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## Service Quality: A Concept Not Fully Explored

PETER HERNON AND DANUTA A. NITECKI

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### ABSTRACT

THIS ARTICLE EXAMINES SERVICE QUALITY AND IDENTIFIES issues meriting attention. The purpose is to guide the next generation of research on service quality in libraries and to ensure that the research has value to library planning and decision making. The difficulty of developing a process of data collection across institutions is also discussed.

### INTRODUCTION

Over the years, those writing in the literature of library and information science (LIS) about *quality* have defined it differently. They have stressed the importance of developing and maintaining *quality* collections, have equated effectiveness (the extent to which goals and objectives are set and met) with quality, and looked at quality from the organizational perspective—that of the academic library or the parent college or university. As libraries embraced total quality management (TQM), other quality management styles (e.g., continuous quality improvement), and a culture of assessment, a number of them increased their commitment to support a customer orientation and to have customers who are satisfied with the service provided. It was only a matter of time before the concept of *customer service*, a concept independent of (and predating) TQM, was adopted and modified from the private sector. Customer service encourages retail and other organizations to meet or exceed those customers'

Peter Heron, Simmons College, Graduate School of Library and Information Science,  
300 The Fenway, Boston, MA 02115-5898

Danuta A. Nitecki, Sterling Memorial Library, Yale University, Box 208240, New Haven, CT  
06520-8240

LIBRARY TRENDS, Vol. 49, No. 4, Spring 2001, pp. 687-708

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expectations central to their mission, vision, goals, and objectives. In other words, the organization's vision of its service role (and its inability to do everything for everyone well despite its best intentions) ultimately guides what services are provided and how they are offered. Service quality, in effect, draws on TQM and customer service as well as on marketing research. Fundamental to service quality is the belief that an organization exists to serve its customers, that is if it intends to survive and flourish in a highly competitive and ever-changing market. Service quality stresses that customers are worth listening to and that they are the best judges of the quality of the services they use.

The purpose of this article is to examine the concept of service quality in libraries—an environment that differs from the retail sector where service quality so often has been studied and the findings incorporated into practice. The article identifies some issues meriting attention, advances an understanding of the concept, and analyzes how to measure service quality. Furthermore, the article underscores that service quality and satisfaction are not synonymous concepts.

There are many reasons why libraries are interested in service quality. Some library parent institutions—universities, corporations, government agencies, and school boards—have made a commitment to be accountable to customers and compete for their loyalty. In such settings, libraries may have an externally imposed requirement to implement service quality principles. Some libraries, however, have recognized that the managerial approach that service quality implies is a way to improve their ability to meet their mission of serving users regardless of external pressures. Service providers deliver services to benefit their customers and perhaps to attract new ones. Improvement of service requires an understanding of the benefit, the customers, and the actions of the service provider, and then using that knowledge for planning purposes. The application of service quality concepts encourages service improvement.

There are many reasons why libraries should be interested in service quality. First, customers who share information about their expectations offer an opportunity for that library or other service provider to establish a closer personal contact with them. This relationship should result in libraries providing (and customers receiving) better service; after all, library staff are more knowledgeable about their expectations and how to translate that knowledge into services that delight customers and create loyalty. At the same time, customers are better informed about libraries and their service offerings and, it is hoped, gain a realistic set of expectations about what libraries can and cannot do. This mutually beneficial communication requires ongoing nurturing and continuous listening to customers. As problems are identified, they should provide feedback to the organization and be treated as opportunities for improvement and to raise the overall customer satisfaction with library services.

Second, external pressures from parent institutions call for accountability and the use of basic business practices by libraries. These are demands not traditionally associated with managing libraries in nonprofit organizations. As Irene B. Hoadley (1999) noted:

To say that a library is run like a business almost always carries a negative connotation in the academic world. This should not be the case because there are business principles that can benefit how libraries are run. . . . Better accounting and money management are benefits to libraries. Another is the accountability characteristic of business operations that requires self-examination to determine if what is being done is what really benefits the organization and those it serves. (p. 269)

Fundamental to service quality is the need for cyclic review of service goals and objectives in relation to customer expectations. By viewing service quality within the context of planning and implementing a *service plan*, libraries can identify areas for improvement that are central to their mission, goals, and objectives (Hernon & Whitman, 2001).

Third, attention to service quality, in brief, enables an organization to develop a partnership with its customers to gain a competitive edge. Present-day libraries compete with other service providers and may see a sharp decline in internal use statistics but may experience an equally dramatic increase in remote electronic use. Furthermore, technology and competitors help libraries shape the expectations of younger generations about information gathering, evaluation, and use. A library, like any service organization, must have a motivated staff committed to the provision of excellent service and empowered to work directly with customers to deliver such service on a continuous basis. The focus is no longer merely on collections and things that a library possesses; rather, the core activity of a library should center on service provision and improvement and on building an ongoing relationship between users and library services.

### ASSESSMENT: A MULTIFACETED CONCEPT

It is not possible to have one all-encompassing data-collection activity that answers any and all questions that might arise. Complicating matters, almost everything is assessable and measurable; measurement is a tool for the collection and analysis of data on which evaluators judge library performance against certain yardsticks (e.g., goals, objectives, performance and outcome measures, standards, and efficiencies). Simply stated, there are at least eleven questions about which assessment can be made: "how much," "how many," "how economical," "how prompt," "how accurate," "how responsive," "how well," "how valuable," "how reliable," "how courteous," and "how satisfied" (Hernon & Altman, 1998, pp. 51-55). Service quality addresses a number of these questions (pp. 58-59). Clearly,

individual libraries must decide for themselves how important service quality (and customer satisfaction) are in relation to their other data-collection activities. It may be that stakeholders (e.g., accrediting bodies)<sup>1</sup> shape a library's approach to accountability and somewhat to planning. However, customers should be neither ignored nor slighted; their opinions are important and worthy of hearing.

### SERVICE QUALITY DEFINED

Service quality has been defined from at least four perspectives:

- *Excellence.* Although the mark of an uncompromising student and high achievement, the attributes of excellence may change dramatically and rapidly. Excellence is often externally defined.
- *Value.* It incorporates multiple attributes, but quality and value are different constructs—one the perception of meeting or exceeding expectations and the other stressing benefit to the recipient.
- *Conformance to specifications.* It facilitates precise measurement, but users of a service may not know or care about internal specifications.
- *Meeting and/or exceeding expectations.* This definition is all-encompassing and applies across service industries, but expectations change and may be shaped by experiences with other service providers.<sup>2</sup>

Most marketing and LIS researchers have concentrated on the last perspective. The *Gaps Model of Service Quality* reflects that perspective and offers service organizations a framework to identify services in the form of the gaps that exceed (or fail to meet) customers' expectations. The model posits five gaps that reflect a discrepancy between:

- customers' expectations and management's perceptions of these expectations (Gap 1);
- management's perceptions of customers' expectations and service quality specifications (Gap 2);
- service quality specifications and actual service delivery (Gap 3);
- actual service delivery and what is communicated to customers about it (Gap 4); and
- customers' expected services and perceived service delivered (Gap 5) (Zeithaml, Parasuraman, & Berry, 1990)

Although all five gaps may hinder an organization in providing high quality service, the fifth gap is the basis of a customer-oriented definition of service quality that examines the discrepancy between customers' expectations for excellence and their perceptions of the actual service delivered. Expectations are *desired* wants—the extent to which customers believe a particular attribute is *essential* for an excellent service provider (Parasuraman, Berry, & Zeithaml, 1991), and perceptions are a judgment of service performance.

Jeffrey E. Disend (1991) correlates the Gaps Model with the concept of service quality. He maintains that poor service results if the gap, or difference, is large between what is expected and what is delivered. When what is delivered matches what is expected, customers find the service acceptable. If the service provided is better than what they expected, exceptional service materializes (p. 108). Consequently, when expectations and perceptions are ranked on a scale, the gap is a number reflecting the difference between the two—expectation ranking minus perception ranking. If there is a poor service gap, a minus number occurs. If the number, by chance, is zero, service is acceptable (expectations match perceptions). If a positive value emerges (perceptions exceed expectations), the service organization has achieved exceptional service. In reality, this characterization is too simplistic; even a minus number may signify exceptional service (see the section on Data Analysis, particularly coverage of quadrant analysis).

The definition of service quality presented in the Gaps Model recognizes that expectations are subjective and are neither static nor predictable (e.g., see Blanchard & Galloway, 1994). The model's designers were influenced by the confirmation/disconfirmation theory, which involves a comparison between expectations and performance. Before using a service, a customer has certain expectations about it. These expectations become a basis against which to compare actual performance. After having some experience with a service, the customer can compare any expectations with actual performance and his or her perception is confirmed (if they match), negatively disconfirmed (if expectations exceed perceptions), or positively disconfirmed (if perceptions exceed expectations) (Oliver, 1976, 1980, 1997; Oliver & DeSarbo, 1998). Terry G. Vavra (1997), in his discussion of satisfaction, regards the term "positive disconfirmation" as "confusing" and prefers to use the words "affirmed," "confirmed," and "disconfirmed" to describe the three situations:

- expectations are *confirmed* when perceived performance *meets* them;
- expectations are *affirmed* (reinforced by positive disconfirmation) when perceived performance *exceeds* them; and
- expectations are *disconfirmed* (failed by negative disconfirmation) when perceived performance *falls short* of them (p. 42).

Clearly, his distinction also applies to service quality.

## EVALUATION: SERVICE QUALITY AND SATISFACTION

In some instances, authors have equated or confused service quality with satisfaction (e.g., see Andaleeb & Simmonds, 1998; Comm & Mathaisel, 2000). A number of writers have also referred to service quality as an antecedent to satisfaction; satisfaction as the antecedent to service quality; or service quality and satisfaction as either interrelated or discrete

concepts (Anderson & Fornell, 1994; Bolton & Drew, 1991; Cronin & Taylor, 1992; Taylor & Cronin, 1994; Woodside & Wilson, 1994). Clearly, "the relationship between customer satisfaction and service quality is an ongoing question in service marketing" (White & Abels, 1995, p. 37). Both service quality and satisfaction can be an end in themselves; each is worthy of examination as a framework for evaluating library services from a customer's perspective. Service quality is an evaluation of specific attributes, and this judgment is cognitive. However, satisfaction focuses on a specific transaction or, in the case of overall satisfaction, it is a cumulative judgment based on collective encounters with a service provider over time. Satisfaction judgments are more affective and emotional reactions to an experience or collection of experiences: "Simply put, satisfaction is a sense of contentment that arises from an actual experience in relation to an expected experience" (Hernon & Whitman, 2001, p. 32).

Because service quality as a means of evaluation probes precise statements on which the library seeks customer input, it serves as a planning tool. Judgments about satisfaction, on the other hand, tend to be global in the type of questions asked. Unlike service quality, satisfaction focuses less on specific statements and relies more on open-ended questions. In satisfaction studies, there can be a probing of how customers rate the library in a few specific areas, though the list is much shorter and more general than found in a service quality questionnaire. The intention of satisfaction studies is to identify if some general areas require scrutiny, whereas service quality studies offer data to examine specific problem areas for improvement. Satisfaction surveys offer organizations the opportunity to gauge the temperature of customers on an array of services they use (or have used). If a service quality questionnaire, such as the one used at Yale University (Nitecki & Hernon, 2000), asks for "Any other expectations which you consider important?" and lets respondents insert whatever they want and to rate it on a seven- or ten-point scale (p. 271), then a study of service quality assumes a diagnostic function.

### MEASURING SERVICE QUALITY

Service quality deals with the interaction between customers and service providers. Customer opinions about the service provided, whether on service quality or satisfaction, might be measured through a passive approach (e.g., comment cards available for customers to pick up and complete at their discretion) or an active approach (e.g., a formal survey or interview in which customers are asked to identify those expectations they want the library to meet or to render an opinion about their satisfaction with the service provided). The literature on measuring service quality has tended to focus on the former approach and, in particular, the use of SERVQUAL, a standardized instrument that has been used in various settings with only minor modification. It has been used in the consumer

retail environment, in banks, accounting firms, hotels, restaurants, real estate, the industrial market, hospitals, travel agencies, higher education, libraries, and other settings in the United States and other countries (e.g., see Nitecki, 1998; Parasuraman, Zeithaml, & Berry, 1994, p. 203; White & Abels, 1995, p. 38).

### *SERVQUAL*

The fifth Gap—the difference between customers' perceptions of what a service should deliver and how well that service meets idealized expectations—is the conceptual basis for *SERVQUAL*. Zeithaml, Parasuraman, and Berry (1990) designed *SERVQUAL* as a generic instrument that could be slightly modified for use in any particular service industry. It is the most popular method for the measurement of the fifth Gap.

One form of the *SERVQUAL* questionnaire is designed to be administered to customers of the service organization under review. It consists of twenty-two pairs of statements about factors that a service provider delivers. The first set of statements measures the customer's expectations by asking each respondent to rate how essential each factor is for an excellent service to deliver. The second set of twenty-two statements formulates the same factors into descriptions about service delivered and ascertains the respondent's perceptions of the level of service given by the institution or organization examined. For each pair of statements, the difference between the ranked perception minus the ranked expectation is calculated; the average of these Gap scores is the *SERVQUAL* overall quality score. Zeithaml et al. (1990) maintained that the set of twenty-two statements encompasses five interrelated dimensions that customers most value when they evaluate service quality in a service industry:

1. *tangibles* (the appearance of physical facilities, equipment, personnel, and communication material);
2. *reliability* (ability to perform the promised service dependably and accurately);
3. *responsiveness* (willingness to help customers and provide prompt service);
4. *assurance* (knowledge and courtesy of employees and their ability to inspire trust and confidence); and
5. *empathy* (the caring, individualized attention that a firm provides its customers) (p. 26).

Using factor analysis, they further contended that the twenty-two statements relate to (and define) these five dimensions.

As part of this basic version of *SERVQUAL*, respondents also rate the importance to achieving excellent service for each dimension by allocating 100 points among a set of descriptions of the five dimensions. These descriptions of the service quality dimensions and average point allocations

among respondents in different service settings enable researchers to make comparisons among studies and service industries.

A more recent version of SERVQUAL asks respondents to comment on a series of statements from three contexts (*minimum service* expectations, *desired service* expectations, and the *perception* of service performance) using a nine-point scale. Parasuraman, Zeithaml, and Berry (1994) regard the three-column format as preferable for its reconceptualization of expectations into desired and minimum expectations. Expectations, it has been argued, array on a continuum, with desired and minimum ones at either end; a *zone of tolerance* falls in between. That zone "represents the range of service performance a customer would consider satisfactory" (Parasuraman et al., 1994, p. 202; see also Boulding, Staelin, & Zeithaml, 1993).

Some researchers maintain that perception scores alone explain more of the variation in service quality than the gap measures, that "questions about service expectations may be based on memory or biased by actual services received," or that the difference between expectations and service perceptions may not measure quality (see Andaleeb & Simmonds, 1998; Babakus & Boller, 1992; Cronin & Taylor, 1992, 1994; Teas, 1993). Yet other investigators (Caruana, Ewing, & Ramaseshan, 2000) have shown that expectations scores have a direct effect on perception scores. Critics have questioned whether respondents can distinguish between desired and minimum expectations and about whether customers have formulated specific expectations about services (Caruana et al., 2000, p. 8).

With the three-column format, respondents provide a perception score for the same statements for which they have just identified their minimum and desired expectations. As Caruana et al. (2000) note: "Although it is possible for respondents to provide perception scores that are below minimum expectations, it is likely that the prior scores allocated to expectations will anchor the either-end points in the desired-minimum expectations continuum determining the scale point width with which perception scores will be obtained" (p. 3). They found that "respondents find it difficult to visualize [a] real difference between desired and minimum expectations, and the results obtained [from their experimental study] seem only to indicate the allocation of relatively lower scores to minimum expectations when this is asked in conjunction with desired expectations" (p. 8). They further question "the diagnostic usefulness resulting from the simultaneous collection of expectations and perceptions scores. It would appear that [the] collection of data about expectations and perceptions is best done separately. The former can be conducted on a less frequent basis than the latter" (p. 8). "Asking [about] desired expectations in conjunction with minimum expectations and perceptions . . . appears to result in higher desired expectation scores than when these are asked separately. . ." (p. 8). The "addition of minimum expectations ap-

pear to have added little that is of incremental value to the measurement of service quality" (Johns, Lee-Ross, & Tyas, 2000, p. 15). However, when both expectation and perception ratings are sought together, the data provide an opportunity to evaluate the relative difference between the two at the level of the twenty-two service statements (used in the basic version of SERVQUAL); when the data are collected separately, evaluation can occur only with the average rating of perceptions and expectations but not between their gap relationship.

There is disagreement over which version of SERVQUAL to use, and the instrument can only be slightly modified without having an impact on the dimensions that are probed. Although researchers often make comparisons across service industries, "the nature of services may be such that it is impossible to ask the same series of questions meaningful to customers in two different service industries" (e.g., see Babakus & Boller, 1992; Bolton & Drew, 1991; Carman, 1990; Cronin & Taylor, 1992; Dabholkar, Thorpe, & Rentz, 1996; Lapierre, Filiatrault, & Chebat, 1999; Teas, 1998). A number of authors concur that service dimensions are service industry specific: the number of dimensions and their stability across various service industries are likely to vary (e.g., see Babakus & Boller, 1992; Carman, 1990; Van Dyke, Kapelman, & Prybutok, 1997). Parasuraman et al. (1994) have moved from five to three dimensions: reliability, tangibles and, as a single dimension, responsiveness, assurance, and empathy (p. 211). Some other studies support the consolidation and regrouping of dimensions (Dabholkar, Thorpe, & Rentz, 1996).

Significantly modifying the scale and dimensions decreases the utility of SERVQUAL for cross-industry comparisons. Nonetheless, as discussed in this article, there are some important differences in LIS, such as with the information-gathering behavior of various groups, and therefore the set of dimensions selected must better represent LIS.

### *SERVPERF*

SERVQUAL is not the only generic instrument that has been used to gauge service quality. For example, SERVPERF, a modification of SERVQUAL, was developed in 1992 and measures service quality based solely on performance. It looks at the same twenty-two statements—worded the same as SERVQUAL—but it does not repeat the set of statements as expectation items. However, SERVPERF has apparently been rarely used in libraries; researchers have shown a clear preference for SERVQUAL, which has broad application to service industries.

### PLANNING VERSUS COMPARATIVE NORMATIVE MEASURES

The original intent of SERVQUAL was to provide a scale that a company could use to understand better "the service expectations and perceptions of . . . [its] customers, [to] assess its overall quality of service as

perceived by customers . . . [and to] identify the key dimensions, and facets within those dimensions, on which it should focus its quality-improvement efforts" (Zeithaml et al., 1990, pp. 175, 177). In addition to offering an instrument that had value for local planning, SERVQUAL's designers also suggested that other applications of the instrument were possible. Among these were comparing the service quality of several competing companies through tracking SERVQUAL perception scores along individual dimensions or overall service quality and providing insights about a company's relative strengths and weaknesses (Zeithaml et al., 1990, p. 178). The quantifiable measures of service quality that SERVQUAL offers intuitively appear attractive for drawing generalities about library services and for comparing service quality among different libraries.

To use SERVQUAL scores to track changes in service quality within a library assumes that the monitored service (or services) provided has, at least, a consistent purpose, if not a commonly defined population served, and perhaps even adheres to a set of service standards. However, to use the instrument to compare service quality across different organizations implies that common service goals or norms exist against which customer perceptions are tracked. In some service industries, profit or customer retention define the common norm. In others, professional service standards, such as accreditation standards in health care (e.g., safe and efficient patient care, improved health outcomes, and patient satisfaction), are established. Such commonly held norms are absent among research libraries. What one library aims to deliver by offering reference or document delivery services, for example, may differ from what another library defines the service to be. Among such differences, what does a comparison of customer perceptions of services delivered and expectations from different libraries tell librarians?

Service quality gap measures might mistakenly be confused with evaluation of the effectiveness of the library's communication about its services and the customer's awareness of such offerings.<sup>3</sup> Comparisons of expectations among users of different libraries might produce trends that suggest commonly held values about research library services. Whether research libraries can formulate commonly-held norms for service has not been determined.

#### *TEXAS A&M Study Seeks Normative Measures*

Seeking *best practices* that foster customer satisfaction and perceptions of high service quality motivate the development of commonly accepted service norms. The SERVQUAL instrument and structure might be used to help identify candidate institutions for such an analysis, leading to the formation of those norms. This has been one of the objectives of a pilot study initiated, in 1999, among twelve Association of Research Libraries (ARL) libraries led by Fred Heath, Colleen Cook, and Bruce Thompson

of Texas A&M University. The Texas study designed a “uniform” SERVQUAL and tested its application as the instrument shifted from having “strategic [decision making] and diagnostic utility at the local level” to “a mechanism for setting normative measures” applicable across institutions (Cook & Heath, 2000, p. 1). As explained by the research team, the purpose was to *predict* key elements of service quality across institutions.<sup>4</sup> If the instrument has “utility as a best practices tool for research libraries” (p. 2), it will be available for their use, presumably on an as needed cost-recovery basis. Their study instrument represents an effort to modify SERVQUAL to meet the needs of research libraries, presumably over time, and not to make comparisons across service industries.

The 1999 version of the Texas study instrument (introduced as *LibQUAL+*) presents forty-one statements accompanied by the previously described three-column rating format: minimum service expectations, desired service expectations, and the perception of service performance of the library reviewed. Heath, Cook, and Thompson assert that these statements examine three dimensions (affect of service, reliability or service efficiency, and tangibles) and introduce a fourth dimension (resources), thereby, they claim, better reflecting the service quality dimensions of research libraries than the original SERVQUAL set of factors and dimensions developed across service industries. A critical set of questions relates to how these modified SERVQUAL statements and questions were produced and whether they reflect the new cluster of dimensions applicable to the service setting in research libraries.

As the development process for *LibQUAL+* continues, that process merits scrutiny for whether or not it devotes sufficient attention to reliability and validity issues. For example, in conducting our own limited pretest of the 1999 instrument, unfortunately, we discovered some shortcomings (e.g., some questions relied too much on library jargon, were open to different interpretations, and failed to address adequately the full range of the library’s service role). Like some other researchers, we found that those pretested tended to be confused by the three-column format and would grow tired of moving the scroll bar from one column to another. They might simply insert a number that reflected neither their true expectations nor perceptions. Some of the pretest subjects felt that the first two columns influenced their perceptions and, consequently, they questioned the significance of the gap that emerged.

The study plan included preliminary site visits through which library customers and staff were to be interviewed by the designers to develop a set of items that users perceive as critical in the delivery of excellent service quality in research libraries. However, an assessment of the applicability of these newly proposed forty-one statements as normative measures of service quality for research libraries will require a better understanding of the answers to questions such as:

- Who decided what to ask?
- How much did customers and library staff at each site participate in the process of selecting those statements and questions and the order in which questions were asked?
- How important is each statement and question to each institution and its staff, customers, and mission?
- Why would these same statements, questions, and descriptive variables be of value to customers at all other research institutions?
- How well do the dimensions probed reflect the provision and receipt of library services from the perspective of the users of these services?

This article is not the place for a detailed assessment of the findings of the pilot study. Rather, our intention is to focus on the instrument and the data-collection process as a possible mechanism to compare service quality among research libraries. We are eager to learn from the pilot and particularly to explore its premise that the LibQUAL+'s three-column framework of capturing customer opinions about expectations and perceptions of services delivered in different libraries will result in a set of comparative assessment factors to use across library settings. However, for purposes of identifying "best practices" through normative comparisons, more than statistical relationships among LibQUAL+ scores will be needed.

#### *Hernon and His Colleagues Seek Planning Tools*

Believing that SERVQUAL does not sufficiently address local expectations and priorities, Peter Hernon and his colleagues in the United States and New Zealand developed a generic set of expectations that individual libraries could use as a guide for deciding on those statements that they might treat as priorities (Calvert & Hernon, 1997; Hernon & Altman, 1996, 1998; Hernon & Calvert, 1996). Central to their approach is the belief that whatever expectations are probed should result from local review and the input of library staff and some customers. Their research has focused on one library or service location and has not attempted to determine the relevancy of the statements across institutions or over time.

Recently, Nitecki and Hernon (2000) combined the local approach to identify service factors with the earlier version of the SERVQUAL questionnaire framework, trying to produce an instrument useful for local planning and diagnostic purposes. Their study took place at Yale University libraries, and the success of the project suggests that it be replicated at other institutions. Central to this approach is that the statements require modification from setting to setting, as determined by the priorities for service improvement established by service providers and managers.

#### CONCEPTUAL ISSUES TO ADDRESS

It may be that some librarians will call for continuation of the Texas A&M approach to finalize a set of statements, questions, and dimensions

applicable across institutions, while simultaneously pursuing the approach proposed by Nitecki and Herson. Before proceeding, a number of conceptual issues merit consideration. We encourage a national dialogue over these issues as well as the same type of research that is presently underway in marketing—research looking into service quality, satisfaction, value, worth, and how they fit together into a model of service provision and improvement.

#### *Can Service Quality Be Predicted?*

In their literature review, Andaleeb and Simmonds (1998) note that some authors “have suggested that service quality can be predicted adequately by using perceptions alone” (p. 157). The idea of prediction assumes that service quality deals with behavioral intentions—a topic that some researchers are only now investigating (Cronin, Brady, & Hult, 2000). There is disagreement about whether service quality should be measured as attitudes, perceptions, or disconfirmation. Furthermore, expectations are likely to change over time and from institution to institution, and expectations involve subjectivity.

Those challenging the disconfirmation theory and the Gaps Model have argued that “scales ‘performance’ data alone is a more robust measure of service quality than the ‘performance-expectations’ construct predicted by disconfirmation theory” (Johns, Lee-Ross, & Tyas, 2000, p. 25). Johns, Lee-Ross, and Tyas (2000), for instance, suggest that “subtracting customers’ expectations from their perceptions destroys much of the discriminating quality of SERVQUAL data and produces a great deal of statistical ‘background noise’” (p. 25). Nitecki (1995) used discriminant analysis to try to determine which SERVQUAL factors best characterized differences among users of three different library services (interlibrary loan, reference, and reserve services) in a research library (pp. 154-61). She concluded that “the SERVQUAL dimensions as calculated from the averaged difference of perceptions and expectations rankings according to the factor groupings described by the scale’s designers are not good discriminating factors to differentiate the three library services groups” (p. 161). Furthermore, perception discriminating variables are more important than expectation variables in predicting customers by service. Because trying to use SERVQUAL data for predicting service differences has never been examined within a library setting, such an application merits considerable scrutiny and cautious interpretation of the findings as well as an extensive examination of issues related to reliability and validity.

#### *The Gaps Model and SERVQUAL*

The Texas A&M project applies data collection to the entire campus population, not all of whom are library customers. It seems appropriate that there be a review of the value of gathering insights into service quality for non-customers, some of whom would never use a library, and that

ways be developed to represent excellence more as a core component of service quality. That review should also examine all five gaps and determine whether or not service quality should be more inclusive of the five gaps (Gaps Model). Input from non-customers may contribute to an understanding of other gaps, but it has no relevance to Gap 5—the defining gap for service quality.

Is it sufficient to focus on the perception portion of SERVQUAL or LibQUAL+ and to de-emphasize expectations, either “ideal” expectations (the earlier form of SERVQUAL) or minimum and desired expectations? Do we need to develop “an attitudinal approach that is operationalized within the perceptions side of SERVQUAL . . . ?” (Caruana et al., 2000, p. 9). Caruana et al. (2000) concluded that “it may be that customers’ expectations about services are often passive and ill defined. Therefore, direct measures may elicit expectations that otherwise might not operate in customers’ cognitive evaluations” (p. 8).

### *Dimensions*

Nitecki (1998) noted that SERVQUAL “respondents were asked to confirm whether or not the twenty-two statements and the five described dimensions adequately reflected the expectations for excellent library service quality and whether any were judged ‘not at all essential’” (p. 185). Her conclusion was that “the clear majority of respondents . . . confirm that there are no other expectations or service factors beyond what are cited on the questionnaire which are important to their evaluation of library service quality” (p. 185). Based on the findings of the Yale study, we speculate that her observation may have reflected the passive nature of library users on the question of expectations rather than a measure of the *truth* about the list’s comprehensiveness at any one time. Similar to the research on various service industries in the profit sector, investigators using SERVQUAL in libraries have tended to find “reliability” as the most important dimension and “tangibles” as the least important one. Susan Edwards and Mairéad Browne (1995) suggest that the five dimensions “may not hold for information services in a university library” (p. 179). Dimensions, they maintain, should address “technological features of service”:

There is also evidence that some items which cluster around communication are rated relatively highly by academics and stand out from the other components (e.g., competence) as an aspect of the *assurance* dimension. User education, which is included in “communication,” may also form a separate dimension. (p. 179)

Cook and Thompson (2000c, p. 256) found that three dimensions applied to their institution: tangibles, reliability or service efficiency, and affect of library service, which comprises the more subjective aspects of service, such as responsiveness, assurance, and empathy. Cook and

Thompson (2000a, b) also called for more research on the dimensions applicable to libraries. Nitecki and Hernon (2000) concur and found that there might be other dimensions for library service, such as the customer preference for self-sufficiency or self-reliance. However, given their change of SERVQUAL from a generic form to one that is institution specific, it is not surprising that another dimension surfaced.

In a subsequent study, Cook and Health, in this issue of *Library Trends*, suggest that service quality may encompass the following dimensions:

- affect of service (empathy, responsiveness, and assurance)
- ubiquity and ease of access (formats, timely access to resources, and physical location);
- self-reliance;
- reliability;
- comprehensive collections; and
- library as place (utilitarian space and symbol of the intellect).

These six dimensions may well serve as a foundation on which additional research can build. The work of Hernon and his colleagues consistently reflects the importance of self-sufficiency or self-reliance, a dimension not likely to occur in retail settings except perhaps in e-commerce. It seems evident that library researchers are not focusing on dimensions that enable a comparison across service industries. Rather, they are focusing on dimensions that explain service quality within libraries. In conclusion, managers should be cautious in their use of any set of dimensions as reflecting service quality in libraries at this time.

#### *Study Purpose*

As Vavra (1997) notes, "the very act of surveying customers conveys a very positive message; the organization is interested in its customers' well-being, needs, pleasures, and displeasures. While this is admittedly a 'marketing message,' there is nothing wrong . . . in allowing a survey to serve both . . . *informational* and *communication* roles" (p. 28). He defines the informational role as collecting information from customers about what "needs to be changed (in a product, service, or delivery system) or . . . how well an organization is currently delivering on its understanding of these needs" (p. 28). Communication focuses on messages and the image that the organization wants to portray.

Vavra comments that response rates for surveys of service quality and satisfaction "are declining" because they are often conducted with "a research mentality" and do not adequately address the informational role or re-involve customers in providing ongoing feedback to the organization about its services. The tendency is to downplay "the importance of reinforcing the customer's participation" (p. 83). Clearly, customers must see that their input directly affects services and their delivery or, as Vavra

explains, "the research mentality must be replaced with a customer-relationship mentality. In such a perspective, reinforcing the customer's participation is essential" (p. 84).

If Vavra is correct, more studies must use the data collected to improve their services over time, thus showing respondents that their views and comments were heard. The communication aspect must be stressed more and linked to an informational role, while the research mentality must give way to the planning needs of an organization.

#### *Method of Survey Delivery*

The basic approach has centered on use of a printed and mailed questionnaire, but Herson and Altman (1998), as well as others, employed an in-house survey. Response rates for studies using SERVQUAL have ranged from 27 percent to 76 percent, with the majority of mailed surveys producing over a 50 percent return rate (Nitecki, 1998, p. 185). In their adaptation, Nitecki and Herson (2000) had a response rate of 45.2 percent but determined that there was no significant difference between those who responded and those who did not.

Marketing research using SERVQUAL often accepts response rates around 20 percent. However, LIS has typically sought much higher response rates.<sup>5</sup> The Texas A&M research team planned to deliver the multi-institutional survey via the Web with e-mail notification and were willing to accept a response rate of 20 to 30 percent.<sup>6</sup> Such a response rate risks a self-selected sample in which responses are not representative of the survey population. Furthermore, Vavra (1997) observes a tendency among people who communicate electronically, via e-mail, to provide less thought out, less reasoned, and quick responses (pp. 207-08). Research into service quality must return to Vavra's view of communication and explore ways to get respondents to accept the imposition and share their opinions truthfully.

If low expectations for a response rate are set, and if respondents do not represent a population, the implications of these issues should be discussed and debated widely in the LIS literature. Thompson (2000) argues that response rates of less than 40 or 50 percent are common; however, this is not true of library and information science, where a number of studies have produced higher rates of response (p. 4). Clearly, response rates of less than 20 percent are uncommon in library and information science. It is critical that claims of representativeness for small response rates produced from a sampling frame of 5,000 (basis of LibQUAL+) be treated with caution, especially where a culturally diverse student population represents a significant part of the campus community (Metoyer, 2000).

In some instances, it might be impossible to produce a sample reflective of a population, especially for those electronic services in which any-

one who has access to a library's Web site may be a customer. There is also need for methods of data collection on service quality that go beyond self-reporting.

#### *Data Analysis*

The studies that have examined service quality have employed such techniques as factor analysis, analysis of variance, discriminant analysis, and quadrant analysis. Some have also produced mean scores for the expectation items and compared those scores to perception items. Different methods of data analysis portray different things about the topic studied. Factor analysis is a statistical technique based on correlations that group (load) a list of items from which a few dimensions can be identified. This allows a reduction of data in order to formulate more generalizable observations about them. Analysis of variance is another statistical technique used to compare the means of two or more groups in order to decide if observed differences between them are significant or are a result of chance. Discriminant analysis is a technique used to make predictions about the classification of variables. In studies, such as ones on service quality, this technique can help determine if a factor can predict satisfaction among customers (Vavra, 1997, p. 349). Quadrant analysis provides a graphic means of responding to the managerial need to determine how to allocate remedial attention and resources to services. The chart typically is formed by the intersection of two axes: one represents importance ratings and the other addresses performance ratings. The application of this technique assumes that service managers listen to their customers and allocate resources and attention in proportion to their voiced importance of service attributes and perceived success in service delivery (Vavra, 1997, pp. 311-12; Hernon & Altman, 1998, pp. 198-202; Nitecki & Hernon, 2000).

#### WHERE DO WE GO FROM HERE?

Any emerging model of service must pursue whether or not there is a "causal link" between service quality and customer satisfaction (Teas, 1993), either overall or specific service encounters, and identify the basic dimensions of service quality for libraries. That depiction must show where (or if) behavioral intentions fit and how it results in improved service provision. An important question is "Does service quality, either directly or indirectly, have any impact on outcomes assessment?"

As libraries continue to provide remote access to resources and services and to support distance education, the value of looking at the Gaps Model increases in importance. Research might also see if all five Gaps contribute to a service model. As well, it is important to look more closely at expectations and perceptions and value and excellence. Can service quality be examined from both specific service episodes and global

perspectives, as is done with satisfaction, and the insights gained applied to a service model? Can research go beyond measures of perceptions and move to address the even more challenging questions of what *value* library services offer? How do customer perceptions about the benefits, delivery, costs, and so on associated with library services affect the efforts of libraries to improve the quality of the services offered? Case studies, for instance, might examine such questions and see how (if) library service plans and goals change over time.

*Some Other Assessment Approaches*

Many successful high performing companies have developed an assessment process that is central to their improvement of the services they provide. They challenge leadership and staff, systematically gather data, analyze and communicate results of their data-gathering efforts, and develop and implement improvement plans. Criteria used to evaluate and recognize the success of such assessment programs have emerged as components of national and international recognition and certification programs. Among their evaluation criteria, these programs commonly address the need to discover customer requirements and views of what they receive from the company. In other words, the basis for service quality—the relationship between customer expectations of quality and perceptions of performance—plays a central role in overall assessments of a company's success. Though few U.S. libraries participate in the rigorous evaluation process to compete for the awards or register for the certification, awareness of some of these efforts for improving business organizations may trigger ideas about how to improve service quality through assessment in research libraries.

The Malcolm Baldrige National Quality Award, a program legislated by the U.S. Congress, in 1987 (see <http://www.quality.nist.gov/law.htm>), recognizes businesses, government agencies, and other organizations for satisfying the expectations of customers, and the award creates a means to share best practices among organizations. The intention of the award goes beyond honoring organizations to stimulate them to improve quality and productivity (Hagen, 2000b, p. 32). Among its seven criteria areas, it includes methods by which an organization ascertains its customers' satisfaction. Extensive feedback through self-appraisal guidelines, program examinations, and audits provide an educational tool for organizations participating in the program. The Baldrige Award, as well as related regional, state, and local awards, has value as an advertising tool and as a method to motivate staff. Awards comprise a means to encourage and praise staff; such value should be neither ignored nor under-appreciated.

ISO 9000 (9001-9003) is an international standard for quality systems that provides a method for certifying companies that meet its requirements. Originally published in 1987 and revised in 1994 and 2000, it speci-

fies twenty elements for a company to address to assure its customers that it provides the services and products promised. Like the Baldrige Award, the ISO standard is customer and process oriented, and it includes criteria on identifying customer requirements and measuring customer satisfaction with the company's performance. Libraries outside the United States have investigated, or might be mandated to apply, the criteria of the ISO standard to their operations. For example, the Nordic Council for Scientific Information and Research Libraries (NORDINFO) undertook a project in 1993 and 1994 to "step up quality in the LIS sector by gathering and passing on experience of the application of ISO 9000 certification" (*ISO 9000 for Libraries and Information Centers*, 1996). As the report on the project noted:

The ISO 9000 series does not serve to standardise quality goals . . . . What the ISO 9000 series does standardise are the requirements of quality systems . . . . Among the . . . elements which are central to the management philosophy of the ISO 9000 series are the involvement of the subject—i.e., the LIS organisation—in the formulation of the requirements for which it will be certified and its ability to monitor compliance with those requirements itself. (p. 5)

*The American Satisfaction Index (ASI)*, initiated in 1990 at the University of Michigan, is based on a Swedish program. The *ASI* is created from data regularly gathered on more than 200 companies and government agencies through interviewing thousands of consumers. The survey's goal is to understand the impact of quality on the gross national product (GNP), national competitiveness, and the U.S. standard of living. It tracks trends in consumer satisfaction with products and industries. Although gaining in popularity among financial analysts and drawing attention to the need for the inclusion of customer viewpoints, the index does not address measurement techniques for service quality; it focuses exclusively on satisfaction.

Numerous other awards exist and focus attention on the importance of quality as judged by customers and on the need for developing methods for the identification of customer requirements that can guide an organization's improvement management plans and processes. The U.S. Office of Personnel Management, for instance, administers the President's Quality Award Program that, among its four purposes, provides "models [that] other organizations can use to assess their overall performance in delivering continuous value to customers" (Mehta, 2000, p. 57). Government agencies, businesses, and international associations are widely adopting the quality performance and assessment guidance that award programs offer organizations (Hagen, 2000a, p. 57). Their established methods of assessment techniques used to gauge customer expectations and perceptions of performance might provide new perspectives on how to assess service quality in research libraries.

## CONCLUSION

The general perceptions versus disconfirmation debate should include contributions from LIS researchers. LIS should be integral (not tangential) to that debate. After all, whatever decisions made about service quality as a concept and its relationship to behavioral intentions should reflect a wide range of service settings. Thus, more LIS research should be placed in non-LIS journals.

It is troubling to see some accrediting bodies discredit the value of service quality and satisfaction, preferring instead for the institution to focus on learning outcomes. Such thinking ignores the role of research outcomes and, most importantly, how customers' views of quality have an impact on outcomes. Outcomes assessment is important but so are service quality and customer satisfaction. The mosaic of evaluation components (e.g., performance and outcomes measures, service quality, customer satisfaction, and effectiveness) will only grow. It is up to the profession to settle on those aspects most useful for planning and diagnostic purposes. The need to listen to customers will continue to increase as libraries align services with expectations, remain competitive, provide more services to remote users, and ensure that their institutional mission and vision are realized.

## NOTES

- <sup>1</sup> Stakeholders "have an interest in the organization, usually related to funding. . . . [They] may exert influence, primarily through funding or legislation, but they are not customers" (Heron & Altman, 1998, p. 5).
- <sup>2</sup> Adapted from Reeves and Bednar (1994, p. 437).
- <sup>3</sup> This point addresses the other four gaps defined in the Gaps Model that contribute to the delivery of service quality.
- <sup>4</sup> Presentation by the research team (Fred Heath, Colleen Cook, and Bruce Thompson) at ALA Midwinter Meeting, 1999, San Antonio, Texas.
- <sup>5</sup> It is interesting to note that in the state of Minnesota, state agencies conducting satisfaction surveys are expected to get a return rate of at least 70 to 75%. See Minnesota Office of the Legislative Auditor (1995).
- <sup>6</sup> Comment by the research team (see note 4).

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