EX-SERVQUAL
An instrument to measure service quality of Extranets

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Abstract

Extranets for business-to-business information sharing and transaction handling are becoming increasingly common. Yet there is limited research into perceptions of service quality when using Extranets. This paper relates the literature on service quality to the developing literature on Extranets and describes the development and piloting of instruments to measure Extranet service quality from a customer and provider perspective. The modified SERVQUAL instrument (Parasuraman, Zeithaml, and Berry, 1988) is cautiously considered useful for evaluating service quality in an Extranet environment. Further research is required to fully test the new instruments and to investigate other issues raised in this paper.

Keywords

Interorganisational systems, Internet technologies, service quality, marketing, e-business.

MOTIVATION FOR THE STUDY

In competitive environments organisations have to take advantage of every opportunity to develop better relationships with customers. Information systems and technologies (IST) are increasingly being used for this purpose. As Abrahamson and Telford (1998) observe:

> Organisations which harness the powerful new benefits of information [technology] to establish intangibles, such as service quality, should enjoy an enhanced and sustainable competitive advantage

> - cited in Lloyd & Boyle (1998) p. 93

One way to use IST to improve customer service is the deployment of an Extranet. An Extranet has been described as a "permeable yet secure commerce enabled network, which electronically links distributed organisations over the Internet in a private forum" (OneSoft, 1998). They are IP networks which allow a company to run web applications for customers, suppliers and trusted partners. They differ from e-commerce retailing in that they are open only to selected, pre-known partners and tend to involve greater information sharing on the part of the host firm.

Extranets first caught on in vertical industries and have been used to automate the supply chain. Strong use is expected in the near future from the finance and health industries (Shein & Neil, 1998). In New Zealand, however, we see strong moves into extranets by Government and quasi-government agencies such as the Ministry of Agriculture and Fisheries. A "generation" in the life of this fast-paced IST area is short. Shein and Neil (1998) describe three generations:

1. *1997-1999 Basic Extranets*: Characterised by a limited number of applications, simple security, and no commerce policies;

2. *1999-2001 Mission-critical Extranets*: Companies participate in multiple extranets with dozens of applications and thousands of trading partners. Early adopters begin to claim market share

3. *2001-2003 Domination of Extranets*: Extranets will impact the market with cost savings to participants. Technology will be well-developed with good security, scalability, and administration

Infonetics Research (1997) is also bullish on Extranets, predicting an estimated 1.3 million Extranet partners using private networks by 2001. As the Internet and its derivatives (Intranets and Extranets) become more popular organisational communication mediums, their impact on intangibles such as service quality need to be understood. Currently, there is little reported research dealing with the success of Extranet systems. This paper addresses this deficiency by conducting a review of service quality literature, relating that literature to Extranet systems, and developing and piloting a survey instrument to measure the service quality of Extranet systems.

SERVICE QUALITY

Leading service providers see quality as a strategic tool. By delivering excellent quality these companies receive benefits including increased growth through improved customer retention and increased customer acquisition (Ferguson & Zawacki, 1993; Buzzell & Gale, 1987). But service quality has proved an elusive and indistinct construct which is difficult to delimit and to measure (Carman, 1990; Cronin & Taylor, 1992; Parasuraman, Zeithaml, & Berry, 1985, 1988). Three characteristics of services contribute to this difficulty: service intangibility, performance heterogeneity, and customer-producer inseparability (Gronroos, 1990; Zeithaml, Berry, & Parasuraman, 1990). These have implications for service quality, in particular, service quality:

- is more difficult for consumers to evaluate than product quality;
- evaluations may be made not only on output but also on the delivery process

We define service quality as the difference between customer's expectations and perceptions of a delivered service This can be stated as:

$$Q = P - E$$

Where Q equals the quality of the service.
P is the perception of the delivered service, and
E is the customer's expectations of the service.

This view is shared by many researchers (see, for example, Gronroos, 1984; Kettinger & Lee, 1994; Pitt, Watson, & Kavan, 1995) but is most fully and clearly explicated in the GAP model of Parasuraman, et al. (1985). The model identifies five potential gaps in a sequential service delivery process:

GAP 1 Customer expectation AND Management perception of that expectation
GAP 2 Management perception AND Service specification
GAP 3 Service specification AND Service delivery
GAP 4 Service Delivery AND External communications which influence expectations
GAP 5 Customer expectations AND Customer perceptions of the delivered service

If at the end of a service interaction, the delivered service (P) does not meet expectations (E), quality (Q) is unacceptable. The objective of the model is to reduce GAP 5 by reducing or eliminating GAPs 1-4.

Kettinger and Lee (1995) proposed a modified version of the GAP model for the IST function in which GAPs 1 and 2 are removed and the remaining GAPs renumbered and renamed to reflect the non-involvement of "management" in determining IST customer expectations. The revised model (Figure 1) alerts IST service providers when:

1. IST providers incorrectly interpret customers expectations of IST services,
2. IST providers fail to deliver to specifications derived from customer expectations, and
3. IST customer's perceptions of the delivered services do not meet their expectations.

Periodic measurement of the new GAP 3 can act as an overall indicator of customer satisfaction with the IST service process. Any shortfall here should trigger an investigation into the causes at the previous two gaps.
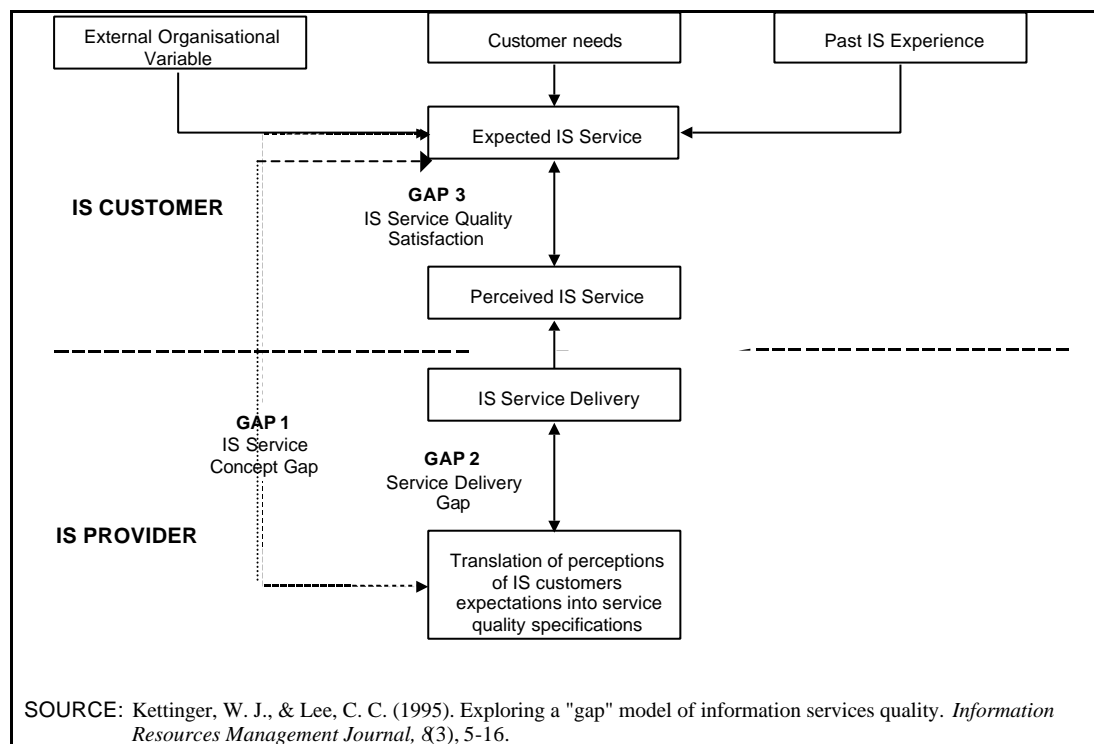

SOURCE: Kettinger, W. J., & Lee, C. C. (1995). Exploring a "gap" model of information services quality. *Information Resources Management Journal, 8*(3), 5-16.

Figure 1: IS GAP Model

Dimensions of Service Quality

To measure service quality, Parasuraman, et al (1985) first identified the dimensions of service quality. These were identified through extensive focus groups and refined through statistical analysis of a pilot instrument. The resultant five dimensions were:

Reliability: The ability to perform a promised service dependably and accurately
Responsiveness: A willingness to help customer and to provide support services
Assurance: The knowledge and courtesy of employees and their ability to inspire trust and confidence
Empathy: The caring, individualised attention a firm provides its customers
Tangibles: The physical facilities, equipment, and appearance of personnel

In the *human-to-human* environment investigated by Parasuraman, et al. (1985) reliability was the foremost dimension used by customer in evaluating service quality, with responsiveness the next most important. Tangibles had the least influence. We can expect the relative importance of these dimensions to change in the virtual or *human-to-person* environment. Full investigation of the dimensions of service quality as applied to Extranet is an aspect of our future research agenda. Next we discuss what we believe to be some of the likely relationships between Extranets and service quality.

EXTRANETS AND SERVICE QUALITY

There is little literature, either practitioner or academic that deals specifically with the quality of Extranet systems. We do find, particularly in the practitioner literature, several claimed benefits of Extranet systems. These include:

>   The creation of market efficiencies both internally and externally through streamlining previously costly business processes;
>   Reduced transaction and administration costs;
>   Improved employee productivity;
>   Improved process efficiencies;
>   Improved business and customer relations; and
>   Automatic initiation of workflow or procedures allowing improved customer productivity
> (Kim, 1998; OneSoft, 1998).

A major driver of Extranet implementation is to develop and nurture the customer relationship (OneSoft, 1998). This is significant because the service management and marketing literature shows that the cost of obtaining a new customer is approximately six-to-seven times that of maintaining an existing relationship (Reicheld & Sasser, 1991). Extranets can foster existing relationships by enabling companies to establish and maintain one-to-one relationships with customers at a very low cost. With Extranets, firms can offer customised experiences that are dynamically generated or modified based on a customer's privileges, preferences, or usage patterns (OneSoft, 1998). But OneSoft is a supplier of Internet commerce software and can be expected to provide biased opinion. We need to look for independent confirmation of the importance Extranets to service quality

In an independent study, Lederer, Mirchandani, and Sims (1998) identified the top ten realised benefits of Extranets (Table 1). The list contains several items which might impact service quality. Items 5 (improve customer relations) and 7 (provide better products and services to customers) directly target service quality. Items 2-4 are also closely related to the dimensions of service quality.

A particular benefit of Extranets to providers is the unprecedented opportunity to capture data on customer preferences. Information entered by customers (e.g., on-line surveys) can be incorporated with information automatically captured by the system (e.g., pages visited, length of viewing, originating site) to provide a comprehensive user profile (OneSoft, 1998). User profiles can be used for focused marketing that will differentiate the firm from its competitors (Cash & Konsynski, 1985; Lederer et al., 1998; McFarlan, 1991).

Table 1: Top 10 Benefits Companies Seek from Extranet Systems

BENEFIT	MEAN
1. Enhance competitiveness or create strategic advantage	5.34
2. Enable easier access to information	5.24
3. Provide new products or service to customers	4.88
4. Increase the flexibility of information requests	4.68
5. Improve customer relations	4.66
6. Enhance the credibility and prestige of the organisation	4.57
7. Provide better products or services to customers	4.49
8. Increase the volume of information output	4.46
9. Align well with stated organisational goals	4.24
10. Enable the organisation to respond more quickly to change	4.23

Service Quality Dimensions and Extranets

To relate the dimensions of service quality to extranets we looked at some reported or claimed benefits and concerns of Extranets and fitted these to the service quality dimensions defined by Parasuraman, et al (1985). These are discussed next.

Reliability: Using back-up systems can help ensure the availability of the Extranet and minimise downtown. Reduced downtime enhances a firm's image as a provider of dependable and accurate service. But reliability also implies accuracy. Information accuracy on Extranets can be enhanced through the use of up-date commands on critical information (Bort & Felix, 1997; OneSoft, 1998; Pfaffenberger, 1998) and regular, scheduled maintenance of other data and links.

Responsiveness: Extranets use Internet technologies for data transfer. Bandwidth on the Internet is much smaller than that provided by VANs and LANs. If data transmission rates do not meet customer expectations they may judge the firm (rather than the system) to be unresponsive (Lederer et al., 1998; Senn, 1998; Sharp, 1998). A firm may also be judged unresponsive if it fails to respond quickly to email or online queries of users.

Assurance: Several authors have questioned the security of Internet-based transactions (Lederer et al., 1998; Senn, 1998; Sharp, 1998), while others defend Extranet security levels (OneSoft, 1998; Kim, 1998). If security precautions do not measure up to expectations trust and confidence will be lost.

Empathy: Extranets enable companies to give customers access to information previously available only to employees (Kim, 1998). Allowing access to privileged and trusted customers could convey a sense of caring, individualised attention. Intelligent use of user profiles, based on preferences and usage patterns, can add to the perception of individualised attention in this *person-to-system* environment.

*Tangible*s: Visually pleasing page presentations and ease of navigation around a site could enhance a company's image and differentiate it from its competitors. Since Extranets operate in a virtual environment, site and page characteristics must construe any tangibles dimension in Extranet mediated service provision.

From our analysis it appears that Extranet mediated service could exhibit all five dimensions of service quality identified in the physical world. As yet, however, this is speculation. We intend to investigate this aspect with a modified version of the IS-SERVQUAL.

SERVQUAL and IS-SERVQUAL

To measure service quality across the five dimensions, Parasuraman, et al. (1985) developed and validated a 22-item instrument which they called SERVQUAL. The instrument has been widely accepted but is not without criticism. Conceptual difficulties include the operationalisation of perceived service quality as a difference or gap score (Cronin & Taylor, 1992, 1994), the ambiguity of the expectations construct (Teas, 1993, 1994), and the unacceptability of using a single generic measure of service quality across different industries (Babakus & Boller, 1992; Carman, 1990). While the instrument continues to be critiqued and improved, it remains the pre-eminent instrument within marketing practice and research for assessing service quality (Kettinger & Lee, 1994). Fisk, Brown, & Bitner (1993) examined seven studies in the marketing literature that debated the usefulness of SERVQUAL and concluded that the instrument is a good predictor of overall service quality. As a result of this and due to SERVQUAL's established reliability and validity, we chose this as the base instrument for this study.

Several industry-specific versions of SERVQUAL have been created, including two for provision of information systems services within organisations. Kettinger and Lee (1994) modified the 1991 version of SERVQUAL while Pitt, et al. (1995) modified the 1988 version. Both modifications involved only word changes to reflect the IST environment. The instrument used in this study is the modified version of IS-SERVQUAL developed by Pitt, et al. (1995). Like them, our development involved only word changes to reflect the specific application environment as described next.

METHODOLOGY

The broader study to which the current study belongs has three main objectives:

1. To determine pre-implementation expectations of IS managers regarding Extranet technologies and whether these are met by implementations;
2. To determine the expectations of customers regarding Extranet technologies and whether these are met by system use;
3. To determine the extent of agreement between IS Manager's and customers' perceptions of service quality on each dimension and on overall service quality

In this paper, we report on the development and piloting of the two survey instruments required to test these objectives. Surveys are preferred over other research methods because of their economy of design, the rapid turnaround in data collection, and the ability to identify attributes of a population from a small sample (Fowler, 1988). Two survey instruments are required. The first to be distributed IS Managers, the second to customers. Results from the IS manager's survey will be compared against results from the customer's survey to indicate possible gaps.

Instrumentation

The IS manager's survey instrument was developed after an analysis of service quality and Extranet literature (Kim, 1998; Lederer et al., 1998; OneSoft, 1998; Parasuraman et al., 1988). This instrument contains items designed to establish the major drivers for Extranet implementation and measure expectations and performance (Appendix I).

The customer (user) survey is based on the previously validated IS-SERVQUAL of Pitt, et al. (1995). Only slight word changes were made to shift the focus from information services to Extranet systems. IS-SERVQUAL, like its predecessor (SERVQUAL) was designed to measure service quality in *human-to-human* interactions but Extranets involve *human-to-system* interactions with varying degrees of human input. EX-SERVQUAL contains general questions that can incorporate both the human and systems aspects of service quality. No attempt is made to distinguish between these as this would detract from the purpose of measuring overall service quality of an Extranet system. EX-SERVQUAL is shown in Appendix II.

A large government agency was used to pilot the survey. Instruments were emailed to one IS manager and four customers nominated by this manager. Descriptive statistics were performed on returned surveys to gauge the instrument's ability to determine the size and directions of hypothesised gaps. The results are presented and discussed in the next section.

PILOT INDICATORS

This section presents data from survey responses in the pilot test. Items are measured on a seven point Likert scale, with a score of one indicating that the respondent strongly disagrees and score of seven indicating they strongly agree. The GAP is obtained by subtracting expectations from perceptions ($Q = P - E$), so a positive value represents quality while a negative value represents a shortfall. The smallness of the sample size means that no generalisations can be made, but from the pilot indicators and the literature, hypotheses could be derived.

Customer Responses

Customer responses are shown in Table 2. Indicators of individual items within customer expectations varied, but all rated above the mid-point of 4. Indicators for customer perceptions were also quite strong, though in this case some items were below the mid-point. The largest GAP (-1.2) was for reliability of the Extranet. Only on one dimension, Assurance, did perceptions approximate expectations.

Table 2: Means, Ranges and Gaps for Customer's Responses

	Expectations		Perceptions		GAP
	Range	*Mean*	*Range*	*Mean*	*P-E*
Reliability	5.6-6.6	6.1	3.6-5.8	4.9	-1.2
Responsiveness	5.3-6.0	5.5	4.0-5.3	4.8	-0.7
Assurance	4.3-6.0	4.9	4.8-5.3	5.0	0.1
Empathy	4.6-6.0	5.2	3.8-5.2	4.5	-0.7
Tangibles	5.0-6.0	5.6	4.0-5.5	4.8	-0.8
				Overall Service Quality	0.66

IS Manager's Responses

The IS manager was asked to rank four potential drivers for implementing the Extranet:

1. to reach more customers,
2. to improve customer services,
3. to gain marketing information, and
4. other reasons.

The most important drivers in the pilot organisation were to *reach more customers* and to *improve customer service*. Each received a score of 6 out of 7. Gaining marketing information was not important for this government agency which provides complex information to importers and exporters. The IS manager considered the Extranet "moderately successful" in both reaching more customers and improving customer service (4 out of 7 in both cases). Overall she felt the Extranet had fulfilled her pre-implementation expectations.

The IS manager was also asked to rank her expectations and preceptions on the five dimensions of service quality identified by Parasuraman, et al. (1985) Results are shown in Table 3.

Table 3: IS Manager's Response

	Expectations	*Perceptions*	*GAP P-E*
Improve Reliability	5.0	5.0	0
Improve Responsiveness	6.0	5.0	-1
Improve Assurance	6.0	5.0	-1
Improve Empathy	6.0	4.0	-2
Improve Tangibles	6.0	6.0	0

For four of the five dimensions (responsiveness, assurance, empathy, and tangibles) the IS Manager's expectations were greater than those of customers. For the fifth (reliability) the IS Manager's expectations were lower. Results for perceptions differed with the IS Manager ranking three higher (reliability, responsiveness, and tangibles), one lower (empathy), and the fifth (assurance) the same.

When we look at the GAP analysis, we find that the IS Manager scored a zero GAP for Reliability and Tangibility, yet these were the two largest GAPs recorded by users. Assurance which got a positive quality response from users, was considered by the IS Manager to have a moderate GAP. While the sample size provides insufficient data to support generalisations, indications are that gaps in the expectations and perceptions of both the customers and IS Managers will occur, but not necessarily in the same places.

CONCLUSION

The late 1990s have seen a growth in the number of firms establishing Extranets to foster relationships with external customers. Extranets can impact the competitiveness of an organisation, but little has been reported on their impact on service quality and we know of no instrument to reliably measure it. This study sought to address this by conducting a review of service quality literature, relating that literature to Extranet systems, and developing and piloting a survey instrument to measure the service quality of Extranet systems.

The user instrument (EX-SERVQUAL) was able to identify gaps in service delivery across the five service quality dimensions: reliability, responsiveness, assurance, empathy, and tangibles. Respondents in the pilot survey were asked to comment on the survey instruments. Only two suggested improvements were received. (1) Provide a definition of an Extranet. This respondent commented that he was an "average" user of the Internet and did not understand the terminology being used. (2) Differentiate questions. This respondent commented on the similarity of some EX-SERVQUAL items and recommended the inclusion of an explanation of the distinction and a warning that there might be similar sets of questions with different emphases. However, no indication was given as to which items he considered

similar. These comments will be taken into account in future developments of EX-SERVQUAL. While initial indications are that the new instrument could be used to identify gaps in Extranet service quality, the reliability and validity of the instrument has yet to be fully tested.

The IS Managers' instrument contains Likert scale questions and some yes/no items. In commenting on the instrument, our respondent indicated that she wanted to expand on some yes/no answers. Overall, she considered the instrument clear and straightforward to use.

The pilot study was limited to a few Extranet-activated customers in a single organisation in New Zealand. When we conducted the pilot no clear idea of the number of companies implementing Extranets in New Zealand. Consequently a convenience sample was used. The number of Extranets is growing and we have several organisations lined up for the next phase of our study. Several further research questions are being considered or studied by us. What are the business justifications of Extranet implementations and are these being met? To what extent do the dimensions of service quality in the *human-to-human* sphere transfer to the virtual environment? Can EX-SERVQUAL be used to measure service quality on Intranet and retail Internet sites? With the anticipated explosive growth of Internet technologies in general and Extranet sites in particular, these are important questions.

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APPENDIX I IS Manager Survey

This questionnaire attempts to determine the business justification behind the implementation of the Extranet system from the IS manager's point of view and whether goals were achieved. It also seeks to determine whether the IS manager's expectations of the Extranet's impact on service quality were achieved.

Q1a What were the main reasons for implementing an Extranet system?

	Not Important → Important
(A) To reach more customers	1--- 2--- 3--- 4---5--6---7
(B) To improve customer service	1--- 2--- 3--- 4---5--6---7
(C) To gain marketing information	1--- 2--- 3--- 4---5--6---7
(D) Other (Please Specify) _____	1--- 2--- 3--- 4---5--6---7

Q1b How successful were you in achieving the main reason for Extranet implementation?

	Not Successful → Very Successful
(A) Reaching more customers	1--- 2--- 3--- 4---5--6---7
(B) Improving customer service	1--- 2--- 3--- 4---5--6---7
(C) Gaining marketing information	1--- 2--- 3--- 4---5--6---7
(D) Other (As above) _____	1--- 2--- 3--- 4---5--6---7

Q1c Has the Extranet fulfilled your expectations?   Yes   No

Q2a Did you expect your Extranet to

	Strongly disagree → Strongly agree
(A) Improve data reliability between you and your customer	1--- 2--- 3--- 4---5--6---7
(B) Improve overall responsiveness to customers	1--- 2--- 3--- 4---5--6---7
(C) Create a sense of trust and confidence in the organisation	1--- 2--- 3--- 4---5--6---7
(D) Improve our relationship with customer	1--- 2--- 3--- 4---5--6---7
(E) Convey the essence of the organisation's image	1--- 2--- 3--- 4---5--6---7

Q2b How do you perceive your Extranets impact on

	Strongly disagree → Strongly agree
(F) Improving data reliability between customer and supplier	1--- 2--- 3--- 4---5--6---7
(G) Improving responsiveness to customer requests	1--- 2--- 3--- 4---5--6---7
(H) Improving company appearance	1--- 2--- 3--- 4---5--6---7
(I) Responding to customer needs	1--- 2--- 3--- 4---5--6---7
(J) Displaying the essence of the organisation's image	1--- 2--- 3--- 4---5--6---7

Q3 Overall, how would you rate the quality of service provided by the Extranet?

	Poor → Excellent
	1--- 2--- 3--- 4---5--6---7

Q4   Do you feel the Extranet helps in providing a competitive advantage?   Yes   No

If Yes, why? _____ .

_____ .

_____ .

If No, why not? _____ .

_____ .

_____ .

Q5   Do you track customer-purchasing preferences?   Yes   No

If yes for what purpose? _____ .

_____ .

_____ .

If No, why not? _____ .

_____ .

_____ .

Thank you for your time.

Please mark and return the survey
ATTN: Dr. Beverley Hope
Fax number 04 496-5446

APPENDIX II: EX-SERVQUAL Instrument

Service Quality Expectations

Directions: This survey deals with your opinion of the Extranet provided by **X**. Based on your experiences as a user, please think about the kind of Extranet that would deliver excellent quality of service. Think about the kind of Extranet with which you would be pleased to do business. Please show the extent to which you think such an Extranet would possess the feature described by each statement. If you strongly agree that these Extranets should possess a feature, circle 7. If you strongly disagree that these units should possess a feature, circle 1. If your feeling is less strong, circle one of the numbers in the middle. There are no right or wrong answers - all we are interested in is a number that truly reflects your expectations about Extranets.

Please respond to **ALL** the statements

		Strongly Disagree — Strongly Agree
El	The Extranet will have up-to-date software	1--- 2--- 3--- 4---5---6---7
E2	The Extranet's displays will be visually appealing	1--- 2--- 3--- 4---5---6---7
E3	The Extranet's pages will be uncluttered and neat in appearance	1--- 2--- 3--- 4---5---6---7
E4	The appearance of the Extranet pages will be representative of the services being provided	1--- 2--- 3--- 4---5---6---7
E5	When the organisation promises to do something on the Extranet by a certain time, it will do so	1--- 2--- 3--- 4---5---6---7
E6	The Extranet will have a user friendly and detailed help function	1--- 2--- 3--- 4---5---6---7
E7	The Extranet will be dependable i.e. have minimal downtime	1--- 2--- 3--- 4---5---6---7
E8	The Extranet will provide its services by the times it promises to do so	1--- 2--- 3--- 4---5---6---7
E9	The Extranet will contain accurate information	1--- 2--- 3--- 4---5---6---7
E10	The Extranet users will be given an indication when services will be performed	1--- 2--- 3--- 4---5---6---7
E11	The Extranet will give users prompt service	1--- 2--- 3--- 4---5---6---7
E12	The organisation will always provide support Extranet users	1--- 2--- 3--- 4---5---6---7
E13	The Extranet will never be too busy to respond to users' requests	1--- 2--- 3--- 4---5---6---7
E14	The behaviour of the Extranet will encourage confidence from users	1--- 2--- 3--- 4---5---6---7
E15	Users will feel safe in their transactions with the Extranet	1--- 2--- 3--- 4---5---6---7
E16	The Extranet language and format will imply courtesy	1--- 2--- 3--- 4---5---6---7
E17	The Extranet will have the content and functionality to perform its job well	1--- 2--- 3--- 4---5---6---7
E18	The Extranet will customised by the organisation to provide individual attention	1--- 2--- 3--- 4---5---6---7
E19	The Extranet will have operating and support hours convenient to all their users	1--- 2--- 3--- 4---5---6---7
E20	The Extranet will have employees who give users personal attention	1--- 2--- 3--- 4---5---6---7
E21	The Extranet will have the users' best interests at heart	1--- 2--- 3--- 4---5---6---7
E22	The Extranet will understand the specific needs of its users	1--- 2--- 3--- 4---5---6---7

Service Quality Perceptions

Directions: The following set of statements relates to your feelings about **X**'s Extranet. For each statement, please show the extent to which you believe **X**'s Extranet has the feature described by the statement. Once again, circling a 7 means that you strongly agree that **X**'s Extranet has that feature, and circling 1 means that you strongly disagree. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers - all we are interested in is a number that best shows your perceptions about **X**'s Extranet.

Please respond to **ALL** the statements

		Strongly Disagree	Strongly Agree
P1	The Extranet has up-to-date software	1--- 2--- 3--- 4---5---6---7	
P2	The Extranet's displays are visually appealing	1--- 2--- 3--- 4---5---6---7	
P3	The Extranet's pages are uncluttered and neat in appearance	1--- 2--- 3--- 4---5---6---7	
P4	The appearance of the Extranet's pages is representative of the services being provided	1--- 2--- 3--- 4---5---6---7	
P5	When the organisation promises to do something on the Extranet by a certain time, it does so	1--- 2--- 3--- 4---5---6---7	
P6	The Extranet has a user friendly and detailed help function	1--- 2--- 3--- 4---5---6---7	
P7	The Extranet is dependable and has minimal downtime	1--- 2--- 3--- 4---5---6---7	
P8	The Extranet provides its services by the times it has promised to do so	1--- 2--- 3--- 4---5---6---7	
P9	The Extranet contains accurate information	1--- 2--- 3--- 4---5---6---7	
P10	The Extranet users are given an indication when services will be performed	1--- 2--- 3--- 4---5---6---7	
P11	The Extranet provides users with prompt service	1--- 2--- 3--- 4---5---6---7	
P12	The organisation always provides support Extranet users	1--- 2--- 3--- 4---5---6---7	
P13	Extranet is never too busy to respond to users' requests	1--- 2--- 3--- 4---5---6---7	
P14	The behaviour of Extranet encourages confidence from users	1--- 2--- 3--- 4---5---6---7	
P15	Users feel safe in their transactions with the Extranet	1--- 2--- 3--- 4---5---6---7	
P16	The Extranet language and format implies courtesy	1--- 2--- 3--- 4---5---6---7	
P17	The Extranet has the content and functionality to perform its job well	1--- 2--- 3--- 4---5---6---7	
P18	The Extranet is customised and provides individual attention	1--- 2--- 3--- 4---5---6---7	
P19	The Extranet has operating and support hours convenient to all its users	1--- 2--- 3--- 4---5---6---7	
P20	The Extranet has employees who give users personal attention	1--- 2--- 3--- 4---5---6---7	
P21	The Extranet has the users' best interests at heart	1--- 2--- 3--- 4---5---6---7	
P22	The Extranet understands the specific needs of its users	1--- 2--- 3--- 4---5---6---7	

Now please complete the following:	Poor	Excellent
P23 **Overall**, how would you rate the quality of service provided by the Extranet? Please indicate your assessment by circling one of the points on the scale below	1--- 2--- 3--- 4---5---6---7	