Library Quality Assessment: LibQUAL+™

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Abstract
LibQUAL+™ is a research and development project undertaken by the Association of Research Libraries (ARL) in collaboration with Texas A&M University, and with financial support from the US Department of Education’s Fund for the Improvement of Postsecondary Education (FIPSE) through September 2003. LibQUAL+™ is defining and measuring library service quality across institutions and creating useful quality-assessment tools for libraries. The LibQUAL+™ survey instrument is a statistical management tool adapted from an instrument called SERVQUAL, which is grounded in the ‘Gap Theory of Service Quality’ developed by the marketing research team of A Parasuraman, V A Zeithaml, and L L Berry. Begun as a pilot with 12 ARL libraries in spring 2000, there are over 170 libraries testing the instrument in 2002. Results from the LibQUAL+™ instrument are helping to identify benchmark indicators better to assess library service quality, provide empirical documentation of the findings to campus administrators, and develop a reliable tool by which to measure library service. To date, the project has identified dimensions for library service quality that include library as place, personal control, affect of service, and information access. This poster session will provide updated information on the results of the spring 2002 project activities.

Introduction
LibQUAL+™ is a research and development project undertaken by the Association of Research Libraries (ARL) in collaboration with Texas A&M University (TAMU) and with financial support from the US Department of Education’s Fund for the Improvement of Postsecondary Education (FIPSE) through September 2003. LibQUAL+™ is defining and measuring library service quality across institutions and creating quality assessment tools for libraries. It is adapted from an instrument called SERVQUAL (for SERVice QUALity), which is grounded in the “Gap Theory of Service Quality” developed by the marketing research team of A Parasuraman, V A Zeithaml, and L L Berry (1985). This tool uses a web–based method of administration and analysis to ease the burden of administration locally and creates a scaleable and replicable protocol. It also makes readily available large normative data on user perceptions and expectations of library service quality. Results from the LibQUAL+™ instrument are helping to identify benchmark indicators better to assess library service quality, provide empirical documentation of the findings to campus administrators, and develop a reliable tool by which to measure library service.

First year pilot
The project began as a pilot with 12 participating libraries. In October 1999, ARL institutions were asked to volunteer to test a regrounded SERVQUAL instrument. Thirty institutions expressed interest and a diverse group of 12 was selected. Costs for the project were borne primarily by Texas A&M University, with each of the pilot libraries underwriting $2,000 of the costs for deliverables. An ambitious timeline was set – the institutions were selected in Fall 1999, a planning meeting with participants was held in January 2000 at the ALA Midwinter meeting, the regrounding of the instrument was completed in the winter, the surveys were conducted in April 2000, and the results were made available to the participants in July 2000 at the ALA Annual conference. The regrounding of the instrument was conducted as a qualitative
process through a series of interviews with library user representatives (e.g. faculty, graduate students, undergraduates) at the participating pilot institutions. The Cognition and Information Technologies Laboratory (CITL) at Texas A&M University assisted with survey design and worked with campus liaisons to develop a customised front-end web page. In addition, hardware and software required for survey administration and data capture and analysis were acquired.

Responsibilities for the 12 pilot institutions included drawing random samples of email addresses from faculty, graduate student, and undergraduate user groups; seeking approval of the administration of the survey instrument by human subjects review boards; and preparing their own user communities for administration of the survey through public relations notices. The administration of the survey was conducted during the spring, and each campus chose a time to conduct the survey that worked best with their campus calendar. In early June, all the data had been captured and were automatically downloaded into SPSS for analysis. About 5,000 responses were received from the 12 campuses.

2001 Survey administration

The experience gained from the first year’s pilot enabled ARL and TAMU to prepare a funding proposal to the US Department of Education’s Fund for the Improvement of Postsecondary Education (FIPSE) to extend the project to a larger and more diverse set of institutions. ARL was awarded $498,368 by FIPSE in September 2000 for the project, “Service Effectiveness in Academic Research Libraries”. The project, now named LibQUAL+™, would redefine survey questions, dimensions, and data gathering processes to develop a service that ARL and other academic libraries could use to determine their own service effectiveness.

Over 20,000 individuals from 43 universities in the United States and Canada completed the Spring 2001 survey. Individual and aggregate analyses were conducted on the data and results given to the participating institutions at the summer ALA conference. Suggestions for improving the administration of the survey were made to the LibQUAL+™ team and included such things as more detail on campus procedures, suggestion for changes to the instrument design, and comments on question construction.

2002 Survey administration

A call for participation was issued for the 2002 survey in Summer 2001. In addition to individual institutional responses (including several institutions who had participated in previous years), two consortia decided to participate. Over fifty members of OhioLINK, a consortium of academic libraries from 78 Ohio universities, colleges, community colleges and the State Library of Ohio, and more than 40 members of the Association of Academic Health Sciences Libraries (AAHSL) decided to participate as distinct groups. Both consortia added questions exclusive to their community to provide an opportunity to gather data to benchmark common services.

The process for administering the survey follows the same schedule each year. Campus liaisons first met as a group at ALA Midwinter. At this meeting additional training was provided at a two-day workshop at which presentations by Parasuraman and members of the LibQUAL+™ team focused on the gap theory behind the instrument. Participants were introduced to the qualitative theory, methods, and results that had informed the development of the LibQUAL+™ instrument. The LibQUAL+™ team described the project deliverables and participants heard from institutions who had previously conducted a survey and learned what they had done with the results. In
addition, a participants’ manual had been prepared to provide detailed information on the project timeline and steps to be taken by campus liaisons. The manual included information obtaining the campus human subjects review approval, defining and gathering email addresses for the sample population, the survey instrument, technical assistance, project deliverables, and dissemination. It also included sample forms, messages, and public relations communications from previous participants.

The survey instrument was opened for use in early March and closed at the end of May with responses from 78,000 individuals in 164 institutions. Individual and aggregate analyses of data for many of the institutions were distributed at the ALA meeting in June. The OhioLINK and AAHSL analyses will be conducted separately over the summer.

Survey instrument and results

The SERVQUAL survey instrument was selected as the basis for development due to its long history and experience with it in academic research libraries (see, for example, Coleman et al., 1997; Edwards and Browne, 1995; Nitecki, 1995). As developed by the marketing research group of Parasuraman, Zeithaml, and Berry for the for-profit sector, the SERVQUAL instrument measures service quality across five dimensions:

- **Reliability; i.e. the ability to perform the promised service dependably and accurately**
- **Assurance; i.e. knowledge and courtesy of employees and their ability to convey trust and confidence**
- **Empathy; i.e. the caring, individualised attention the firm provides to its customers**
- **Responsiveness; i.e. willingness to help customers and provide prompt service**
- **Tangibles; i.e. appearance of physical facilities, equipment, personnel, and communications materials**

The original instrument asks 22 questions across the five dimensions. For each question, the customer is asked for their impressions of service quality according to minimum service levels, desired service levels, and perceived performance. Gap scores are calculated for each question between the minimum and perceived expectations and the desired and perceived expectations. A zone of tolerance is the difference between the minimum and desired scores. Optimally, perceived performance should fall within that zone. Scores that fall outside the zone (particularly below) should raise warnings with managers.

Building on the SERVQUAL model, Texas A&M had found through their assessments in 1995, 1997, and 1999, that there were three library service dimensions isolated by SERVQUAL:

- tangibles; i.e. appearance of physical facilities, equipment, personnel, and communication materials
- reliability; i.e. ability to perform the promised service dependably and accurately
- affect of library service, which combines the more subjective aspects of library service, such as responsiveness, assurance, and empathy (Cook et al., 2000)

The qualitative work to reground the instrument resulted in the addition of questions to the survey that would test five dimensions through 41 items in the Spring 2000 project:

- Affect of service
- Reliability
- Library as place
- Provision of physical collections
- Access to information
The survey was administered by sending a message to a random set of email addresses that includes an invitation to participate in the survey and links to a survey URL. Each institution’s survey was custom designed so that the user sees an institutional logo. Questions asked respondents to indicate their minimum and desired levels of library service and their perceptions of their library’s service on a scale of 1 to 9 (see Fig 1). As respondents answered the questions, data were collected at a server at TAMU. Data analysis was conducted using a hierarchical model of factor analysis. Results indicated there was an area to investigate surrounding issues of personal control and navigation. Additional questions were developed and the Spring 2001 survey was expanded to address five dimensions through 56 items:

- Affect of service
- Library of place
- Reliability
- Self reliance
- Access to information

The survey was conducted through a similar web-based process and results and analysis of 2001 led to the hypothesis (being tested in 2002 through a 25 item survey) that the dimensions of service that make up a user’s perception of service quality include:

- Service affect; i.e. responsiveness, assurance, empathy, and reliability – the human dimensions of library service
- Library as place; i.e. campus centre of intellectual life, but may not be a concern if the physical facilities are adequate
- Personal control; i.e. ability to navigate both the information universe in general and the web in particular
- Information access; i.e. ubiquity of access meaning information delivered in the format, location, and time of choice and comprehensive collections

Both the OhioLINK and AAHSL library groups will have their additional questions analysed in the context of service quality within their peer groups.

Institutions participating in the LibQUAL+™ project receive custom radar graphs representing each major constituency group, and aggregate information (see Fig 2) to which they can compare their results. In addition, a binder with customised summaries, including statistics for all
3.2 Item Analysis for All Institution Types

3.2.1 Item Summary for All Institution Types - All User Groups (Excludes Library Staff)

This radar chart shows aggregate ARL institution results for all 25 survey questions. Each axis represents one question (question numbers are displayed at the outer point of each axis). While questions for each dimension of library service quality are scattered randomly throughout the survey, here chart they are grouped in quadrants: Affect of Service, Access to Information, Library as Place, and Personal Control.

On each axis, respondents' minimum, desired, and perceived levels of service quality are plotted, and the resulting "gaps" between the three levels are shaded in blue, yellow, green, and red. Generally, a desirable radar graph is shaded blue and yellow, indicating that users' perceptions of service fall within the "zone of tolerance," i.e., above their minimum expectations (represented in blue) but below their desired level of service (shown in yellow).

variables comparing summary institutional data to peer-group averages and medians is also provided. The reports provide the library with information on gap scores. In addition, because there were enough responses from the 2001 survey, it was possible to create score norms tables. Norm tables allow conversion of observed scores.
into derived scores and are used to generate both generic and specialised tables.

From project data, institutions participating in LibQUAL+™ can identify in which dimensions and which specific services need improvement, according to their users. They can also compare their service quality with that of peer institutions in an effort to develop benchmarks and understanding of best practices.

A substantial body of literature is being developed from the LibQUAL+™ project and a bibliography is regularly updated and available at http://www.coe.tamu.edu/%7Ebthompson/servqbib.htm. This literature discusses such things as the quantitative and qualitative analyses for the project, administering a web-based survey, representativeness versus responsiveness, score reliability, and response rates. Many more documents are expected as the spring 2002 and 2003 data are analysed. Of interest particularly will be reports from institutions that have been participating in the project since its inception. They will provide examples for the use of longitudinal data.

Future plans

The LibQUAL+™ project will continue one more year with FIPSE funding, and then it is expected to become a self-supporting ARL program. As part of the 2003 survey administration, the instrument will be translated into French for two French-speaking schools in Canada. Institutions interested in participating in the 2003 survey are welcome to contact ARL. The instrument to be used in 2003 likely will be the same one used in 2002. The procedures and timeline will also follow the same patterns as previous years. Campus liaisons will be encouraged to participate actively in training sessions and will be encouraged to share their experience in using the results to benchmark their performance with peer institutions. With over 164 participating institutions in 2002, there will many opportunities for institutions to learn best practices from each other.

In addition to the funding from FIPSE, ARL and TAMU have received funding from the National Science Foundation to adapt the LibQUAL+™ instrument for use in the Science, Math, Engineering and Technology Education Digital Library community. Goals for this 3-year grant include: a) defining the dimensions of digital library service quality from the users’ perspectives; b) developing a tool for measuring user perceptions and expectations of digital library service quality across NSDL digital library contexts; and c) identifying digital library best practices that permit generalisations across operations and development platforms. This project will begin in late 2002 with its own qualitative development effort.

Further information about the LibQUAL+™ project can be found at http://www.libqual.org.

References


