1. Introduction – e-Service Quality Gaps

Electronic service quality (e-SQ) is the extent to which a Web site facilitates efficient and effective shopping, purchases and delivery of products and services. The importance of electronic service quality (e-SQ) is highlighted by Zeithaml, Parasuraman and Malhotra (2002) who claim that the elimination of e-SQ gaps will lead to customer satisfaction which results in increased perceived e-SQ, value, purchases and repurchases. The author proposes a method of identifying and measuring e-SQ gaps. In Zeithaml et al.’s (2002) model (Figure 1) the following e-SQ gaps are identified:

- Information gap – which represents the difference between customers’ website requirements and managements’ beliefs about those requirements
- Design gap – failure to fully incorporate knowledge about customer requirements into the structure and functioning of the website
- Communication gap – inaccurate or inflated promises made about a website made through traditional media and on the website itself
- Fulfilment gap – discrepancy between customers’ requirements and experiences
2. Defining and Measurement of e-SQ Gaps

The author proposes that there is no gap when there is a perfect positive relationship between the variables used to measure the constructs. For example, there will be no information gap when management know customer requirements. Gap and no gap situations are shown graphically in Figures 2 and 3.
Identification and Measurement of Electronic Service Quality Gaps

As it is unusual for all data to occur in a straight line, the condition \( r = 1 \) will never be satisfied, therefore, as suggested by Zar (1999) a threshold for \( r \) is set at 0.75. Mathematically ‘no gap’ and ‘gap’ situations can be expressed as:

- No gap exists when all of \( r \geq 0.75, \beta_0 = 0, \) and \( \beta_1 = 1 \) hold true; and
- A gap exists when at least one of \( r < 0.75, \beta_0 \neq 0, \) or \( \beta_1 \neq 1 \) hold true.

The formula below has been devised to measure the extent of these gaps.

\[
D = \left( \left( 1 - r^2 \right) \times 0.5 \right) + \left( \left( \frac{\left| \beta_0 \right|}{5} \right) \times 0.25 \right) + \left( \left( \frac{\left| \beta_1 - 1 \right|}{4} \right) \times 0.25 \right) \times 100
\]

In the above formula \( r, \beta_0, \) and \( \beta_1 \) are converted to values between zero and one based on the maximum value obtainable for each. \( D \) is a combination of these three values.
weighted: 50% for the agreement between the variables, represented by the \( y \)-intercept \((\beta_0)\) and the slope \((\beta_1)\) and 50% for the precision of the agreement, represented by the coefficient of determination \((r^2)\). This is multiplied by 100 to give a discrepancy value in the range of zero to 100.

3. Practical Example – Australian Wineries

This method of measuring e-SQ gaps was used in a study of Australian wineries involving a survey of winery website customers, winery managers, and winery websites. Information, design, and fulfilment gaps were identified (no attempt was made to measure the communication gap). The results indicated that winery managers have a fair idea of what customers require (information gap of 9.6) but they are failing to implement this on their websites (design gap of 39.9) causing general dissatisfaction of customers (fulfilment gap of 60). This is shown graphically in Figure 3 below.

<table>
<thead>
<tr>
<th>Australian Winery E-Service Quality Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Gap</td>
</tr>
<tr>
<td>Design Gap</td>
</tr>
<tr>
<td>Fulfilment Gap</td>
</tr>
<tr>
<td>9.6</td>
</tr>
<tr>
<td>39.9</td>
</tr>
<tr>
<td>60.0</td>
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<tr>
<td>0 – No Gap</td>
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<tr>
<td>Complete Gap – 100</td>
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</tbody>
</table>

*Figure 4: e-SQ Gaps in Australian Wineries*

4. Conclusion and Contribution

A way of measuring e-SQ gaps on a scale of 0 (no gap) to 100 (complete gap) has been developed which enables easy comparison and visual representation. According to Zeithaml et al. (2002) e-SQ gaps lead to customer dissatisfaction, whilst closing the gaps results in customers website requirements being meet and will have the ultimate effect of increasing purchases. Armed with this knowledge managers and their website developers can work towards closing the gaps and increasing customer satisfaction.

From a scholarly perspectives this research has provide an innovative way of recognising and measuring e-SQ gaps. Further confirmation of its value and testing is warranted. It should be possible to develop a framework for any industry and use this method of e-SQ gap analysis. This has the potential to provide practitioners in the industry with a guide on which to develop and improve their web presence.

References

Zar, J (1999); *Biostatistical Analysis*, Prentice-Hall, NJ.