E-Service Quality: the link between quality and loyalty

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Summary
There has been a lot of research validating the link between service quality and customer loyalty in traditional (bricks-and-mortar) services. However, despite the strong growth of e-services in recent years, there is still little rigorous empirical research examining this link in such settings. The interest in examining this link in an e-service setting is in validating e-service quality as a lever that managers of e-service operations can employ to drive customer loyalty and, ultimately, profitability. Based on data from an online questionnaire of customers of an e-banking service, this study employs structural equation modelling to examine the link between web site quality and customer loyalty. We found a strong and significant link between the two constructs, suggesting that this relationship also holds in e-service settings. This is an important result, given that loyalty has been generally considered harder to achieve in e-services than in traditional services.

Keywords: E-Service, Quality, Loyalty

1. Introduction
There has been a lot of research examining the links between service quality, customer loyalty/retention and profitability of service operations (e.g., Anderson and Mittal, 2000; Heskett et al, 1994; Parasuraman and Grewal, 2000; Taylor and Baker, 1994; Zeithaml et al, 1996). The broad underlying model proposed and supported by this research is shown in Figure 1.

Underlying this model, are two broad relationships. One is the relationship between customer loyalty and profitability. Reichheld (1996a, 1996b) showed that the longer a customer stays with a company, the more the customer is worth. Long-time, satisfied customers are more likely than short-term customers to buy additional services and spread favorable word-of-mouth communication (Zeithaml et al, 1996).

The firm may also be able to charge a higher price than other companies, because these customers value maintaining the relationship. In addition, the initial costs of attracting and establishing these customers have already been absorbed and, due to experience curve effects, they often can be served more efficiently (Reichheld and Sasser, 1990). In contrast, customer defections are costly. When defections occur, new customers need to be attracted to replace them, and this is a costly initiative (Zeithaml et al, 1996). Also, new customers are often unprofitable for a period of time after acquisition (Zeithaml et al, 1996).
The other relationship underlying the above model is between service quality and customer loyalty (e.g., Boulding et al, 1993; Cronin and Taylor, 1992; Cronin et al., 2000; Zeithaml et al. 1996). The interest in examining this link is in validating service quality as a lever that managers of service operations can employ to drive customer loyalty and, ultimately, profitability.

The focus of our paper is on the relationship between service quality and loyalty. Existing research on this link has focused mainly on traditional services, that is, bricks-and-mortar services primarily provided by people. In recent years, we have witnessed a strong growth of e-services (services delivered using the internet).

In the US alone, online sales grew 52% in 2002 to 78$ billion, according to Forrester Research. Forecasts for future internet growth are in line with the recent explosive growth. For example, in the US a survey by Forrester Research (December 2003) revealed that companies expect their internet revenues to nearly double as a percentage of overall revenues by 2008.

Overall, it is recognized that the technological potential of the internet channel has revolutionized several aspects of service management, providing companies with unprecedented opportunities to create value for customers (Zott, Amit and Donlevy 2000), but also presenting unlimited possibilities to fail. In particular, it is recognized that the nature of service encounters in e-services is very different from traditional services (Bitner et al, 2000).

Parasuraman and Grewal (2000), reflecting on the impact of technology on the quality-loyalty relationship, question whether loyalty is harder or easier to achieve when customers interact with technology rather than with employees. Loyalty is important for the profitability of e-services because attracting new customers has been found to be considerably more expensive than for comparable, traditional, bricks-and-mortar services (Reichheld and Schefter, 2000). Because service encounters are important drivers of service quality, this raises the question of whether the service quality – loyalty relationship holds in an e-service setting.

At the conceptual level, there are arguments that support a relationship between service quality and customer loyalty in e-services. Switching costs are low on the web (a competitor is only “a click away”) and it is easy for customers to compare service offerings on the internet, such as Bizrate, Forrester and Lycos. When customers perceive that they have alternative suppliers, their zone of tolerance (the zone that separates desired service level from the adequate service level) is smaller (Parasuraman, Berry and Zeithaml, 1991).

This means that poor service quality experiences will more likely result in customer defections. In addition, it can be argued that the internet channel increases price sensitivity by allowing customers to easily compare the prices of equivalent service offers; service quality may reduce price sensitivity and increase customer retention.

Several practitioner studies have indeed provided empirical support for a relationship between e-service quality and customer loyalty. For example, a study by Bizrate.com (Wall Street Journal, July 12, 2001) found that e-service quality was the most important marketing variable in terms of inducing repeat purchases from an e-store and a Forrester Research poll of 8600 online households found that the most important factors in motivating users to return to a web site were high quality content, ease of use, quick downloads and frequent updating (Carter 1999). However, there is very little academic, rigorous research addressing this link.
Hence, the objective of this study is to empirically investigate the relationship between e-service quality and customer loyalty. Because the quality of a web site is paramount in determining the perceived quality of an e-service - especially for those services which are information intensive (Sousa, 2002) – we will employ web site quality as a proxy for e-service quality.

2. Methodology

The study investigated customers of a retail e-banking service in Portugal in 2003. Electronic payment systems in the Portuguese banking sector are among the most advanced at the international level and, as a consequence, users of bank services tend to have a high level of sophistication (Bank of Portugal, 2003). In 2002, Portugal exhibited an internet penetration ratio equal to the average ratio of the European Union EU-15 countries (36 internet users per 100 inhabitants; Eurostat, 2003).

We opted for selecting a single type of e-service in order to control for service type and hence maximize the power of the tests applied to our research model. E-banking was chosen for several reasons. First, it is a mature and one of the most widespread types of e-services, with major adoption levels both by the service providers (most banks now offer such a service) and users. Second, in e-banking the web site plays a major role in service provision.

Finally, the range of services offered in e-banking sites tends to be similar across different service providers and countries, enhancing generalizability. The next sections address the measurement of the main research variables (perceived web site quality dimensions and customer loyalty) as well as data collection.

3. Measurement

The measurement of web site quality is in its early stages and there is no amply accepted and tested scale (Zeithaml et al, 2002a). Several instruments have been developed with the reported objective of assessing the quality of web sites (e.g., Aladwani, and Palvia, 2002; Barnes and Vigden, 2000; Loiacono et al., 2001; Wolfinbarger and Gilly, 2002; Yoo and Donthu, 2001; Zeithaml et al, 2000, 2002b). Zeithaml et al (2002a) provide an excellent review of most of these studies and summarize the main dimensions of web site quality as: i) information availability and content (information quality); ii) ease of use; iii) privacy/security; iv) graphic style; and v) fulfillment.

We compiled a list of items from existing instruments that would capture the five broad dimensions identified by Zeithaml et al (2002a). Using this base list of items, we held several iterative focus group discussions with managers from the bank’s quality and marketing departments with the objective of choosing one item to adequately represent each of the main quality dimensions in the context of an e-banking service and adapt the wording of the items to this context.

During these discussions, it was considered important for the context of an e-banking service to break the fulfillment dimension into two separate dimensions: reliability and responsiveness. Table 1 shows the six items (Q1-Q6) used to measure web site quality.

Several studies have conceptualized the customer loyalty construct (e.g., Fornell and Wernerfelt, 1987; Zeithaml et al, 1996; Heskett et al, 1994; Dick and Basu, 1994; Mathwich, Malhotra and Rigdon, 2000; Reichheld, 1996b; Oliver, 1999; Reichheld and Schefter, 2000; Parasuraman and Grewal, 2000) Consistent with this research, we measured loyalty towards a
web site by two items related to behavioural intentions: L1) the intention of revisit the site; and L2) world of mouth recommendation.

<table>
<thead>
<tr>
<th>Measurement Dimensions</th>
<th>General Description (*)</th>
<th>Measurement Items for an E-Banking Service</th>
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<tbody>
<tr>
<td>2. Information Quality</td>
<td>The suitability of the information to the user’s purposes.</td>
<td>Q2. Correct and up to date information about the bank’s products and services.</td>
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<tr>
<td>3. Ease of Use</td>
<td>Effort of the end users in using the web site.</td>
<td>Q3. Ease of performing banking operations and accessing information.</td>
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<tr>
<td>5. Reliability</td>
<td>Ability to perform the promised service dependably and accurately.</td>
<td>Q5. Requests/ instructions correctly processed.</td>
</tr>
</tbody>
</table>

Source: Adapted from Zethaml et al (2002a).  

Table 1 - Measurement Items for Web Site Quality

4. Data collection

The study consisted in the administration of an online questionnaire to a sample of the service’s customers measuring their perception of the quality of the web site and their loyalty to the service. Perceived web site quality and loyalty were assessed by 1 (Very Dissatisfied) – 5 (Very Satisfied) ratings and 1 (Very Unlikely) – 5 (Very Likely) ratings, respectively, on the associated measurement items.

A random sample of 35,781 customers were targeted. The questionnaire was posted on the web site, right past the login stage and was active on the site for one month, resulting in 5942 responses (a 16.6% response rate).

5. Data analysis

The data was analyzed employing Structural Equation Modeling, using SPSS. The model is shown in Figure 2 and consists in a simple relationship between two constructs: web site quality (made up of items Q1 to Q6) and loyalty (made up of items L1 and L2).

The results of the measurement model estimation are shown in Table 2. The reliabilities of both the quality construct (.795) and the loyalty construct (.793) were found to be above the commonly accepted threshold value of 0.70 (Hair et al, 1998).
All the model fit measures were found to be within the threshold levels recommended by Hair et al (1998) (GFI = .975, a high value; .05 < RMSEA = .069 < .08; AGFI = .953 > .90; NFI = .961>.90). The structural model estimation produced a standardized path between the quality and the loyalty constructs of .595, significant at the .000 level. Therefore, there is strong empirical support for a relationship between web site quality and loyalty.

![Figure 2 – Structural Equation Model.](image)

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Constructs</th>
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<tr>
<td></td>
<td>Service Quality</td>
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<tr>
<td>Q1</td>
<td>.575</td>
</tr>
<tr>
<td>Q2</td>
<td>.601</td>
</tr>
<tr>
<td>Q3</td>
<td>.631</td>
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<td>Q4</td>
<td>.434</td>
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<td>Q5</td>
<td>.732</td>
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<td>Q6</td>
<td>.767</td>
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<td>L1</td>
<td></td>
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<td>L2</td>
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</table>

*All coefficients are significant at the .000 level.*

**Table 2 – Standardized Parameter Estimates for the Measurement Model**

### 6. Conclusions

Our findings provide strong empirical evidence for a relationship between service quality – represented by web site quality – and customer loyalty in an e-service setting. This finding suggests that the widely acknowledged relationship between service quality and loyalty in
traditional services also holds in e-services. Hence, e-service quality can be used as a key lever to create customer loyalty in an e-service setting. This is an important result, given that loyalty has been considered harder to achieve in e-services than in traditional services.

Strictly, the study’s findings apply directly to general e-banking services, which are a very important type of service in today’s e-service landscape. We believe that the findings can be generalized to other task-oriented e-services. It may be important for future research to test the developed propositions in other types of e-services, in particular, types of e-services which are more strongly associated with experiential/hedonic use (e.g., entertainment services). In addition, future studies should examine customers of other countries in order to explore potential country and/or cultural effects.

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References


