IMPROVING IS SERVICE QUALITY

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ABSTRACT

The growth of end-user computing has led to an awareness of the need to evaluate the quality of services provided by the information systems function. This paper discusses the two primary schools of thought or approaches concerning service quality. While the disconfirmation-based approach conceptualizes service quality as "similar to an attitude, the performance-based approach conceptualizes service quality as "attitude-based." The literature concerning the application of both service quality approaches in an IS context are discussed and analyzed. Special attention is paid to the service orientation of IS employees as they relate to IS users. Prescriptions for improvements to the quality of IS service are suggested in four management areas: 1) service orientation of IS providers, 2) training/education of IS providers and IS users, 3) reward system for IS employees, and 4) linking IT strategy to business strategy. Lastly, SERVQUAL and SERVPERF are discussed as two quantitative measures of IS service quality.

INTRODUCTION

In recent years the growth of end-user computing and the emphasis on quality in a firm's products and services has prompted information systems (IS) managers to evaluate the quality of IS service provided to its users.

While technology is constantly changing, service quality expectations is a constant expectation of users. This paper explores the idea of service orientation of IS employees and how they can improve service quality to end-users. Two schools of thought about service

quality are discussed along with a review of how IS service quality has been measured.

SERVICE QUALITY

There are two primary schools of thought concerning service quality. The disconfirmation-based approach compares the consumers' current perceptions of service quality with his expectations of what service quality should be. Another school of thought on service quality is the performance-based approach. This approach suggests the "adequacy-importance" model which can be used to predict behavioral intention or actual behavior (Mazis, Ahtola, & Klippel, 1975).

Disconfirmation-Based Approach

Researchers suggest that service quality and satisfaction are distinct constructs (Bitner, 1990; Parasuraman, Zeithaml, & Berry, 1988). The most common difference between the two is that perceived service quality is a form of attitude, long-run overall evaluation, whereas satisfaction is a transaction-specific measure (Bitner, 1990; Parasuraman, et al, 1988). Parasuraman et al (1988) further suggest that the difference lies in the way disconfirmation is operationalized. They state that in measuring perceived service quality the level of comparison is what a customer should expect, whereas in measures of satisfaction the appropriate comparison is what a consumer would expect. However, Woodruff, Cadotte, and Jenkins (1983) suggest that expectations should be based on experience norms—what consumers should expect from a given service provider given their experience with that specific type of service organization.

While Parasuraman et al (1988) described service quality as similar to an attitude, Oliver (1980) suggested that attitude is initially a function of expectations and subsequently a function of the prior attitude toward and the present level of satisfaction with a product or service. His research suggested that service quality and consumer satisfaction are distinct constructs, but are related in that satisfaction mediates the effect of prior-period perceptions of service quality to cause a revised service quality perception to be formed.

Lastly, Bolton and Drew (1991) attempted to clarify the disconfirmation-based approach. They used the common assumption that service quality is analogous to an attitude as a basis to suggest that satisfaction is a distinct construct that mediates prior perceptions of service quality to form the current perception of service quality. They concluded that disconfirmation process, expectations, and performance all should have a significant impact on consumers' current perceptions of service quality.

Performance-Based Approach

While the disconfirmation-based approach conceptualizes service quality as "similar to an attitude," the performance-based approach conceptualizes service quality as "attitude-based." The "adequacy-importance model defines an individual's attitude by his or her importance-weighted evaluation of the performance of the specific dimensions of a product or service (Cohen, Fishbein, & Ahtola, 1972).

A study by Churchill and Surprenent (1982) also partially supports the efficacy of using only performance perceptions to measure service quality. They conducted two experiments to examine the effects of expectations, performance, and the disconfirmation on satisfaction. The results of one of the experiments suggested that performance alone determines the satisfaction of subjects. Woodruff, Cadotte, and Jenkins (1983) contributed further support for the performance-based approach. Using the adequacy-importance model, they indicated that assimilation/contrast theory suggests that consumers may raise or lower their performance beliefs on the basis of how closely perceived performance approximates expected performance.

In summary, the performance-based measure of service quality believe: 1) perceived service quality is best conceptualized as an attitude, 2) the "adequacy-importance model is the most effective "attitude-based" operationalization of service quality, and 3) current performance adequately captures consumers' perceptions of the service quality offered by a specific service provider. The disconfirmation-based approach

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seeks to measure the gap between perceptions and expectations of service quality.

Service Orientation

Both the disconfirmation and performance-based approaches can examine the relationship between the users and IS personnel. IS users perceptions of service quality are captured by the current performance of IS department in meeting specific user needs (performance-based). The disconfirmation-based approach is used to measure the gap between the perception of IS service quality and the expectations of IS service quality. One of the key factors to provide the high quality of IS service to users is the service orientation of the IS employees.

Recently, some researchers (Mathieson, 1993; Ouellette, 1994) have argued that service orientation should also be included in concept of service quality in IS. Hogan, Hogan, and Busch (1984) defined service orientation as a set of attitudes and behaviors that affects the quality of interaction between the staff of any organization and its customers. Such actions as treating IS users with courtesy, consideration, and tact, being perceptive about IS users' needs, and being able to communicate accurately but pleasantly, contribute significantly to the overall quality of service to the user. Conversely, IS personnel who are irritable, thoughtless, and abrasive not only upset the IS users but will also tend to erode the morale of the staff with whom they work.

Hogan and Hogan (1989) also suggested several other ways to be service oriented: 1) a person needed to listen to the client (IS user), not lecture him, 2) the IS department needs to respond to a user's problem in a direct and non-defensive way, 3) be pleasant and attentive even when you are tired, 4) identify the special interests and requirements of each user and remember them as you respond appropriately, 5) find ways to deal with user's legitimate request even when the company's rules make that difficult, and 6) exhibit attributes of being tolerant, helpful, patient, and concerned about the user.

Hogan, et al, (1984) assessed the validation of the service orientation construct. Hogan, et al, (1984) pioneered the measurement of service orientation using a 92-item scale, the Service Orientation Index (SOI), derived from the then 310-item Hogan Personality Inventory (HPI). The latest version of the original scale has been reduced to a total of 14 items or three complete subscales: empathy - a measure of ease and grace in interpersonal situations, virtuous - a measure of prissiness and perfectionism, and sensitive - a measure of interpersonal sensitivity (Hogan, 1992).

Dale and Wooler (1991, pp. 191-204) developed a strategic systems model that reinforced employee service orientation. The five components of service orientation are sociability, technical curiosity, follow rules, likeability, and good adjustment. Cran (1994) compared the Hogan approach and Dale and Wooler's service orientation construct using Hogan's (1992) archival data (N=7638) and a pool of adult Australian respondents (N=235; female=142; male=93). The Australian data support Hogan's contention that service orientation is a blend of adjustment, likeability, prudence and possibly (as with the Australian group) ambition.

Prescriptions for Improving Service Quality (Appendix A)

Several studies have suggested ways to improve service quality of the IS department. These suggestions of how to improve IS service quality can be categorized into four broad areas which are summarized in Table 1.

Table 1

1.	Service orientation of IS providers
2.	Training/education of IS providers and IS users
3.	Reward system for IS providers
4.	Linking IT strategy to business strategy

Service Orientation of IS Providers

Ouellette (1994) emphasized service orientation in his formula for IS service. Quality service would require IS personnel to develop a consultative approach to all daily business interactions with IS users. IS providers need to reach out to IS users and

partner with them to determine the users' preferences, needs, and their expectation of service levels.

Danziger (1979) suggested that there is a clash between "two cultures" that of computer specialists and that of end users. Service quality will be perceived higher by end users when computer specialists make an effort to learn the end users' "basic business" and are responsive to the end users' needs. Going the extra mile for the user would entail not only improving existing systems, but also promoting new applications that would enhance users' performance (1993).

Mathieson (1993) discusses several ways to integrate service orientation into an IS department. He argued that service orientation begins as early as the interviewing of new hires in IS. Technical skills and service oriented IS personnel will be important in providing top-notch service quality to IS users. He suggests that IS staff should be proactive rather than waiting for the user to call the IS department. The users will appreciate being kept abreast of their project's status and priority among other projects. IS personnel also need to encourage and include users in system design, prototyping or policy sessions. Lastly, the current user perceptions of IS service should be discussed at staff meetings to reinforce the importance of a positive departmental attitude.

Watson, Pitt, Kavan (1998) stated that continuous efforts should be made throughout the year to cultivate an improved awareness among users about what the IS unit is, what it does, and who works in it. A better understanding of IS means that users?expectations will be more in tune with what IS can deliver. Great care should be taken to ensure that unrealistic promises are not made.

Training/Education (IS providers and IS users)

Danziger, Kraemer, King, & Leslie (1993) stress strategies for service improvement that concentrate on the "sociotechnical interface"(STI) between end users and computing service providers. This interface could be vastly improved by increasing the computing competence of users

through education and help from IS personnel. Mathieson (1993) also encouraged IS units to provide training to its users of new products or services. A "train the trainer" program could be set up so that users could gain control of their own programs. Training users would not only enhance their understanding of IS's services, but would also allow them to be more intelligently involved in the design and operation of a system. Lastly, Watson, et al, (1997) encourage the requirement of adequate training of IS personnel in order to provide quality service to its users. Adequate training of IS personnel in providing quality service needs to be a priority for the CIO. IS personnel lacking the appropriate skills and attitudes are likely to have problems with dependably and accurately executing standardized service delivery processes. Inadequately trained personnel are also unlikely to have a mindset that concentrates on creating value for users. This training could entail both technical training and enhancing one's service orientation toward IS users.

Reward system

To encourage service orientation among its employees an IS unit could implement a reward system for excellent service provided to its users. Mathieson (1993) suggested that service orientation of the IS individual be rated and evaluated in the person's job performance evaluation. Service orientation would be an integral component of promotions and pay raises. Watson, et al, (1998) also encouraged the implementation of a reward system to motivate IS personnel to improve service quality.

Linking IT strategy to business strategy

Watson, et al, (1997) discuss the gap between the expectations and perceptions of the user. They utilized SERVQUAL (an instrument to measure service quality) in a longitudinal study to diagnose service quality problems in two firm's IS departments. During the research interviews and observations they identified some of the key actions that a CIO can take to improve service quality. The CIO must link IT strategy to the business strategy. Working with relevant stakeholders the CIO can demonstrate the collective responsiveness of the IS department.

Also, this insight becomes a framework for empathizing with clients. Service quality processes should be designed such that IS can put standardized processes in place that ensure reliable performance. could motivate IS personnel to improve service quality. Lastly, delivering IS service quality requires ongoing attention. Correcting service quality problems is not a one-time fix, but rather is a continual process that the IS department should regularly monitor.

Given the above suggestions to improve service quality, how would a researcher statistically measure service quality? The next section suggests major issues to consider in measuring service quality.

Measuring Service Quality

To statistically measure a construct such as service quality, Churchill, Jr. (1979) mentions several issues that must be considered. First, the instrument measures attributes of objects not the objects themselves. Second, when the researcher is assessing the quality of an instrument, coefficient alpha is absolutely the first measure to calculate. A low coefficient alpha indicates the sample of items performs poorly in capturing the construct which motivated the measure.

Third, the instrument must be valid in that the differences in observed scores reflect true differences on the characteristic one is attempting to measure and nothing else. The instrument is measuring what it purports to measure. Within validity the researcher would consider construct, convergent, and discriminant validity. To assess construct validity the researcher should check correlations with other measures. The construct should be measured by two or more methods. Evidence of convergent validity of the measure is provided by the extent to which it correlates highly with other methods designed to measure the same construct. Besides convergent validity the measures should have discriminant validity. Discriminant validity is the extent to which the measure is indeed novel and not simply a reflection of some other variable. A useful way of assessing the convergent and discriminant validity is through the multitrait-multimethod matrix.

A fourth issue to consider is whether the instrument is reliable. Reliability is the extent that independent but comparable measures of the same trait of construct of a given object agree. Reliability depends on how much of the variation in scores is attributable to random or chance errors.

In measuring IS service quality, two primary tools have been utilized. SERVQUAL and SERVPERF are two tools that represent the two schools of thought on service quality, Disconfirmation-Based Approach and Performance-Based Approach, respectively. The next section discusses these two tools of measuring service quality along with the strengths and weaknesses of the tools.

Measurement Tools of Service Quality: SERVQUAL

Several tools have been proposed to measure service quality. Parasuraman, et al, (1988) operationalized their conceptual model of service quality by following the framework of Churchill (1979) for developing measures of marketing constructs. The final work resulted in an instrument they called SERVQUAL. The 45 item instrument was used for assessing customer expectations and perceptions of service quality in service and retailing organizations. The two 22 question parts measured expectations and perception, respectively. These questions used a Likert-type seven-point scale ranging from Strongly disagree to Strongly agree. The final part is a single question to assess overall service quality. This final question also used a Likert-type seven-point scale ranging from Poor to Excellent. Sample questions of SERVQUAL are in Table 2.

Overall question: "How would you rate the quality of service provided by IS?"

Underlying the questions are five dimensions that customers use when evaluating service quality-tangibles, reliability, responsiveness, assurance, and empathy. Service quality for each dimension is captured by a difference score G (representing perceived quality for that item), where

$$G = P - E$$

and P and E are the average ratings of a dimension's corresponding perception and

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expectation statements respectively (Pitt, Watson, & Kavan, 1995).

Table 2

1.	(IS) employees will be consistently courteous with users.
2.	(IS) employees will have knowledge to do their job well.
3.	These (IS) units will have the users' best interests at heart.
4.	(IS) employees will never be too busy to respond to users' requests.
5.	The employees of these IS units will understand the specific needs of their users.
6.	They (IS) will tell users exactly when services will be performed.

Pitt, Watson, and Kavan (1995) used the SERVQUAL instrument developed by Parasuraman, Zeithaml, and Berry (22) to determine if the instrument could be used in a MIS environment. They assessed SERVQUAL's validity by evaluating its content validity, reliability, convergent validity, nomological and discriminant validity, and a comparison of the factor analyses. They concluded that SERVQUAL passed most of this statistical examination and thus, practitioners could use with confidence the SERVQUAL as a measure of IS success.

Research on the perceived service quality of IS has not been limited to U.S. companies. Kettinger, Lee, and Lee (1997) investigated the cross-national psychometric properties of a behavioral measure of service quality in the IS context. Using a cross-national survey of IS customers from Korea, Hong Kong, the United States, and the Netherlands, perceived service quality was measured using SERVQUAL to determine cultural effects. Confirmatory factor analysis found support for four of the original five SERVQUAL quality dimensions in the U.S.A. and the Netherlands (tangible dimension dropped because none of items loaded on this factor). This same four dimensional measurement model did not fit the Hong Kong and Korea samples. Further analysis indicated that Hong Kong and Korean samples shared a similar factor structure that differs from the shared U.S.A. and Netherlands structure.

These findings supported previous research that has found an "Asian factor?with differing definitions of service quality. The authors suggested that a localized version of SERVQUAL be developed to capture the unique nature of information systems service perceptions in internationally based subsidiaries or companies.

Other researchers dispute the validity of using SERVQUAL to measure IS service quality. Brown, Churchill, Jr. and Peter (1993) dispute the calculation of the differences between expectations and perceptions. They argue that there are some serious problems in conceptualizing service quality as a difference score. Carman (1990) argues that SERVQUAL needs to be customized to the service in question in spite of the fact it was originally designed to provide a generic measure that could be applied to any service. Van Dyke (1997) concluded that SERVQUAL's conceptual difficulties included the operationalization of perceived service quality as a difference or gap score, the ambiguity of the expectations construct, and the unsuitability of using a single measure of service quality across different industries.

To counteract these concerns about the validity of SERVQUAL in an IS context, Pitt, et al, (1997) provided evidence that demonstrated that service quality perceptions-expectations subtraction in SERVQUAL is far more rigorously grounded than Van Dyke, et al, (1997) suggest; that the expectations construct while potentially ambiguous, is generally a vector in the case of an IS department; and that the dimensions of service quality seem to be as applicable to the IS department as to any other organizational setting. Kettinger and Lee (1997) sided with many of the positions taken by Pitt, et al, (1997). They argued from a pragmatic viewpoint that the justification of using SERVQUAL's gap measure should be driven by more effective ways to utilize expectations in IS service management.

SERVPERF

Cronin Jr. and Taylor (1992) suggest that the current conceptualization and operationalization of service quality (SERVQUAL) is inadequate. The authors concluded that the 22 questions relating to

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expectations adequately define the domain of service quality and thus, used the same performance items to examine the proposed alternative to the SERVQUAL scale and in the analyses of the relationships between service quality, consumer satisfaction, and purchase intentions.

The authors investigate the ability of a more concise performance-only scale (SERVPERF) (equation 3) in comparison to three other alternatives: SERVQUAL (equation 1), weighted SERVQUAL (equation 2), and weighted SERVPERF (equation 4).

(1) Service Quality =
     (Performance - Expectations)

(2) Service Quality = Importance
     (Performance - Expectations)

(3) Service Quality = (Performance)

(4) Service Quality = Importance
     (Performance)

The authors conclude that the literature and empirical results both support the SERVPERF approach. SERVPERF scale explains more of the variation in service quality than does SERVQUAL. They continue by saying that SERVQUAL conceptualization is flawed: (1) it is based on a satisfaction paradigm rather than an attitude model and (2) the empirical analysis of the structural model suggests that the SERVQUAL model confirms in only two of the four industries.

CONCLUSIONS

This paper explored the service quality construct. Service orientation of the IS employees was argued to be a critical component of IS service quality. Prescriptive suggestions were given to improve service quality in the IS department (Appendix A). Once flaws in an IS department's service quality have been diagnosed, improvements to service quality must be implemented. Before implementing these improvements the IS department must measure service quality. Two instruments were mentioned as possible tools which could be useful tools to measure service quality. With the advent of instruments like SERVQUAL and SERVPERF, IS managers

have the tools necessary to begin measuring the quality of their service. More research is needed to correct some of the flaws in these measurements. Perhaps too much emphasis has been placed on the merit of the SERVQUAL instrument. Research should focus on developing an instrument that will better measure the aspects of service quality mentioned in the "Improvements to IS Service Quality" section.

In addition to further refinement of measuring service quality, research should be directed toward measuring IS employee's service orientation. If the service orientation of an employee could be measured, this would provide a valuable tool for identifying service orientation in IS pre-hires, as well as provide guidance for the focus of training programs for current employees.

REFERENCE

Bitner, Mary Jo., "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses" Journal of Marketing, 54, April 1990, pp. 69-82.

Bolton, Ruth N. and James H. Drew, "A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes," Journal of Marketing, 55, January 1991, pp. 1-9.

Brown, Tom J., Churchill, Gilbert A. Jr. and J. Paul Peter, "Improving the Measurement of Service Quality," Journal of Retailing, 69:1, Spring 1993, pp. 127-139.

Carman, James M, "Consumer Perceptions of Service Quality: An Assessment of the of the SERVQUAL Dimensions," Journal of Retailing, 66:1, Spring 1990, pp. 33-51.

Churchill, Gilbert A. Jr., "A Paradigm for Developing Better Measures of Marketing Constructs,?Journal of Marketing Research, 16, February 1979, pp. 64-73.

Churchill, Gilbert A. Jr. and Carol Suprenaut, "An Investigation into the Determinants of Customer Satisfaction," Journal of Marketing Research, 19, November 1982, pp. 491-504.

Cohen, Joel B., Fishbein, Martin and Olli T. Ahtola, "The Nature and Uses of Expectancy-Value Models in Consumer Attitude Research," Journal of Marketing Research, 9, November 1972, pp. 456-460.

Cran, David J., "Towards Validation of the Service Orientation Construct,? The Services Industries Journal, 14:1, January 1994, pp. 34-44.
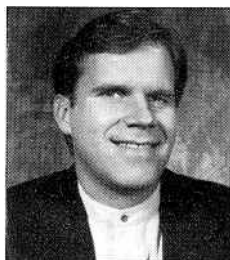
Cronin, J. Joseph and Steven A. Taylor, "Measuring Service Quality: A Reexamination and Extension," Journal of Marketing, 56, July 1992, pp. 55-68.

Dale, A. and S. Wooler, "Strategy and Organization for Service,?in S. W. Brown, E. Gummesson, B. Edvardsson and B. O. Gustavsson (eds.), Service Quality: Multidisciplinary and Multinational Perspectives Lexington, MA: D.C. Heath/Lexington Books, 1991. pp. 191-204.

Danziger, James N., "The 'Skill Bureaucracy?and Intraorganizational Control: The Case of the Data-Processing Unit," Sociology of Work and Occupations, 21:3, 1979, pp. 206-218.

Danziger, James N., Kraemer, Kenneth L., King, Debora E., and John Leslie, "Enhancing the Quality of Computing Service: Technology, Structure, and People," Public Administration Review, 53:2, March/April 1993, pp. 161-169.

Hogan, Joyce, Hogan, Robert, and Catherine M. Busch, "How to Measure Service Orientation.?span style="mso-spacerun: yes"> Journal of Applied Psychology, 69:1, 1984, pp. 167-173.

Hogan, Joyce and Robert Hogan, "How to Measure Employee Reliability? Journal of Applied Psychology, 74:2, 1989, pp. 273-279.

Hogan, Robert, "A New Look at Service Orientation," Paper presented at the Annual Meeting of the Society of Industrial/Organizational Psychology, Montreal, Quebec, Canada, 1992.

Kettinger, William J., Lee, Choong C., and Sunro Lee, "Global Measures of Information Service Quality: A Cross-National Study," Decision Sciences, 26:5, September/October 1995, pp. 569-587.

Kettinger, William J. and Choong C. Lee, "Pragmatic Perspectives on the Measurement of Information Systems Quality," MIS Quarterly, 21:2, June 1997, pp. 223-240.

Mathieson, Gordon J, "Service Orientation: the I/S Department's Lifeline.?span style="mso-spacerun: yes"> Computers in Healthcare, May 1993, pp. 45-47.

Mazis, Michael B., Ahtola, Olli. T. and R. Eugene Klippel, "A Comparison of Four Multi-Attribute Models in the Prediction of Consumer Attitudes," Journal of Consumer Research, 2, June 1975, pp. 38-52.

Oliver, Richard L., "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions,? Journal of Marketing Research, 17, November 1980, pp. 460-469.

Ouellette, L. Paul, "A Formula for I. S. Service," Journal of Systems Management, 45:1, January 1994, pp. 34-35.

Parasuraman, A., Zeithaml, Valerie and Leonard L. Berry, "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," Journal of Retailing, 64, Spring 1988, pp. 12-40.

Pitt, Leyland F., Watson, Richard T., and C. Bruce Kavan, "Service Quality: A Measure of Information Systems Effectiveness," MIS Quarterly, June 1995, pp. 173-187.

Pitt, Leyland F., Watson, Richard T., and C. Bruce Kavan. "Measuring Information Service Quality: Concerns for a Complete Canvas," MIS Quarterly, 21:2, June 1997, pp. 209-222.

Van Dyke, T. P., Kappelman, L. A. and V. R. Prybutok, "Measuring Information Systems Service Quality: Concerns on the Use of the SERVQUAL Questionnaire," MIS Quarterly, 21:2, June 1997, pp. 195-208.

Watson, Richard T., Pitt, Leyland F., and C. Bruce Kavan. "Measuring Information Systems Service Quality: Lessons from Two Longitudinal Case Studies,? MIS Quarterly, March 1998, pp. 61-76.

Woodruff, Robert B., Cadotte, Ernest R. and Roger L. Jenkins, "Expectations and Norms in Models of Consumer Satisfaction," Journal of Marketing Research, August 1983, pp. 305-314.

APPENDIX A

Improvements to IS Service Quality

Service Orientation	1. Treat users with courtesy, consideration, and tact
	2. Be responsive to end users' needs and communicate in language of user
	3. Develop consultative approach to users
	4. Emphasize importance of service orientation to IS unit
	    a. Discuss service orientation in interviewing IS hires
	    b. Demonstrate positive interpersonal skills under stressful conditions
	    c. Cultivate ability to convey and receive non-verbal messages
	5. Partner with users to determine users' preferences, needs, and expectations of service levels (i.e. face-to-face meetings, focus groups, forums with executives)
	    a. Make effort to learn end users' basic business
	    b. Keep end users informed of their project's status

Training/Education (IS providers & IS users)	6. Increase the computing competence of users through education and help from IS personnel 7. Improve existing systems and promote new applications that will help end users 8. Require adequate training of IS personnel to provide quality service to users 9. Regularly discuss users' perceptions of IS service in staff meetings 10. Cultivate continuous communication with users 11. Rate service orientation in individual's performance evaluations 12. Implement reward system to motivate IS personnel to improve service quality
Reward System	13. Work with relevant stakeholders to determine responsiveness of IS department 14. Design service quality processes
Linking IT strategy to business strategy	15. Build service quality on an on-going basis by continually monitoring users' concerns

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