

Can't get no satisfaction?

USING A GAP APPROACH TO MEASURE SERVICE QUALITY

The Accounts Commission is a statutory, independent body, which, through the audit process, assists local authorities and the health service in Scotland to achieve the highest standards of financial stewardship and the economic, efficient and effective use of their resources.

The Commission has five main responsibilities:

- securing the external audit
- following up issues of concern identified through the audit, to ensure satisfactory resolutions
- reviewing the management arrangements which audited bodies have in place to achieve value for money
- carrying out national value for money studies to improve economy, efficiency and effectiveness in local government and the NHS
- issuing an annual direction to local authorities which sets out the range of performance information which they are required to publish.

The Commission secures the audit of 32 councils, 34 joint boards (including police and fire services), 15 health boards, 28 NHS trusts and six other NHS bodies. Local authorities spend over £9 billion of public funds a year and the NHS in Scotland spends over £4 billion.

This is one in a series of management papers being produced by the Management Studies Unit at the Accounts Commission for Scotland. These papers are intended to support best practice in public sector management.

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Introduction

" A focus on the customer is central to Best Value." (SODD 1999)

Local authorities - and most other public sector bodies in the UK - have not been immune from the revolution that has swept through the commercial service sector over the past few years. In the private sector, customer satisfaction and loyalty - secured through high quality products and services which meet customer needs and which provide value for money - are seen as essential for survival, let alone success. Organisations operating in the public sector have also come to realise that they must ensure their services are soundly based on the needs and expectations of their communities, citizens and customers and that they are seen by customers and stakeholders alike as providing service quality.

Best Value emphasises the importance of ensuring a customer/citizen focus across all services. The Commission's Performance Management and Planning audit sets out key criteria of a best value service. The first of these is *understanding the needs, expectations and priorities of all stakeholders*.

Local authorities in Scotland are already engaged in a variety of innovative approaches to capture the "voice of the customer" - local area forums, citizens' juries etc. Increasingly, many authorities are conducting market research surveys of one form or another. These are often a useful first step for services trying to capture data on current levels of customer satisfaction with services.

However, many such surveys tend to focus on customer *perceptions* of service - measuring what the customer thinks of the service they are currently getting. This is important but such a survey rarely provides customers with the opportunity of articulating their *expectations* of service delivery. Without adequate information on both customer expectations and perceptions then feedback from customer surveys can be highly misleading from a strategic and an operational perspective.

This management paper describes a survey approach to measuring service quality known as *gap analysis*. This can help managers to measure what their customers expect, what customers think of what they currently get and any gaps between the two. This provides valuable information to help the manager identify, and prioritise, improvements to service quality.

The paper demonstrates the approach with examples from Scottish authorities that have used this approach in individual service areas. The Commission is grateful to the staff involved in those councils for making the survey data available.

An article in the 'Financial Times' indicated that spending on market research in the UK in 1994 exceeded £0.5 billion and that some 13% of this related to spending on market research by public sector organisations.

When satisfaction isn't enough

"The limitation of this market research, however, is that it has tended to focus on satisfaction with existing services rather than identifying customers' needs, whether these are being met, and if not what steps the authority might take to fulfil them."

Skelcher

Many customer surveys focus, understandably, on measuring customer satisfaction with specific aspects of service provision. A leisure service, for example, may wish to assess customer satisfaction with its opening hours. While the results from this type of question often offer comfort to service managers - *"87% of users indicated that they were either satisfied or very satisfied with our opening hours"* - they are of little use in trying to assess whether customers' needs and expectations are actually being met.

Because we have no *explicit* measure of customers' expectations of service, it is difficult to interpret their responses in any definitive way. If opening hours are a key aspect of service for customers then, despite an apparently high satisfaction score, we might still be failing to meet customers' expectations of us in this context.

More importantly, based on these results alone we might prioritise performance improvements inappropriately because we have an incomplete picture of customer expectations. For example, suppose in the same survey 67% of users expressed satisfaction with the leisure centre's changing facilities. At face value, it appears that we need to improve our performance in relation to changing facilities rather than to opening hours since the former's satisfaction score is lower. However, it may be that changing facilities are not a particularly important feature of service for customers so, from their perspective, a lower level of satisfaction with this aspect of service is not problematic. On the other hand, opening hours may be a critical aspect of service and, despite an apparently high satisfaction score, we might still be failing to meet these customers' expectations of us in this context. Without an explicit measure of customer expectations it is difficult to interpret and evaluate such satisfaction scores.

Why is it important to understand expectations?

"Finding out what customers expect is essential to providing service quality."

Zeithaml and Bitner

For the reasons outlined in the previous sections, measuring customer expectations of service is becoming increasingly important. There are a number of different 'definitions' as to what is meant by service quality. One that has found considerable support (see Appendix 2) argues that customers assess service quality by comparing their expectations of service with their perceptions of service received.

Exhibit 1: The service quality gap



"Without understanding customers, there can be no true customer satisfaction."

Thiagarajan and Zairi

Service quality occurs when these expectations are met (or exceeded). Service quality fails to be achieved when expectations are not met and a service gap materialises. This has major implications for surveys into customer satisfaction since it implies that we must measure not only customer perceptions of our service but also their expectations of service against key service characteristics. It is only by explicitly assessing expectations as well as perceptions that we can determine whether there are any service quality gaps in terms of the services we provide. In the context of our earlier example of a leisure centre, we need two related questions on opening hours. One of the form:

An excellent leisure service will have opening hours that are convenient to you						
Strongly disagree			Strongly agree			
1	2	3	4	5	6	7

which will capture customer expectations of this particular aspect of service and:

Newtown council's leisure service's opening hours are convenient to you						
Strongly disagree			Strongly agree			
1	2	3	4	5	6	7

which will provide us with information on what the customer perceives they currently get from our service. With this information from the survey we can then arithmetically calculate an average (mean) gap score for this aspect of service. If we use E to represent the expectations score and P to represent the perceptions score we then have the gap score, G, as:

$$G = P - E$$

That is, the gap score is the perceptions score minus the expectation score. For example, suppose our customer scored expectations as 6 and perceptions as 4 we would then have a gap score:

$$G = 4 - 6 = -2$$

A negative gap score implies that customer expectations are not being met. Clearly, the larger the gap score the larger the gulf between what the customer expected from us and what they felt they actually received. With a 7-point scoring scale then the gap score could vary from -6 to +6 with zero implying expectations were met exactly.

Such gap scores are likely to be negative for most services - public and private sector alike. For a variety of reasons it may be impractical to seek to exceed customer expectations. It may be too costly in terms of the required resources, some expectations may not be realistically achievable, expectations may have risen over time. However, information on levels of customer expectations can help managers understand what customers actually expect of a particular service. Similarly, information on service quality gaps can help managers identify where performance improvement can best be targeted. Equally, if gap scores in some areas do turn out to be positive, this allows managers to review whether they may be 'over-supplying' this particular feature of the service and whether there is potential for re-deployment of resources into features which are under-performing.

"It is usual for ... scores to be negatives values. Better quality is therefore indicated by 'less negative' scores."

Dotchin and Oakland

"Sometimes organisations make assumptions about what is important to the customer. Once they probe they may discover that what the customer values is quite different."

Farquahar

Exhibit 2: Library services

The library services department of one Scottish council applied gap analysis by surveying a sample of its users.

One of the questions asked related to how easy it was to understand the publicity and promotional literature used by the library. A 7-point scale was used where 1 represented poor performance and 7 excellent performance. Those responding to the survey gave a mean score to the Library service of 5.7. Another question asked whether people felt the collection of books was sufficiently wide-ranging and balanced. Here, the mean score was 5.9.

Initially, it appeared from these results that library users are more satisfied with the book collection than they are with the publicity material. However, without an understanding of customer expectations this can be quite misleading. Because the library had incorporated questions about user expectations of service against these two aspects they were able to determine the gap scores:

Service feature	Mean expectation score	Mean perception score	Mean gap score
Publicity and promotional material	6.1	5.7	-0.4
Book collection	6.8	5.9	-0.9

What the service found was that - from the customers' perspective - there was a larger gap in terms of the 'quality' of the book collection than for the promotional literature (the two gap scores were statistically significantly different). This arose in spite of the fact that perceived 'satisfaction' was higher for the collection aspect than for the publicity material aspect of the service. What becomes clear is that customers have particularly high expectations in the context of the book collection and because of these high expectations there is a larger gap between what they expect and what they feel they actually receive.

This enabled managers to base improvement plans on those areas where the service quality gap is largest in relation to customer expectations.

Refer to Appendix 1 on interpreting and assessing sample results if you are not familiar with the ideas of statistical inference.

The dimensions of service quality

“Service companies frequently produce questionnaires and use them to assess customer satisfaction and service quality. Although valuable, each emphasises the idiosyncrasies of a particular organisation and so presents problems for generalisation.”
Dotchin and Oakland

Clearly, the concept of gaps scores is a useful one for a service manager since these provide information on customer expectations, perceptions of service received and any gaps between the two. However, one of the problems for managers in designing a customer questionnaire is to decide which aspects of service should be examined. Without some form of framework, questionnaires are in danger of becoming an unstructured collection of unrelated questions. The results from such a survey may well be difficult to assess in terms of performance improvement issues.

One framework can be provided by considering what are referred to as the *determinants* of service quality - the general criteria used by customers to assess the quality of service they expect and receive regardless as to what the service actually is.

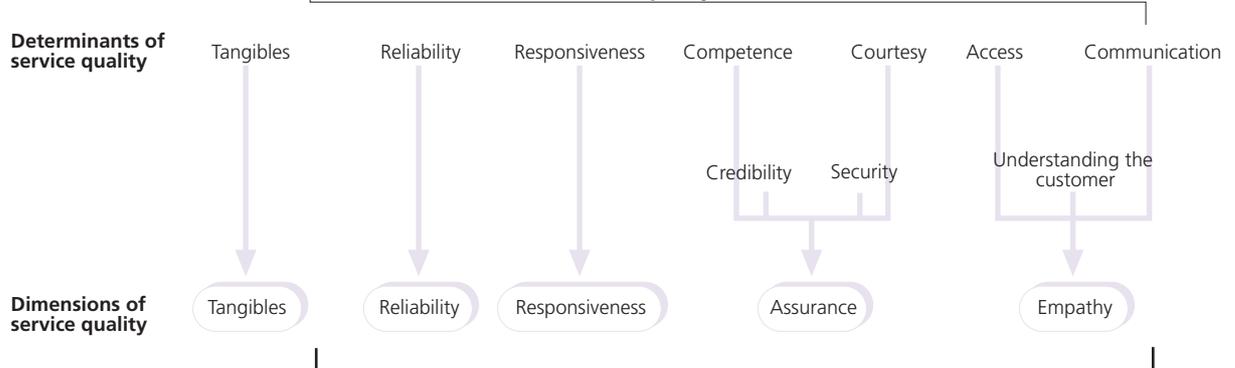
There are ten general *determinants* of service quality that are relevant to most services.

Exhibit 3: Determinants of service quality

Determinant	Examples
1 Access the ease and convenience of accessing the service	neighbourhood offices; one stop shops; convenient operating hours; 24 hour telephone access; internet access
2 Communication keeping customers informed in a language they understand; listening to customers	'plain English' pamphlets and brochures; communication material tailored to the needs of individual groups (ethnic minorities, visually impaired etc.); suggestions and complaints systems
3 Competence having the skills and knowledge to provide the service	all staff knowing, and able to do, their job
4 Courtesy politeness, respect, consideration, friendliness of staff at all levels	staff behaving politely and pleasantly
5 Credibility trustworthiness, reputation and image	the reputation of the service in the wider community; staff generating a feeling of trust with customers
6 Reliability providing consistent, accurate and dependable service; delivering the service that was promised	standards defined in local service charters; accuracy of records; accuracy of community charge bills; doing jobs right first time; keeping promises and deadlines
7 Responsiveness being willing and ready to provide service when needed	resolving problems quickly; providing appointment times
8 Security physical safety; financial security; confidentiality	providing services in a safe and secure manner
9 Tangibles the physical aspects of the service such as equipment, facilities, staff appearance	up-to-date equipment and facilities; staff uniforms
10 Understanding the customer knowing individual customer needs; recognising the repeat customer	tailoring services where practical to meet individual needs

For practical purposes these ten determinants are often condensed further into five *dimensions* of service quality, based on the work of Parasuraman et al. (see Appendix 2).

Exhibit 4: Dimensions of service quality



Dimension	Description
<i>Tangibles</i>	the physical facilities and equipment available, the appearance of staff; how easy it is to understand communication materials
<i>Reliability</i>	performing the promised service dependably and accurately
<i>Responsiveness</i>	helping customers and providing a prompt service
<i>Assurance</i>	inspiring trust and confidence
<i>Empathy</i>	providing a caring and individual service to customers

Through the design of an appropriate gap questionnaire (see Appendix 2), information on the relative importance of the five dimensions from the customers' perspective can be obtained. Respondents are asked to assign a score to each of the dimensions (totalling to 100). This allows an understanding of the priorities between the overall service quality dimensions.

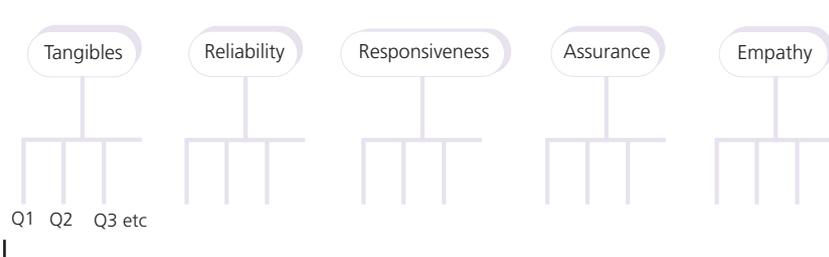
Exhibit 5: Gap weights

A number of different services have applied the gap approach. The table below shows the relative importance (out of 100) for each dimension in each service. It can be seen that the importance attached to each dimension by customers can vary markedly from service to service, with considerable differences in customer priorities. For Tangibles, for example, the weight varies from 12% in a development control service to 25% for grounds maintenance.

Dimensions	Catering service	Development control	Grounds maintenance	Housing repairs	Leisure services	Library service
Tangibles	20	12	25	15	23	18
Reliability	30	31	29	25	21	23
Responsiveness	20	22	16	22	19	22
Assurance	15	21	15	19	20	21
Empathy	15	14	15	19	17	16

The five generic dimensions can be useful in another way. One of the difficulties of designing a questionnaire is trying to decide which questions to ask. These five dimensions can serve as a useful framework. While by no means universal, these five dimensions can be used to help structure a survey questionnaire and assess the resulting information. Under each of the five dimensions we can construct appropriate questions for customers to respond to. Each set of questions under a particular dimension can then be designed to capture specific features of that dimension. Appendix 2 provides details of a standardised set of questions that can be adapted to specific services.

Exhibit 6: Dimensions of service quality



The use of such service quality dimensions allows managers and other stakeholders to develop an understanding of the relative performance of the service across these dimensions. We are able to see, for example, whether expectations are higher in the Reliability dimension for a particular service or for Responsiveness. We can also see where service quality gaps are largest. A more focused examination of particular dimensions is then possible by looking at the individual questions making up each dimension.

Exhibit 7: Housing services

Housing services in one Scottish council which has applied the gap approach identified four specific aspects of service that were felt to be important under the Tangibles dimension:

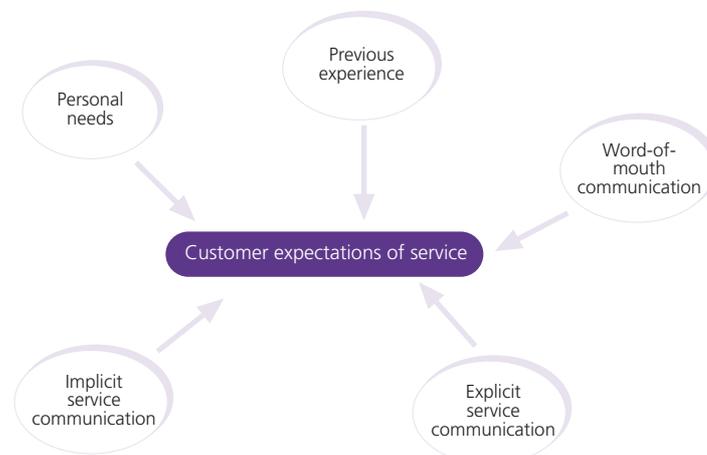
- having up-to-date equipment for use in the service
- the physical appearance of facilities (offices and accommodation)
- the appearance of staff
- the design of written materials (leaflets and forms) in terms of their ease of understanding.

The gap survey questionnaire included four carefully worded questions designed to capture information on customer expectations and perceptions against these specific aspects and so allow assessment of any service quality gaps both across the Tangibles dimension as a whole and its constituent aspects.

How are customer expectations formed?

Given the importance of understanding customer expectations in order to deliver service quality, it is also clearly important to understand how such expectations might be formed. Customer expectations will be formed or influenced as a result of many factors but it can be useful to view these factors as in Exhibit 8.

Exhibit 8: Sources of customer expectations



"Most crimes victims do not place the arrest of the offender and recovery of stolen property high on their list. They laid more stress on sympathy and reassurance; promptness in keeping appointments; competent following up of enquiry; provision of advice and information; being kept informed of progress."

Finnimore

Personal needs

Any customer will have what they regard as a set of key personal needs which they expect the service to address. Clearly these will vary from service to service and - importantly - from customer to customer. An inadequate understanding by the service of these personal needs will make it difficult to design an appropriate service.

Previous experience

Some customers - many for some services - will be 'repeat' customers in the sense that they have used this service before. Their previous experience as a customer will, in part, influence their expectations of future service. One customer, for example, may have low expectations because of previous poor service. Another may have high expectations because the service quality last time was high. However, customers may also use their previous experience of other organisations in this context. If I telephone the council's finance department with an enquiry about my council tax bill, my expectations may be influenced by my previous experience with my bank, building society, insurance company, utility company or even my postal book club.

Word of mouth communications

Customers will have their expectations shaped in part by word-of-mouth communications about the service and the service provider. Effectively, this relates to communication from sources other than the service provider itself. Friends,

family, colleagues are obvious sources in this context. Equally, the media may be a source of such communication as may other organisations such as inspection and audit agencies and central government. An important question for a service is: *do you know what others are saying about your service?*

Explicit service communications

Explicit service communications relate to statements about the service made by the service itself. Such statements may come from service staff (the social worker, home help, headteacher) or from the service in the form of leaflets, publicity and marketing material.

Implicit service communication

Implicit service communication may lead the customer to make inferences about service quality. A newly renovated library building (Tangibles) may lead the customer to assume that other aspects of service quality will be high (for example, Reliability). Similarly, a leisure centre visibly in need of redecoration may lead to inferences about service quality gaps in other dimensions.

From a service management perspective, it is clearly important to understand what the key influences on your customers' expectations are. Equally, it is important to identify how the service might influence customer expectations of service through its formal and informal communications - for example, through brochures, leaflets, service charters, public performance reports.

Making use of the dimensions and gaps

There are a number of different ways in which service managers can use the information arising from gap analysis. These include:

- understanding current service quality
- comparing performance across different customer groups
- comparing performance across different parts of the service
- understanding the internal customer
- comparing performance across services
- assessing the impact of improvement initiatives.

Understanding current service quality

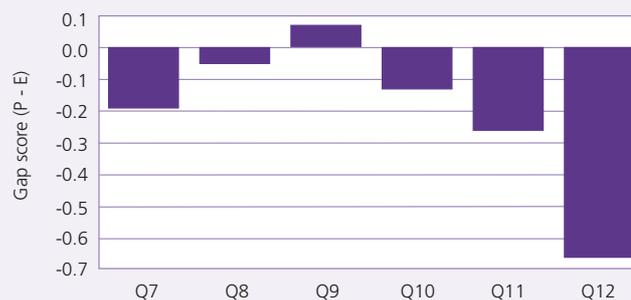
The first, and obvious, use of such data is to enable the service manager to assess current service quality and identify any gaps that exist. Use of the service quality dimensions will allow an understanding of the broad areas where customers have particularly high - or low - expectations and an assessment of where there may be relatively large gaps. A further breakdown of a dimension into its constituent questions will then allow further focusing on particular problem areas. This will help managers identify where performance improvement is most needed in order to better meet customers' expectations.

Exhibit 9: Library services

A library service obtained gap scores across the five service dimensions:

Dimension	Gap score
Tangibles	-0.25
Reliability	-0.20
Responsiveness	+0.11
Assurance	+0.29
Empathy	+0.01

The gap scores for two of the five dimensions were positive (that for Empathy was not statistically significantly different from zero) implying that customer expectations were actually exceeded by the service provided - the library service was doing better in these areas than people had expected. There were two dimensions however, Tangibles and Reliability, where gap scores were negative indicating customer expectations were not being met. This enabled managers to focus on where service improvements needed to be considered. Further prioritisation was possible by examining the level of expectations across these two dimensions. Mean expectations for Tangibles was 5.7 but 6.1 for Reliability indicating that customers generally had higher expectations of the service across the Reliability features. The final stage was to examine the individual questions making up the Reliability dimension. The gap scores for the six questions that made up this dimension for this service are shown below. It was clear that the largest service quality gap in this dimension by far was for question 12. This related to the library having reliable equipment (photocopiers etc) for library users. This helped the service manager identify where improvement was most needed.



"For any public sector agency, recognising that the needs of the different sets of customers may be divergent ... is critical to ... the process of balancing priorities"
Farquahar

Comparing different customer groups

Few services, if any, will have 'identikit' customers - customers who all have exactly the same needs and who use the services in exactly the same way. Rather, services will face distinct and different customer *segments*. The gap approach can be used to compare the expectations, perceptions and quality gaps for different customer segments. This will help managers determine where there are similarities and where there are key differences. Are we, for example, achieving high levels of satisfaction with one customer segment but not with another? If so, what can we do about this?

Exhibit 10: Development control

The development control section of one Scottish council used the gap approach to assess service quality when dealing with planning applications. The survey questionnaire was sent out to a sample drawn from three distinct groups:

- those who had made the planning application themselves
- agents acting on behalf of applicants
- objectors to an application.

There is a clear rationale for seeing objectors as a discrete customer group. The reason for distinguishing between applicants and agents was that the former are likely to be 'one-off' customers whilst the latter are more likely to be repeat customers dealing, over time, with a number of applications. Expectations and perceptions, it was felt, might well be different.

The survey revealed that as far as applicants and agents were concerned their expectations were identical across three of the five dimensions but that agents had higher expectations in both Tangibles and in Assurance. Looking at the individual questions under each dimension indicated that agents' expectations were noticeably higher for the features of the service relating to:

Tangibles:

- privacy for meetings/interviews with council staff
- application forms that are easy to understand
- structure and local plans that are easy to understand.

and

Assurance:

- fair and impartial decisions based on professional advice
- staff dealing with matters in confidence.

The survey also revealed that there were no significant differences in expectations between applicants and objectors. In other words, across the five service quality dimensions both applicants and objectors expressed the same expectations of the service.

Analysis of the gap scores, however, did reveal that for objectors the Reliability dimension was particularly problematic with this showing the largest negative gap score. Examination of individual questions in this dimension highlighted the major aspects of dissatisfaction to be related to:

- when staff promise to do something by a certain time they do so
- staff showing a sincere interest in trying to solve your problems.

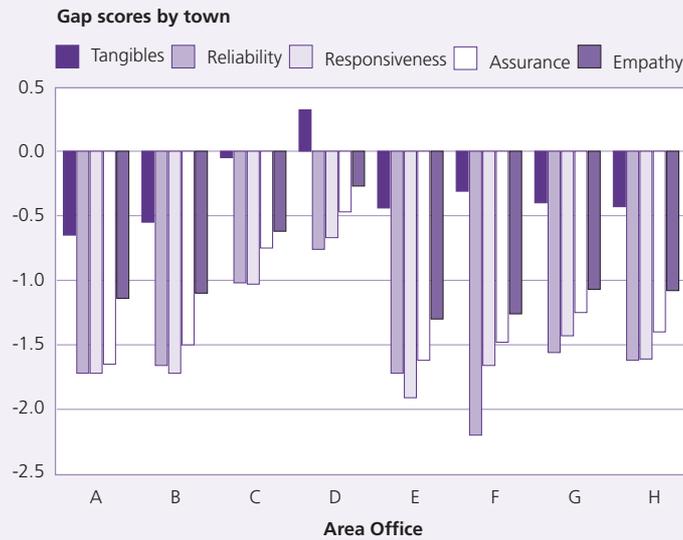
The implications of these findings were that, as far as objectors were concerned, staff were making promises to do things that they did not keep and that staff did not show any particular interest in helping resolve objectors' problems. This helped the service focus on where improvements would have most impact as far as these groups of customers were concerned.

Comparing different parts of the service

Gap analysis also allows comparisons to be made across different parts of the same service - perhaps on a geographical basis. Many services will operate with area 'offices', branch libraries for example. Comparison of expectations of customers within each area becomes possible. So does the identification of similar, or different, service quality gaps across areas.

Exhibit 11: Housing services

Housing Services in one council applied the gap approach to a sample of their tenants. The Service operated eight area offices and the survey results were analysed for the service as a whole but also by area office. The gap scores for the five dimensions are shown in the exhibit below. There is a consistent difference across the five dimensions between the area offices C and D and the other offices. These two area offices consistently have smaller gap scores than the rest implying that they are closer to meeting tenants' expectations. Interestingly, the analysis also revealed that customer expectations in each of the dimensions did not vary across the eight offices. That is, tenants had broadly the same levels of expectations of the service no matter where they lived.



Understanding the internal customer

In order to deliver service quality to the external customer internal customer service must also be of the right quality. In any organisation there exists the service chain - the inter-connected activities across the whole organisation that deliver the service to the final customer. Like any chain it is only as strong as its weakest link and the service received by the external customer will be inadequate if internal customer service is not delivered. The counter staff in the library are themselves customers of many internal services: recruitment, training, payroll, purchasing, building repairs, IT, printing and so on. To deliver a quality service to the library user - the external customer - the library staff need to be recipients of a quality service themselves. The gap approach can be used to assess internal service quality as well as external.

Exhibit 12: Grounds maintenance

A DLO with a contract for providing the grounds maintenance service to other council departments applied the gap approach to its internal 'customers': staff from the client departments. These fell into four main customer segments: schools, community centres, housing and sports centres. The contracted service was currently a standard one, effectively providing the same service to all client departments.

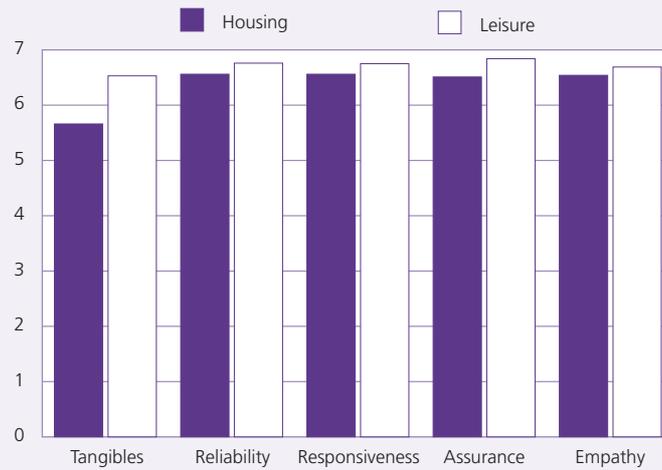
Analysis of the findings on expectations, however, revealed significant differences between segments across the five dimensions. Although expectations were the same in three dimensions, in Tangibles and in Empathy there were statistically significant differences. For schools and housing the largest individual gap occurred around the issue of work being carried out on a regular basis. For community centres and sports centres it was about facilities (such as play equipment and seats) being well-maintained. Analysis of the individual questions making up each dimension enabled managers to assess the critical areas of difference, as they were developing the next contract specifications.

Comparing services

Results from gap-based surveys can also be used to compare services. Such comparison might be within a particular council where different services have used similar surveys. It could be between councils where similar services have used a comparable survey. In either case results must be used with some caution given that the questionnaires are likely to vary in content between services, that methods for selecting samples of customers may differ and that collection methods and response rates may also vary. However, results can be useful for managers wishing to see how their service compares with others and may form a useful starting point for seeing where performance improvements can be identified by comparing your performance with another service (see the Commission's paper *'Measuring up to the Best'* as a guide to benchmarking). For example, in your service you may have determined that the largest gap score is for the Reliability dimension. Looking at another service which has a 'better' gap score and investigating why can help you identify what actions you can take to close this gap.

Exhibit 13: Housing and leisure services within one council

The exhibit below shows the mean expectation scores by dimension for housing services and for leisure services within the same council. Both used the gap questionnaire although there were differences in individual questions within each dimension to tailor the questionnaire to each service. Leisure services faces higher levels of expectations across all dimensions although the most noticeable difference between the two services is for Tangibles. Potentially this has implications for resource allocation between the services and for resource prioritisation within each service.



The exhibit below shows the gap score for each dimension for the two services. Leisure does consistently 'better' across all dimensions except for Tangibles. There are opportunities for both services in term of process or strategic benchmarking. Leisure could see how housing is able to generate a small quality gap in Tangibles compared to itself. Housing could usefully benchmark against the other four dimensions where its gap scores are larger in spite of the fact that leisure faces higher levels of expectations from its customers in these dimensions.

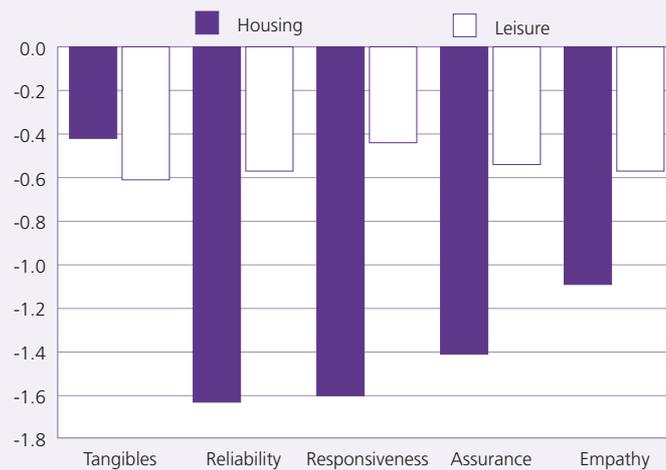
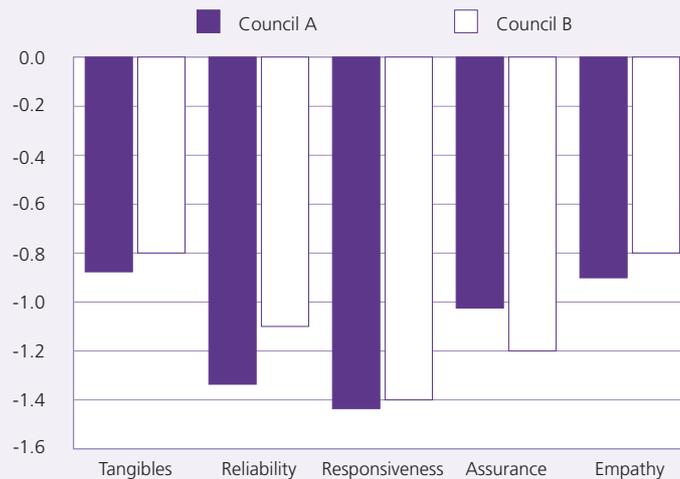


Exhibit 14: Development control within two councils

The gap approach was introduced independently in the development control services in two councils. Although there were differences in the detailed questionnaire design and selected customer samples, the service managers informally compared results. The exhibit below shows the gap scores for the five dimensions in each council. In both councils the overall profile of gap score results across the five dimensions is quite similar. Council A appears to be doing noticeably 'better' than Council B in the Assurance dimension in particular while Council B is doing better in Reliability.



Both managers now have the opportunity to determine what reasons there may be for these performance differences. Is it because of resource availability, different systems and procedures, different staff training? Such questions are particularly relevant to these two services since further analysis revealed that customer expectations across the five dimensions did not differ significantly between the two councils.

Assessing the impact of improvement initiatives

The final use of gap information is to allow managers to track the impact of any improvement initiatives that have been introduced to try to close identified gaps. Gap analysis will indicate where service quality gaps occur but will not necessarily indicate what is needed to close the gap. A major gap in the Tangibles dimension, for example, may be related to a shortfall in resources or to an inappropriate prioritisation of resources. A gap in relation to Empathy may indicate problems in terms of staff awareness and attitude that may require training or personal development. The gap approach, however, does enable the manager to assess at some stage in the future whether service improvements that have been introduced have had any effect. Repeating the survey and re-analysing gap scores will help the manager assess the impact of improvements. Caution must be used, however, in interpreting any changes in the arithmetic values of gap scores (see Appendix 1).

Using the gap approach in your own service

While the gap approach offers considerable potential, it is important to assess whether - and how - to apply it to your own service. The key steps can be summarised as:

- Step 1 Decide what it is you're trying to find out.
- Step 2 Decide if the gap approach is appropriate.
- Step 3 Decide on the customer segments you're going to survey.
- Step 4 Determine the key service expectations across the five dimensions.
- Step 5 Design the survey (questionnaire design, sampling methodology etc).
- Step 6 Undertake the survey.
- Step 7 Analyse the results.
- Step 8 Decide on actions to close any priority gaps.
- Step 9 Monitor the impact of these actions.

Step 1 **Decide what it is you're trying to find out**

The first thing to be clear about with any form of customer research or consultation is what it is you are trying to find out. This may include:

- assessing existing service quality
- identifying areas of customer concern
- evaluating different service options
- understanding priorities and choice
- assessing reasons for non-use of services.

No one approach to research and consultation will meet all these needs.

Step 2 **Decide if the gap approach is appropriate**

The gap approach is best suited to assessing existing service quality. If this is not your main interest then you should consider other approaches to finding out about your customers.

It is also important to realise that the gap approach focuses primarily on what is known as *process* quality not *outcome* quality. That is, the approach assesses customer satisfaction with the processes supporting service provision and does not assess the quality of the end result, or outcome, of that service. For example, consider a housing repairs service. Applying the gap approach will not allow you to assess customer satisfaction with the end product - the quality of

the completed repair. It will allow you to assess customer satisfaction with the processes necessary to provide this service: the accessibility of the service, attitudes of staff, reliability of the service over time etc.

Step 3

Decide on the customer segments you're going to survey

Having decided that the gap approach will best meet your needs, the next stage is to decide on the particular customer segments that you intend to focus on. For some services, it may be appropriate to consider all customers as the same. However, gap analysis is likely to be of more value if discrete customer groups are identified and focused upon. Such segmentation could take several forms, as shown in the earlier case study illustrations. Depending on the service it may be possible to identify segments on the basis of:

- demographics: age or gender for example
- geographic characteristics: rural and urban for example
- social characteristics: lifestyle or education for example.

Your service plan may also specify certain target groups of customers for your service.

Step 4

Determine the key service expectations across the five dimensions

The next stage is to use the five generic dimensions to detail the key service expectations. Research (see Appendix 2) has developed 22 general statements of service expectations across the five service quality dimensions. However, individual services will need to adapt these to their own particular needs. At a minimum this will require some change of wording to the statements to fit into the specific service context. In other cases, it may be appropriate to change some of these statements - removing those which are not relevant to the service and adding additional statements to reflect service specific expectations.

Any changes to the original statements, however, must be made carefully to ensure wording and style are consistent. You should also consider how you can best determine that these statements genuinely capture all key aspects of the service from the position of the customer. Focus groups can be useful for clarifying these key aspects with customers before the questionnaire is finalised.

Step 5

Design the survey

The next stage is to design the survey. This in itself is a complex task and one that requires a degree of expertise. The service will need to:

- develop a questionnaire design to encourage maximum response but also to collect the required information. If possible, pilot the questionnaire to gauge response to its design. Because of its inherent design (duplicate statements for both expectations and perceptions) a gap questionnaire can look complex and time consuming.
- decide how you will select your sample of customers. As far as possible, you should try to ensure a representative cross-section from your customer base.
- decide on a sample size. You will need to consider how many returned questionnaires you will need in order to obtain reliable and accurate results and what a likely overall response rate will be. Again, in part this will be influenced by how many discrete customer groups you have included. The more groups, the larger the total sample size will need to be.
- choose a method for distributing and collecting the questionnaire. Postal questionnaires are often the least expensive method but can also have the lowest response rates. Face-to-face interviews may be more appropriate in some cases but will also increase costs.

Step 6

Undertake the survey

You will need to ensure that the survey is organised and managed effectively. You will need to think about how the questionnaires are to be distributed to customers, how they will be returned and whether you will use a reminder system for those who do not return their questionnaires to boost the overall response rate. If interviewing, you will need to ensure that you have an adequate number of well-trained and well-briefed interviewers.

Step 7

Analyse the results

Careful planning is needed before the survey is actually conducted to ensure that the results can be input readily into appropriate computer facilities and analysed in a timely manner. For basic analysis, spreadsheet facilities are adequate. For more detailed analysis, a specialist statistical package may be required.

It is also important to realise that for any survey, the results cannot be interpreted at face value. Interpretation and evaluation must be made in the context of statistical inference (detailed in Appendix 1) and you should ensure that you have access to such expertise.

Step 8

Decide on actions to close any priority gaps

The purpose of gap analysis is to help you decide how you can improve service quality. The results should enable you to identify where any major gaps might be occurring. Further investigation will then be needed to assess how these gaps can best be closed. It can be useful to consider how such gaps might have arisen. Exhibit 15 shows a simplified customer-service relationship. In order to deliver a quality service, the service will need to ensure it understands customer expectations properly. The service then needs to be designed and specified appropriately. The service then needs to be delivered according to the design and specification set. In connection with this, external communication with the customer will be required as will internal communications with the service's own staff. At various stages a gap might appear. The causes of each gap and appropriate solutions are summarised in Exhibit 16.

“Undertaking market research can itself raise expectations of what can be delivered. If there is no feedback or follow-up, this may create a negative service gap of unfulfilled expectations.”

Speller and Ghobadian

Exhibit 15: The gap model

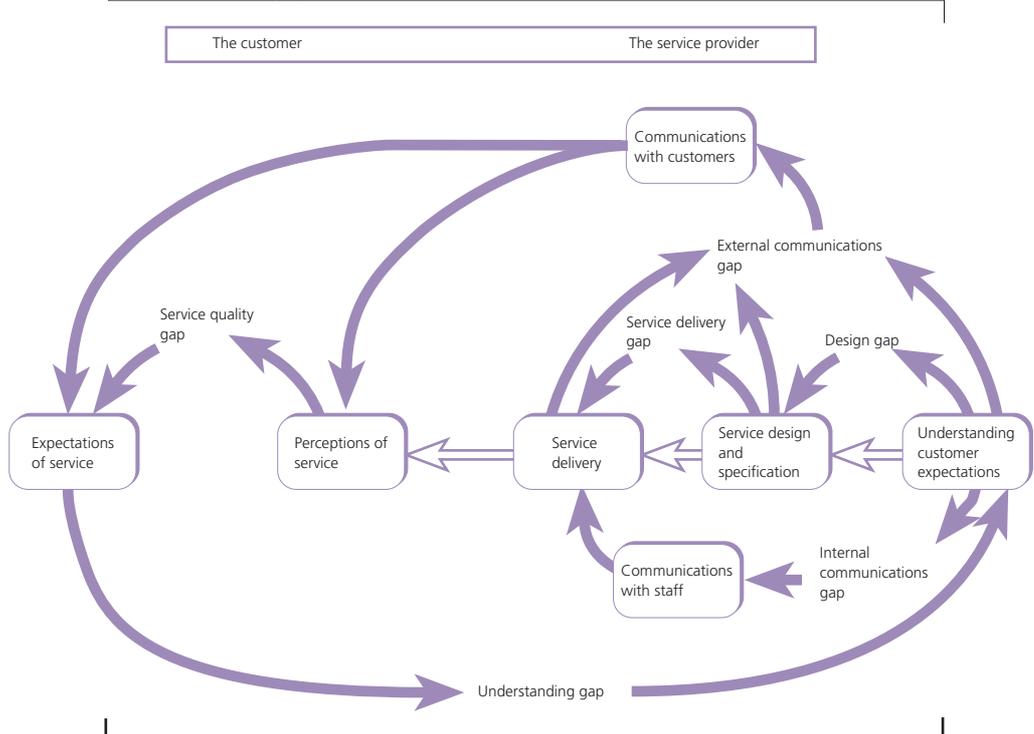


Exhibit 16: Causes and solutions to gaps

Gap	Causes	Solutions
Understanding gap	Management do not understand correctly what customers expect of the service	<ul style="list-style-type: none"> • improve market research • better use of customer feedback/complaints • better use of feedback from frontline staff
Design gap	Management do not translate correctly their knowledge of customer expectations into service specifications, standards or guidelines	<ul style="list-style-type: none"> • set guidelines for service delivery • set standards of performance • test guidelines and standards with customers • ensure periodic reviews of service processes, guidelines and standards
Service delivery gap	The service specification, standards or guidelines are not followed by staff	<ul style="list-style-type: none"> • ensure there are appropriate guidelines and standards in place • ensure staff are aware of these and are clear about roles and responsibilities for meeting them • ensure staff have the skills and training to meet the guidelines and standards • provide the resources required to deliver the standards and guidelines • ensure periodic reviews of performance against the standards and guidelines
External communications gap	Customers do not understand properly the service that is available - and what is not available	<ul style="list-style-type: none"> • ensure effective marketing of services including access, availability and standards • ensure the marketing reaches all the targeted customer segments • ensure the communications convey a realistic picture of the service available
Internal communications gap	Failure to ensure frontline staff understand what is expected and a failure to listen to frontline staff	<ul style="list-style-type: none"> • ensure frontline staff understand what the service is trying to deliver • promote staff ownership of the guidelines and standards • involve frontline staff in reviews of processes and performance • ensure all frontline staff are aware of all feedback from customers
Service quality gap	Not providing what the customer expected	<ul style="list-style-type: none"> • understand which of the other gaps is causing this service quality gap

Source: Based on Speller and Ghobadian

Step 9

Monitor the impact of these actions

Like any good improvement plan, it is necessary to evaluate the impact of any actions at some time in the future and repeating the gap survey over time will assist in this. Were the gaps closed? If not, why not? Have expectations changed? Have new gaps occurred since we last surveyed our customers? Re-applying the gap questionnaire will help answer these questions.

Summary

Increasingly, public sector organisations are having to demonstrate that their priorities, their plans and their services are aligned with customer and stakeholder expectations. The gap approach outlined in this paper is a useful, cost-effective way of assessing service quality by comparing customer expectations of service with their perceptions of services actually delivered.

Further reading

Accounts Commission for Scotland (1999). *Performance management and planning audit. A manager's guide.*

This can be downloaded from the Commission's website.

Accounts Commission for Scotland (1999). *Measuring up to the best. A manager's guide to benchmarking.*

This can be downloaded from the Commission's website.

Baker J.A. and Lamb C.W. (1993) *Measuring architectural design service quality.*

Journal of Professional Services Marketing, 10,1, pp 89-106.

Bland N. (1997) *Measuring public expectations of policing: an evaluation of gap analysis.* Home Office Police Research Series Paper 24.

Dotchin J.A. & Oakland J.S. (1994) *Total quality management in services: Part 2 Service quality.* International Journal of Quality and Reliability Management, 11,3, pp 27-42.

Dotchin J.A. & Oakland J.S. (1994) *Total quality management in services: Part 3 Distinguishing perceptions of service quality.* International Journal of Quality and Reliability Management, 11,4 pp 6-28.

Farquahar C. R. (1989) *Focusing on the customer* Canadian Business Review Winter pp 14-16.

Foster G. and Newman K. (1998) *What is service quality when 'service' equals regulation?* The Services Industries Journal, 18,4 pp 51-65.

Islington Council (1998). *Finding out what service users think. A research methods handbook* (2nd edition).

Parasuraman A., Zeithaml V.A. and Berry L.L. (1985) *A conceptual model of service quality and its implications for future research.* Journal of Marketing, 49, pp 41-50.

Parasuraman A., Zeithaml V.A. and Berry L.L. (1988) *SERVQUAL: a multiple item scale for measuring customer perceptions of service quality.* Journal of Retailing, 64,1 pp 12-40.

Skelcher C (1992) *Improving the quality of local public services.* The Service Industries Journal, 12,4 pp 463-477.

SODD (1999). *Best Value in Local Government. Long term arrangements. Interim conclusions.* Scottish Executive, Edinburgh.

Speller S. and Ghobadian A. (1993) *Change for the public sector I.* Managing Service Quality, July, pp 29-32.

Speller S. and Ghobadian A. (1993) *Change for the public sector II*. Managing Service Quality, September, pp 29-34

Thiagarajan T. & Zairi M. (1997) *A review of total quality management in practice Part II*. The TQM Magazine, 9,5 pp 344-356

Wisniewski M. and Donnelly M (1996) *Measuring service quality in the public sector: the potential for SERVQUAL*. Total Quality Management, 7,4 pp 357-365

Zeithaml V.A., Parasuraman A. and Berry L.L. (1990) *Delivering quality services: balancing customer perceptions and expectations*. New York. Macmillan Press

Zeithaml V.A. and Bitner M.J. (1996) *Services marketing*. New York, McGraw Hill.

Appendix 1 Making sense of survey results

Any survey of customer views - whether it follows the gap approach or not - will almost certainly be based on a sample of customers.

Because of its sample base, results from such a survey cannot be interpreted and used simply at their face value. They must be interpreted within the context of what is known as *statistical inference*. What this effectively means is that the sample is only part of the statistical population from which it was taken. Whilst any such sample results are arithmetically correct, they only actually apply to the sample. To extend such sample results to the statistical population, we can only infer what the results are - we cannot be absolutely sure. For example, suppose in a survey of 250 customers we found a mean expectations score for Tangibles of 6.1 (using the standard 1 to 7 scoring scale). We can say only that the average expectation of the sample is 6.1. We *cannot* conclude that the average expectation of all customers (the population) is also 6.1. We can, however, *infer* that the population figure is likely to be *about* 6.1 and we are also able to quantify exactly what we mean by *about*.

This is done through the calculation of what is commonly known as a *margin of error* (more correctly known as a statistical confidence interval). Such a margin of error shows the numerical limits around the sample mean within which we are confident the actual population result would fall. For average/mean scores, the margin of error is calculated using an additional statistic known as the standard deviation, which indicates variation of the data around the calculated mean score. This statistic is readily produced by a spreadsheet. To illustrate, suppose we have calculated the standard deviation around the sample mean of 6.1 as 0.8. With a sample size of 250 the margin of error (MoE) at the 95% confidence level would then be:

$$\text{MoE} = \pm 1.96 \times \frac{\text{standard deviation}}{\sqrt{\text{sample size}}}$$

or in this case:

$$\text{MoE} = \pm 1.96 \times \frac{0.8}{\sqrt{250}} = \pm 0.1$$

What the MoE indicates is the interval around the sample score that is likely to contain the population score. In this case we can be 95% confident that the population score is between 6.0 and 6.2 (ie 6.1 ± 0.1).

For gap scores in particular, the MoE is important. Suppose we calculate a gap score of -0.3. This appears to indicate a negative gap (we are not meeting customer expectations). But if this is based only on a sample, say of 150, can we really be sure there is underperformance? Calculating and using the MoE allows us to assess this. Suppose the standard deviation for this gap score was 1.2. The MoE would be ± 0.2 . We can then be 95% confident that the population gap

score is between -0.1 and -0.5. That is, we can be 95% confident that the population gap score is negative - that we are underperforming.

This MoE is also particularly important when we are evaluating such scores in the context of comparisons - between other scores, for example, between different customer segments, between different services or over different time periods. When comparing two, or more, sample results the statistical comparison is undertaken through what is known as a formal hypothesis test. These can be undertaken through a spreadsheet but require an adequate level of statistical understanding to interpret. It is essential, however, that they are undertaken before evaluating two or more sample results.

Appendix 2 Gap statements

The original work by Parasuraman et al. produced 22 generic gap statements intended to have application in any service organisation. The adapted form of these statements is shown below.

Each statement appears twice on the questionnaire. Once to assess expectations, once perceptions.

Assessing Expectations

Tangibles

- 1 An excellent (eg leisure) service will have up-to-date equipment
- 2 An excellent service will have attractive physical facilities
- 3 An excellent service will have staff who are neat in appearance
- 4 An excellent service will have materials (such as pamphlets and brochures) which are visually appealing

Reliability

- 5 In an excellent service, when they promise to do something by a certain time they do so
- 6 In an excellent service when customers have a problem they show a sincere interest in solving it
- 7 An excellent service will perform the service right first time
- 8 An excellent service will provide their services at the time they promise to
- 9 An excellent service will insist on error-free records

Responsiveness

- 10 Employees of an excellent service will tell customers exactly when service will be provided
- 11 Employees of an excellent service will give prompt service to customers
- 12 Employees of an excellent service will always be willing to help customers
- 13 Employees of an excellent service will never be too busy to respond to customer requests

Assurance

- 14 The behaviour of employees in an excellent service will instil confidence in customers
- 15 Customers will feel safe in their contact with an excellent service
- 16 Employees in an excellent service will be consistently courteous with customers
- 17 Employees in an excellent service will have the knowledge to answer customer questions

Empathy

- 18 An excellent service will give customers individual attention
- 19 An excellent service will have operating hours convenient to all their customers
- 20 An excellent service will have employees who give customers personal attention
- 21 An excellent service will have the customer's best interests at heart
- 22 Employees in an excellent service will understand the specific needs of their customers

For each statement a 7-point response scale is used with 1 being strongly disagree and 7 being strongly agree.

The set of comparable statements for Perceptions is set out in the context of the specific council service. For example:

1 Newtown Leisure service has up-to-date equipment

with a 7-point scale with 1 showing *strongly disagree* and 7 showing *strongly agree*.

On the questionnaire, no reference is made to Expectations or Perceptions or to the five dimensions. Statements are simply set out sequentially.

The questionnaire also includes a section for respondents to indicate relative importance between the five dimensions. An example is shown below.

Listed below are five features relating to Newtown's Leisure services. We would like to know how important each of these features is to you when you evaluate our quality of service. Please allocate a total of 100 points between the five features according to how important each feature is to you. The more important a feature is to you, the more points you should allocate. Please ensure the points add up to 100.		
1	The appearance of the service's physical facilities, equipment, staff and communications materials	_____ points
2	The service's ability to provide the service dependably and accurately	_____ points
3	The service's willingness to help people and to provide prompt service	_____ points
4	The knowledge and courtesy of the service's staff and their ability to inspire trust and confidence	_____ points
5	The caring, individual attention the service provides	_____ points
Total points		100 points

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