

**Quality Excellence for Suppliers of
Telecommunications Forum
(QuEST Forum)**

**TL 9000
Quality Management System
Measurements Handbook**

SQ Examples

9.1 SQ Examples

In releases prior to 4.0, there were five named service quality measurements with the measurements reporting the percentage of good transactions with 100% being the goal. In release 4.0, the measurement now reports percentage of defective transactions with 0% being the goal. Now there is just one named measurement, SQ, for all product categories. However, the item measured varies by product category and is defined in Appendix A, Table A-2 as a numerator and a denominator for the SQ measurement.

9.1.1 Installation

The data collected and calculation results for this example are shown in Table 9.1.1-1.

Table 9.1.1-1 Source Data for Installation SQ

| Item | Jan | Feb | Mar | Apr |
|--|-----|-----|-----|------|
| Number of Non-conforming Installation/Engineering Audits (SQd) | 5 | 1 | 0 | 6 |
| Total Number of Installation/Engineering Audits (SQt) | 100 | 50 | 75 | 80 |
| Service Quality Measurement (SQ) | 5% | 2% | 0% | 7.5% |

The computation for the month of January is

$$SQ = 100 \times SQd/SQt = 100 \times 5/100 = 5\% \text{ defective audits in January}$$

The data reported for January are shown in Table 9.1-12.

Table 9.1.1-2 Data Table Report for Installation SQ

| Identifier | Value |
|------------------|-------|
| Product Category | 7.1.1 |
| MeasurementID | SQ |
| SQt | 100 |
| SQd | 5 |

9.1.2 – Maintenance

The data collected and calculation results for this example are shown in Table 9.1.2-1.

Table 9.1.2-1 Source Data for Maintenance SQ

| Item | Jan | Feb | Mar | Apr |
|---------------------------------------|-----|-----|-----|-----|
| Number of Maintenance callbacks (SQd) | 2 | 0 | 1 | 4 |
| Number of Maintenance Visits (SQt) | 30 | 20 | 75 | 120 |

Service Quality Measurement (SQ) 6.7% 0% 1.4% 3.4%

The computation for the month of January is

$$SQ = 100 \times SQd/SQt = 100 \times 2/30 = 6.7 \% \text{ defective visits}$$

The data reported for January are shown in Table 9.1.2-2.

Table 9.1.2-2 Data Table Report for Maintenance SQ

| Identifier | Value |
|------------------|-------|
| Product Category | 7.3 |
| MeasurementID | SQ |
| SQt | 30 |
| SQd | 2 |

9.1.3 – Repair

The data collected and calculation results for this example are shown in Table 9.1.3-1.

Table 9.1.3-1 Source Data for Repair SQ

| Item | Jan | Feb | Mar | Apr |
|--|------|------|------|------|
| Number of Defective Repaired Units (SQd) | 3 | 1 | 2 | 3 |
| Total Number of Repaired Units (SQt) | 51 | 63 | 45 | 72 |
| Service Quality Measurement (SQ) | 5.9% | 1.6% | 2.2% | 4.2% |

The computation for the month of January is

$$SQ3 = 100 \times SQd/SQt = 100 \times 3/51 = 5.9 \text{ defective repairs\%}$$

The data reported for January are shown in Table 9.1.3-2.

Table 9.1.3-2 Data Table Report for Repair SQ

| Identifier | Value |
|------------------|-------|
| Product Category | 7.4 |
| MeasurementID | SQ |
| SQt | 51 |
| SQd | 3 |

9.1.4 – Customer Support Service

The data collected and calculation results for this example are shown in Table 9.1.4-1.

Table 9.1.4-1 Source Data for Customer Support Service SQ

| Item | Jan | Feb | Mar | Apr |
|--|------------|------------|------------|------------|
| Number Of defective Customer Support Service transactions (SQd) | 15 | 40 | 10 | 4 |
| Total Number Of Calls Which Came Into Customer Support Service (SQt) | 2000 | 5000 | 2750 | 3000 |
| Service Quality Measurement (SQ) | 0.75% | 0.8% | 0.4% | 0.2% |

The computation for the month of January is

$$SQ = 100 \times SQd/SQt = 100 \times 15/2000 = 0.75\%$$

The data reported for January is shown in Table 9.1.4-2.

Table 9.1.4-2 Data Table Report for Customer Support Service SQ

| Identifier | Value |
|-------------------|--------------|
| Product Category | 7.5 |
| MeasurementID | SQ4 |
| SQt | 2000 |
| SQd | 15 |

9.1.5 – Support Service Example

This example references a cable locator service with a defined defect as a cut cable due to incorrect identification.

The data collected and calculation results for this example are shown in Table 9.1.5-1.

Table 9.1.5-1 Source Data for Support Service SQ

| Item | Jan | Feb | Mar | Apr |
|--|------------|------------|------------|------------|
| Cut Cables (SQd) | 5 | 2 | 0 | 4 |
| Number of Cables Identified (SQt) | 1000 | 500 | 750 | 300 |
| Service Quality Conformance Measurement (SQ) | 0.5% | 0.4% | 0% | 1.4% |

The computation for the month of January is

$$SQ = 100 \times SQd/SQt = 100 \times 5/1000 = 0.5\%$$

The data reported for January is shown in Table 9.1.5-2.

Table 9.1.5-2 Data Table Report for Support Service SQ

| Identifier | Value |
|-------------------|--------------|
| Product Category | 7.9 |

Service Quality (SQ) Examples

| MeasurementID | SQ |
|---------------|------|
| SQt | 1000 |
| SQd | 5 |