service element being considered. For example, Figure 5.1 (see right) illustrates the probability of retaining a customer depending on how s/he rated the knowledgeability of the customer service representative with whom s/he had recently interacted. Note that a customer who gives a “5” rating still has better than a 70% chance of being retained during the next six months. Thus, while not optimal, a “5” rating on knowledge need not be viewed as negatively as might be dictated by conventional wisdom regarding how to interpret 10-point scale ratings, and/or as might be dictated by a distribution-based approach to defining performance strengths and weaknesses.

In contrast, consider the results shown in Figure 5.2 (see right). These results illustrate the probability of retaining the customer depending on how s/he rated the helpfulness of the service representative with whom s/he had recently interacted. Note that a customer who gives a “5” rating now has less than a 30% chance of being retained. Clearly, a “5” rating on helpfulness should not be interpreted or treated the same as a “5” rating on knowledge.
These results demonstrate one of the difficulties of interpreting data from performance rating scales: The degree to which a given rating reflects a relatively favorable or unfavorable customer evaluation varies across attributes. Put simply, on a 10-point scale, sometimes a performance rating of “7” is good, while other times it’s not nearly good enough. Neither a distribution-based or performance comparison approach would necessarily take this into account.

In any event, having defined performance targets for each service element in the manner illustrated above, an outside-in approach to determining priorities for improvement and innovation proceeds by: (a) establishing the relative importance of each service element; (b) evaluating current or recent performance data relative to targets; and (c) integrating the results of steps (a) and (b) to determine the priority issues.

The quadrant chart shown in Figure 6 (see right) illustrates results for the telecommunication customer service elements described above. Because the mean performance scores on availability and accessibility fall short of performance targets designed to achieve the company’s customer retention goals, and because they significantly impact customer satisfaction and retention, these two elements were defined as top priorities for improvement and innovation. Given finite human, financial, and other resources to invest, and given the impact of these two elements on customer satisfaction and retention, the organization chose to focus its improvement efforts in the areas of customer service representatives’ availability and accessibility.

It should be noted that availability and accessibility were not flagged as priorities for improvement because their performance scores were the lowest of all service elements: In fact, there were other service elements having performance scores that were even lower (as well as some that were higher).

The basis for evaluating performance was whether or not performance targets were achieved. This is critical, because a distribution-based approach would have yielded a very different set of conclusions, driven strictly by how the performance score in each area compares to the overall average across all elements, regardless of whether the level of performance was sufficient to produce the desired effects on customer satisfaction and retention. As was discussed earlier, such an approach may or may not lead to improvements that ultimately drive desired business outcomes.
SUMMARY AND CONCLUSION

The 1999 Malcolm Baldrige National Quality Award Criteria for Performance Excellence emphasizes that “quality is judged by customers...customer-driven quality is directed toward customer retention, market share gain, and growth, and it demands constant sensitivity to changing and emerging customer and market requirements, and the factors that drive customer satisfaction and retention” (p.1).

A key implication of the preceding excerpt is that priorities for improvement and innovation must originate with and be driven by customers. An outside-in approach can furnish management with a powerful, customer-driven method for supporting the decisions and providing the direction needed to achieve organizational growth and long-term success. Such an approach enables an organization to align and manage internal operations, customer relationships, and business results systematically. As a basis for defining priorities for improvement and innovation, an outside-in approach offers organizations an alternative to distribution-based and/or performance comparison approaches and their attendant problems.

FOOTNOTES

1 Oliver (1997) notes that importance-performance analysis may actually have its origins in the work of Myers and Alpert (1968), although they examined importance and perceived brand differences, and not performance, per se.

2 An alternative to using stated measures of importance is to derive these scores via statistical analysis. For example, one can compute the correlation between overall satisfaction and attribute performance ratings, and then use this correlation as the attribute importance score. Attributes having higher correlations are viewed as being more important than those having lower correlations, because overall satisfaction ratings are more likely to increase with improved performance on the former than with the latter. A variety of other regression and trade-off based procedures are available to derive attribute performance. This derived approach often is used instead of stated importance, and on other occasions, both stated and derived measures of importance are examined.

3 Problems also arise from attempting to interpret the “distance” of an element from the cross hairs of the map. Two or more elements may be clustered extremely closely, but their respective locations via a vis the cutting points may place them in entirely separate quadrants. This can lead to confusion and/or controversy regarding the quadrant analysis results.

4 Typically, performance comparisons are made using methods of statistical inference (e.g., significance testing) to evaluate differences among competitors. Since data obtained from a sample of customers, transactions, etc. typically are used, the objective of significance testing is to rule out the risk that differences in the scores of two or more organizations merely reflect random variation due to sampling error. If the computed probability is equal to or lower than a criterion level selected in advance of the test (typically between 1 and 10%), then the difference is “statistically significant.” This leads to a conclusion that the difference reflects or is caused by something more systematic (in effect, a “true” competitive advantage or disadvantage).

5 A logistic regression procedure was used in this analysis: Survey data were collected from a sample of customers shortly after they had contacted the company’s customer service center. Each customer was asked to rate the performance of the service representative with whom s/he interacted on several service dimensions. Subsequently, the account records of each surveyed customer were monitored over a 6-month period in order to track whether the customer continued his/her long distance account, or switched to a competitor. This approach enabled the organization to determine the probability, on average, of retaining a customer depending on how s/he had rated the service rep’s performance.

REFERENCES


