

# Methodological and Research Issues Using E-S-QUAL to Measure Online Service Quality in Irish SMEs



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## ABSTRACT

The analysis of service quality in an online context has become a popular research activity. In this paper the research process of an empirical study in this area is described. At the time of writing, the survey instrument, E-S-QUAL, had not been utilised in Ireland, and as far as we know has been used very little internationally. Following a brief literature review, we describe our research process and methodology in some detail, and outline the initial stages of the data analysis. Concluding remarks summarise the research to date and indicate the potential for future research in this area.

**Key Words:** Online Service Quality; E-S-QUAL; Research Methodology.

## INTRODUCTION

The objective of this paper is to outline the methodology for a research project that the authors carried out in 2006. This aim of the research was to investigate online service quality expectations in an Irish context, as well as determine the specific dimensions that are particularly relevant in Ireland. We believe the research process undertaken for this project is interesting for a couple of reasons.

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First the survey instrument we used has been developed internationally but at the time of writing had not yet been utilised either in or outside of Ireland. The survey instrument is called E-S-QUAL and is a development of the SERVQUAL questionnaire that is more widely known. Both are questionnaires designed to elicit customer responses regarding the levels of quality in dimensions such as trust or loyalty they perceive in a service that they are using. The E-S-QUAL survey has been specifically developed for online retailing. The second novel aspect is the data collection methodology. We obtained permission from a premier Irish web-based portal, Buy4Now, which offers online shopping from a number of retailers, to survey both the vendors themselves and their customers.

### LITERATURE OVERVIEW

Online consumers have clear expectations regarding their interactions with online vendors and demand high levels of service (Bitner, 2001; Cox and Dale, 2001; Alzola and Robaine, 2005). It is therefore essential for vendors to understand the dimensions of service excellence that their customers value. Once they know the online consumers' service quality needs, their marketing strategies are more likely to be successful. At present there are more than two million users of the Internet in Ireland, representing just over 50 per cent of the population (Internet World Stats, 2006). While the percentage of those using the Internet to purchase goods and services remains undetermined, based on previous studies it is likely that the percentage of Internet users purchasing online is likely to remain substantially lower than those using it as an information medium. In the past, consumers' resistance to online purchasing was explained as a consequence of the fact that although Internet and mobile communications usage in Ireland is similar to other European Union countries, Ireland has a comparatively under-developed broadband market (both residential and business) with poor levels of DSL and cable modem adoption. However, as these problems resolve and broadband penetration of the domestic market increases, it has become more difficult to explain low rates of online retailing adoption in terms of technological barriers. In fact, as technological barriers are reduced, consumers' increasing dissatisfaction with the quality of service being provided by online retailers has become

more apparent, and this is one of the main reasons why we decided to undertake this research.

Traditional service quality is a multi-attribute construct that compares the consumers' expectations and their perception of the vendors' actions. In the literature the SERVQUAL survey instrument (Parasuraman, Zeithaml and Berry, 1988) is frequently employed to examine service quality. The SERVQUAL scale encompasses five dimensions of service quality and 22 explanatory items. The research presented in this paper employs the new E-S-QUAL survey instrument (Parasuraman, Zeithaml and Malhotra, 2005) within the context of small-to-medium enterprise (SME) business-to-consumer (B2C) electronic commerce in a number of service industries in Ireland. It investigates the specific dimensions of service quality that Irish online consumers value, and the degree to which those dimensions of service quality predict the generation of consumer trust beliefs. We hope that the results obtained will provide evidence that Irish online consumers' perception of service quality is driven by specific factors, all of which are possible for the vendor to manage.

### SURVEY UTILISED

Having reviewed the relevant literature, the decision was taken to use the more recent E-S-QUAL questionnaire (Parusaman et al., 2005), which was developed by the original authors of the SERVQUAL survey (Parusaman et al., 1988). The final survey utilised, based on the Parusaman et al. (2005) questionnaire, was divided into two sections, 1 and 2. This was first formatted in Microsoft Word and then set up in a web-based format. Customers completed Sections 1 and 2 and vendors completed Section 1 only.

In Section 1 of the survey a varying number of questions were asked in several areas of online customer quality dimensions. In Table 2.1 the dimensions and the number of questions in each are listed. Also included was one statement on trust at the end of each quality dimension. For example within the 'Efficiency' dimension, customers were asked to address the following: *The ease of use of a website increases my trust in the online vendor.* A Likert scale from 'Strongly Agree (5)' to 'Strongly Disagree (1)' was utilised for this section.

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**Table 2.1: E-S-QUAL Quality Dimensions and Number of Associated Questions (Section 1)**

<b>Quality Dimension</b>	<b>Number of Questions (Plus one in each dimension on trust)</b>
Efficiency	8
System availability	4
Fulfilment	7
Privacy	3
Responsiveness	5
Compensation	3
Contact	3
Perceived value	4
Loyalty intentions	5

In Section 2 the following questions were asked with choices given for each section. This section was not in the original E-S-QUAL survey, but was subsequently developed by the authors of this paper.

- How frequently do you purchase from online websites?
- What is your most frequent online purchase?
- Which of the following is the most accurate reflection of your average cash spend per online transaction?
- Do recommendations from others influence your decision as to whether you will purchase from an online vendor?
- Have you ever opted out of (started but not completed) an online purchase?
- At what stage of the purchase process have you done this?
- What was the reason you opted out of the online purchase?
- Age, gender and education questions.

Before placing the final questionnaire on the web we contacted and spoke to one of the authors of the E-S-QUAL survey in order to make sure that they had no objection to our using it. We also found out that as far as they knew, no study had been carried out that

utilised their latest work. We felt it was important to get permission to use E-S-QUAL, but it was also very useful to find out that potentially we were the first people to utilise the survey in the new format, specifically developed for online purchasers.

### ADAPTATIONS OF SURVEY

As we were publicising the survey on the Buy4Now portal, and we had specific research objectives, we decided to adapt the questionnaire for the purposes of this project. Altogether there were five separate adaptations of the original E-S-QUAL survey made:

1. Before customers started to complete the survey they were asked to indicate how they were directed to it, i.e. the name of the vendor website that informed them of the survey. This was done in order to see the volume of responses from the different websites included in the portal.
2. At the end of the set of questions for each dimension, a further question on 'trust' was added, e.g. 'the ease of use of a website increases my trust in the online vendor'. The purpose of this addition was to extend and develop the potential research results as 'Trust' in an online purchase context is of specific interest to one of the authors.
3. 'Perceived Value' and 'Loyalty of Intentions' scales were modified as the shopping portal was not comfortable with some of the questions being asked. We are not sure yet of the implications of these changes but hope that it will not affect the results substantially.
4. An additional section, Section 2 (described above) was added to determine specific customer information, including demographics such as gender and age range as well as frequency and amount of online purchases. Again this was perceived to be a useful addition in order to be able to determine descriptive statistics about the type of customer who responded to the survey, as well as their purchasing patterns.
5. Three managers from each of the vendors were asked to complete a similar survey to their customers, but without Section 2 included. This was included in order to investigate whether the managers had different views to the customers in terms of the ease of use and efficiency of the website and the follow-up delivery

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service. The effectiveness of this decision is still under review as not all vendors completed the survey, and thus the data is incomplete in this area.

#### RESEARCH METHODOLOGY

As already indicated, the Dublin-based online shopping portal Buy4Now was used to host the questionnaire. This portal assists a number of vendors in maximising their online selling potential through advertising special offers, coordinating deliveries and taking advantage of Internet business models. It was felt that as there was a mix of businesses selling goods ranging from holidays to flowers, there would be a good cross-section of customer types in terms of age, tastes and spending power. Using the portal as a host would have the added advantage of targeting the research at the correct population, i.e. those who regularly shop online.

The authors met with Buy4Now's marketing manager and web content manager to discuss the possibility of the research being carried with them. The discussions with the managers culminated in an agreement that Buy4Now would host the questionnaire on their partner stores' websites. It was also decided that three managers from each of the stores (vendors) would be invited to complete an online questionnaire similar to the customers so that responses to the same statements could be compared. The authors agreed to provide a confidential report for each individual vendor as well as a comparative report for Buy4Now.

In order to try and increase participation in the study, the web content manager wrote to each of the vendors to ask them to take part in the web-based survey and also designed a 'pop-up' information box to alert customers to complete the questionnaire online. Around this time Buy4Now was undergoing a review of their 'check-out' procedure and so the management decided to release the questionnaire request simultaneously with this review. This led to a major delay of a few months in the survey going 'live' as each vendor's system was completed at a different time. Also around this time, some vendors decided either not to take part, or dropped out of the study, leaving fourteen vendors and their customers involved in the research. Finally however, all vendors except one had the survey up on their site, and it was left there for three weeks to allow customers time to respond.

At the end of this time there had been quite a low reaction to the survey, so an email indicating DCU's involvement in the study was sent to a number of the portal's regular customers. This resulted in a good response, and at the close of the study 361 responses were received, allowing the potential for meaningful statistical analysis. In this regard two kinds of data analysis are envisaged. Using Excel, summary and descriptive statistics will be calculated to get an overview of the customer responses. Then, using SPSS, correlation and regression analysis will be undertaken to determine more in-depth results from the data

### COMMENTS AND CONCLUSION

This has been an interesting research study from a number of perspectives. First, using E-S-QUAL was advantageous in one way as it gave us a 'first-mover' advantage, at least in Ireland. However as it has not yet been tried and tested, there may be technical difficulties that we are yet to find during the data analysis process. One other aspect of interest is the collaboration with the shopping portal. On the one hand this relationship allowed access to a large number of consumers who regularly shop online. On the other hand having a practitioner-based partner meant that we were subject to difficulties out of our control such as the long delay in getting the questionnaire live on the vendor sites.

The potential findings of this research are significant, as they will provide SMEs with insights into the key dimensions of service that are valued by Irish online consumers, as well as contributing to the academic literature. The research is also important as it is one of the first studies to use the newly developed E-S-QUAL survey instrument in the electronic commerce service environment in general, and it is the first in an Irish context. These contributions will assist both practitioners and researchers in developing an understanding of the factors that contribute towards the creation and maintenance of consumer satisfaction in Irish online transactions. Among other things we hope to be able to compare responses from small and large organisations and different industries as well as other perspectives, such as male/female variances.

Further research could be also undertaken to determine whether the results of this research are applicable to online transactions in other countries.

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