

northumb.wp1 7/15/03

RUNNING HEAD: UK LibQUAL+™

LibQUAL+™ from the UK Perspective

Colleen Cook Fred Heath

Texas A&M University

Bruce Thompson

Texas A&M University

and

Baylor College of Medicine (Houston)

Paper presented at the fifth Northumbria International Conference on Performance Measurement in Libraries, Collingwood College, Durham, Great Britain, July 28, 2003. This research was supported in part by a grant from the U.S. Department of Education Fund for the Improvement of Post-Secondary Education (FIPSE). Colleen Cook may be contacted via e-mail at address: "ccook@tamu.edu". Fred Heath may be contacted via e-mail at address: "fheath@tamu.edu". Bruce Thompson may be contacted via Internet URL: "<http://www.coe.tamu.edu/~bthompson>".

LibQUAL+™ is a research partnership between the Association of Research Libraries (ARL) and the Texas A&M University (TAMU) Libraries to develop a program of systematic service quality assessment from the library user perspective. In its third and final year of a grant from the U.S. Department of Education's Fund for the Improvement of Post-Secondary Education (FIPSE), LibQUAL+™, a web-delivered survey, was distributed to randomly selected potential library users at more than 300, mostly academic institutions, in North America, the United Kingdom and the Netherlands in the spring of 2003.

Given the large number and diversity of participating institutions, the 2003 LibQUAL+™ implementation offers the opportunity to address questions of transferability of the LibQUAL+™ instrument and process across libraries of varying sizes and types. Because over 20 institutions from the UK and one from the Netherlands participated in the spring run of 2003, it is also now possible to gain an understanding into the applicability of LibQUAL+™ across different national contexts.

Brief History of LibQUAL+™

The history of LibQUAL+™ has been documented in various locations (cf. Cook, Heath & Thompson, in press; Cook, Heath, B. Thompson & R.L. Thompson, 2001a, 2001b; Snyder, 2002). Six aspects of this history are particularly relevant.

1. LibQUAL+™ is only one of 11 different ways to listen to customers, called a "total market survey" (Berry, 1995). Berry (1995) recommended using multiple listening methods, and emphasized that "Ongoing data collection... is a necessity. Transactional survey, total market surveys, and employee research should always be included" (p. 54, emphasis added).
2. LibQUAL+™ was modeled on the 22-item SERVQUAL tool developed by Parasuraman, Berry and Zeithaml (1991; Parasuraman, Zeithaml and Berry, 1985, 1994; Zeithaml, Parasuraman and Berry, 1990). SERVQUAL has been used in over 100 dissertations and more than 1,000 journal articles. However, SERVQUAL has been shown to measure some issues not particularly relevant in libraries (e.g., clothing of library staff), and to not measure some issues of considerable interest to library users (cf. Cook & Thompson, 2000a, 2000b).
3. The final 22 LibQUAL+™ items were developed through several iterations of quantitative studies involving a larger pool of 56 items. These 56 items were themselves identified following qualitative research interviews with library student and faculty users at several different universities (cf. Cook & Heath, 2001).
4. In conducting service quality assessments, it is absolutely critical to demonstrate that the assessment scores measure something (as against nothing). Scores measure nothing when they are random. In psychometrics, the property of data measuring something is called "reliability" (Thompson, 2002; Thompson & Vacha-Haase, 2000). In previous administrations,

LibQUAL+™ scores have been repeatedly shown to be reliable (Cook, Heath, B. Thompson & R.L. Thompson, 2001; Cook & Thompson, 2001; Thompson & Cook, 2002; Thompson, Cook & Heath, in press; B. Thompson, Cook & R.L. Thompson, 2002).

5. Even when assessment scores are demonstrated to be reliable, it additionally must be shown that the scores measures the intended constructs. In psychometrics, the property of data measuring the intended something is called "validity" (Thompson, 2002). A primary tool in such proofs involves the statistical method called factor analysis (Thompson, in press). Various methods have been employed in prior studies suggesting that LibQUAL+™ scores are valid (cf. Cook, Heath & Thompson, 2001; Heath, Cook, Kyrillidou & Thompson, 2002; Thompson, Cook & Heath, 2001, 2003).
6. There are two primary ways to interpret LibQUAL+™. First, scores on perceptions may be compared against scores on what is reported to be minimally acceptable service, and what is reported to be desired service; this is called the "zones of tolerance" interpretation framework (cf. Cook, Heath & Thompson, 2003).

Second, statistical norms may be used to characterize factually what percentage of users or of institutions generated lower perception ratings. Because so many tens of thousands of users, and so many hundreds of institutions have participated in LibQUAL+™, norms tables have been generated for the protocol (Cook, Heath & Thompson, 2002). Norms are not possible when only local survey data are collected.

Purpose of the Present Study

The present study focused on data collected from Great Britain and Scotland in the spring of 2003. Wording of some of the 22 items was altered to conform with contemporary language usage in the United Kingdom. For example, in the British English version of the protocol, "library staff" was substituted for "employees."

The present study was conducted to address two research questions:

1. Did LibQUAL+™ generate reliable scores in the United Kingdom administration?, and
2. Did LibQUAL+™ generate apparently valid scores in the United Kingdom administration?

Results

Table 1 presents Cronbach α coefficients for scores on the three LibQUAL+™ subscales and the total scores. For comparative purposes, results are also presented for the American English and the French administrations.

INSERT TABLE 1 ABOUT HERE.

Table 2 presents item analysis statistics for these data. Thompson and Levitov (1985) provide an explanation of these statistics.

INSERT TABLE 2 ABOUT HERE.

Table 3 presents the pattern/structure coefficients from a principal components analysis of the data. Thompson (in press) provides an explanation of these methods.

INSERT TABLE 3 ABOUT HERE.

Discussion

As A. Parasuraman said in at a recent training session on SERVQUAL and LibQUAL+™ at the January 2003 American Library Association Midwinter Meeting in Philadelphia, "LibQUAL+™ is not just a survey. It is a tool to advance internal change based on information." Although the widespread use of such a protocol may by itself be transformational as regards the culture of assessment within libraries, it is also important to establish that LibQUAL+™ scores have reasonable psychometric integrity across a wide array of settings. The present results are again supportive of the integrity of protocol results, notwithstanding language changes in selected items.

That librarians find LibQUAL+™ useful in improving service quality has been documented (cf. Cook, 2002; Cook, Heath & Thompson, in press). But it is important to establish that librarians indeed should be relying on these scores for their quality improvement endeavors. Thus, the present results are encouraging.

References

- Berry, L.L. (1995). On great service: A framework for action. New York: The Free Press.
- Cook, C. (Guest Ed.). (2002). The maturation of assessment in academic libraries: The role of LibQUAL+™ (special issue). Performance Measurement and Metrics, 3(2), 34-112.
- Cook, C., & Heath, F. (2001). Users' perceptions of library service quality: A "LibQUAL+™" qualitative study. Library Trends, 49, 548-584.
- Cook, C., Heath, F., & Thompson, B. (2001). Users' hierarchical perspectives on library service quality: A "LibQUAL+™" study. College and Research Libraries, 62, 147-153.
- Cook, C., Heath, F. & Thompson, B. (2002). Score norms for improving library service quality: A LibQUAL+™ study. portal: Libraries and the Academy, 2, 13-26.
- Cook, C., Heath, F. & Thompson, B. (2003). "Zones of tolerance" in perceptions of library service quality: A LibQUAL+™ study. portal: Libraries and the Academy, 3, 113-123.
- Cook, C., Heath, F. & Thompson, B. (in press). Improving service quality in libraries: LibQUAL+™. Washington, DC: Association of Research Libraries. (International Standard Book Number 0-918006-96-1)
- Cook, C., & Heath, F., Thompson, B., & Thompson, R.L. (2001a). LibQUAL+™: Service quality assessment in research libraries. IFLA Journal, 4, 264-268.
- Cook, C., Heath, F., Thompson, B., & Thompson, R.L. (2001b). The search for new measures: The ARL "LibQUAL+™" study--a preliminary report. portal: Libraries and the Academy, 1, 103-112.
- Cook, C., Heath, F., Thompson, R.L. & Thompson, B. (2001). Score reliability in Web- or Internet-based surveys: Unnumbered graphic rating scales versus Likert-type scales. Educational and Psychological Measurement, 61, 697-706.
- Cook, C., & Thompson, B. (2000a). Higher-order factor analytic perspectives on users' perceptions of library service quality. Library Information Science Research, 22, 393-404.
- Cook, C., & Thompson, B. (2000b). Reliability and validity of SERVQUAL scores used to evaluate perceptions of library service quality. Journal of Academic Librarianship, 26, 248-258.
- Cook, C., & Thompson, B. (2001). Psychometric properties of scores from the Web-based LibQUAL+™ study of perceptions of library service quality. Library Trends, 49, 585-604.
- Heath, F., Cook, C., Kyrillidou, M., & Thompson, B. (2002). ARL Index and other validity correlates of LibQUAL+™ scores. portal: Libraries and the Academy, 2, 27-42.
- Parasuraman, A., Berry, L.L. & Zeithaml, V.A. (1991). Refinement and reassessment of the SERVQUAL scale. Journal of Retailing, 67, 420-450.
- Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. Journal of Marketing, 70, 41-50.

- Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1994). Alternative scales for measuring service quality: A comparative assessment based on psychometric and diagnostic criteria. Journal of Retailing, 49, 201-230.
- Snyder, C. A. (2002). Measuring library service quality with a focus on the LibQUAL+™ project: An interview with Fred Heath. Library Administration & Management, 16, 4-7.
- Thompson, B. (Ed.). (2002). Score reliability: Contemporary thinking on reliability issues. Newbury Park, CA: Sage.
- Thompson, B. (in press). Exploratory and confirmatory factor analysis: Understanding concepts and applications. Washington, DC: American Psychological Association.
- Thompson, B., & Cook, C. (2002). Stability of the reliability of LibQUAL+™ scores: A "Reliability Generalization" meta-analysis study. Educational and Psychological Measurement, 62, 735-743.
- Thompson, B., Cook, C., & Heath, F. (2001). How many dimensions does it take to measure users' perceptions of libraries?: A "LibQUAL+™" study. portal: Libraries and the Academy, 1, 129-138.
- Thompson, B., Cook, C., & Heath, F. (2003). Structure of perceptions of service quality in libraries: A LibQUAL+™ study. Structural Equation Modeling, 10, 456-464.
- Thompson, B., Cook, C. & Heath, F. (in press). A short form of the LibQUAL+™ protocol assessing users' perceptions of library service quality. Library Quarterly.
- Thompson, B., Cook, C., & Thompson, R.L. (2002). Reliability and structure of LibQUAL+™ scores: Measuring perceived library service quality. portal: Libraries and the Academy, 2, 3-12.
- Thompson, B., & Levitov, J.E. (1985). Using microcomputers to score and evaluate test items. Collegiate Microcomputer, 3, 163-168.
- Thompson, B., & Vacha-Haase, T. (2000). Psychometrics is datametrics: The test is not reliable. Educational and Psychological Measurement, 60, 174-195.
- Zeithaml, V.A., Parasuraman, A., & Berry, L.L. (1990). Delivering quality service: Balancing customer perceptions and expectations. New York: Free Press.

Table 1
Cronbach's α for Subscale and Total Scores
in Three Language Administrations

Group	<u>n</u>	LibQUAL+™ Subscale			TOTAL
		Service Affect	Info. Control	Lib as Place	
American (all)	59,318	.95	.91	.88	.96
British (all)	6,773	.93	.87	.81	.94
French (all)	172	.95	.90	.89	.95

Table 2
Item Analysis Statistics for the 22 Items
and the Total Score

Item	"Corrected" Item- Total Correlation	alpha if Item Deleted
SA01BPER	.6431	.9370
SA04BPER	.6832	.9364
SA07BPER	.7191	.9359
SA10BPER	.7166	.9360
SA12BPER	.6769	.9365
SA15BPER	.7140	.9360
SA17BPER	.6590	.9367
SA20BPER	.6942	.9362
SA23BPER	.7335	.9357
PC02BPER	.5770	.9380
PC11BPER	.5603	.9382
PC16BPER	.6675	.9367
PC21BPER	.7108	.9363
PC25BPER	.5400	.9387
IA03BPER	.5271	.9389
IA14BPER	.6254	.9373
IA18BPER	.6500	.9370
LP05BPER	.4431	.9408
LP09BPER	.5970	.9377
LP13BPER	.6458	.9370
LP19BPER	.4667	.9404
LP24BPER	.6537	.9368

Note. \underline{n} = 6,773; α = .9400 for all 22 items.

Table 3
 Varimax-rotated Pattern/structure Coefficients
 from Principal Components Analysis

Item/ Scale	Factor		
	I	II	III
Service Affect			
SA20BPER	<u>.81482</u>	.14978	.22178
SA17BPER	<u>.80819</u>	.13080	.18117
SA07BPER	<u>.79517</u>	.23655	.19984
SA04BPER	<u>.75147</u>	.26169	.15873
SA01BPER	<u>.73390</u>	.25943	.10239
SA23BPER	<u>.72361</u>	.31559	.23299
SA12BPER	<u>.68422</u>	.29887	.19450
SA15BPER	<u>.67372</u>	.32876	.24322
SA10BPER	<u>.64870</u>	.34253	.26766
Information Control			
IA18BPER	.24596	<u>.70168</u>	.25505
PC11BPER	.19255	<u>.68547</u>	.16127
IA03BPER	.20837	<u>.66978</u>	.10427
PC02BPER	.24013	<u>.66578</u>	.15820
PC25BPER	.18100	<u>.62532</u>	.18863
PC21BPER	.37320	<u>.62216</u>	.30199
PC16BPER	.28545	<u>.60558</u>	.35580
IA14BPER	.28479	<u>.51461</u>	.37229
Library as Place			
LP13BPER	.26363	.23930	<u>.76859</u>
LP24BPER	.24782	.28884	<u>.74439</u>
LP05BPER	.09099	.12846	<u>.73572</u>
LP09BPER	.25831	.22973	<u>.68028</u>
LP19BPER	.17087	.21264	<u>.55040</u>

Note. $n = 7,788$.