

CITIZEN TRUST IN E-GOVERNMENT IN IRELAND

The Role of Website Service Quality

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Abstract: The emergence of the concept of e-government in the 1990s, the use of information and communications technology in the public sector turned from being inward looking and administration-focused to outward looking and service-focused. One aspect of this has been on-line tax filing which in Ireland takes the form of the Revenue Online Service (ROS). The purpose of this paper is to outline a research project that is currently being undertaken with the Irish Revenue Commissioners to evaluate the quality of ROS and the relationship between these e-service quality dimensions and citizen trust in the Revenue Commissioners. It describes the application of a newly developed website service quality measurement instrument in the unique context of electronic government. It is anticipated that the findings from this study will provide insight regarding the dimensions of website service quality that are most valued by users of ROS and also identify the dimensions of e-service quality that engender, or in their absence inhibit, citizen trust in this service. The application of this recently operationalised website service quality instrument will also provide evidence regarding the degree to which it is culture independent.

1 INTRODUCTION

Governments the world over are seeking to increase citizen adoption and usage of their e-government services, particularly in view of the potential of those services to reduce the cost and increase the efficiency of public service provision. Benchmarking studies consistently report revenue collection as being one of the most developed areas of e-government, both in terms of availability and sophistication (see for example, Accenture (2006), CapGemini 2006). Ireland is no exception. The Revenue Commissioners in Ireland were pioneers in the deployment of information technology in the Irish public sector in the 1960s (Pye 1992) and, in many ways, they have maintained that leadership position over the intervening four decades. Online revenue collection offers many potential benefits to the state from faster collection of cash to error reduction and administrative cost savings. On the other hand, making tax returns and paying taxes is mandatory. The purpose of the Revenue On-line Service (ROS) and similar services in other countries is not, as it might be for other services, to attract more customers. To be effective, online tax services need to be attractive to citizens and to offer

benefits that outweigh the perceived advantages of paper. While the online delivery of a government service may appear to be more user-friendly than that delivered by traditional means, the Information Society Commission report (2003) repeatedly emphasizes that those charged with implementing e-government need to give careful consideration to the perceptions and expectations of its users. This is particularly true in the case of revenue collection where a manual filing may result in a slower payment cycle or cause less concerns about confidentiality. This emphasis on user perceptions and expectations is appropriate as perceived service quality has become a critical determinant of website success. However, studies show that many consumers view the service quality delivered by commercial websites as unsatisfactory (Lennon and Harris, 2002; Gaudin, 2003) and there is no evidence to suggest that citizens' views of e-government service quality differs. Accenture (2005:4) comment that:

“While governments have certainly seen some value in terms of increases in citizen satisfaction and internal efficiency and some reductions in costs, none has been transformed by eGovernment alone.

eGovernment simply has not led to the reinvention of service delivery”.

It is therefore important that government bodies seeking to encourage citizens to use their online services, and particularly to use such sites to pay taxes and other charges, understand the dimensions of website service excellence that their citizens value as website excellence has the potential to improve the uptake of services and increase citizen satisfaction with public administration.

2 REVENUE ONLINE SERVICE

Over the past decade, governments, world-wide, have invested heavily in e-government services. The scale of this investment can be gauged from the various benchmarking reports on e-government (e.g. Accenture 2005; CapGemini 2006, UNPAN 2005). Having invested in this technology, governments are naturally interested in both the extent and the nature of the use of online services made by citizens and business and they have employed a variety of instruments to try to measure this, from crude hit rate counts to citizen surveys.

While there are differences from country to country, there is a core group of public services that are available, to varying extents, online in most countries measured in the aforementioned benchmarks. These range from registration services (birth, car, company) to licence/document applications (driver, dog, passport) to tax and social welfare services. As already noted, when looking at progress to date, it is not surprising to find that the aspect of e-government which tends to be most developed and most widely used is online tax filing. As one senior civil servant observed, it is easier to persuade finance ministers to fund IT investments that increase income, than it is to fund activities that are likely to increase expenditure. According to the US Internal Revenue Service, 68 million taxpayers filed online in 2005 and this number is expected to exceed 70 million (out of 135 million returns) in 2006 (IRS 2006). There is one important difference between a country like the USA and Ireland. In the USA, self-assessment of taxes has a long history. In Ireland, self-assessment, particularly for those on pay-as-you-earn (PAYE) is a relatively recent innovation. Furthermore, countries, including Ireland, which are former colonies, can exhibit a cultural bias against payment of tax which exacerbates a natural antipathy to taxation that is as old as history. Nonetheless, tax authorities have

tended to be at or near the leading edge of IT deployment and to gain maximum leverage from this, self assessment is highly desirable. In Ireland, as already noted, use of IT for automation of revenue collection has been around for several decades, so it is not surprising that with the move to online services, the Irish Revenue Commissioners would be at the leading edge of on-line service provision in Ireland. In 1993, the Irish Revenue Commissioners (hereafter simply referred to as Revenue) initiated a major review of their IT strategy and architecture. At the time, this process was expected to take up to ten years though arguably it is still continuing. The provision of online tax services, entitled Revenue Online Service (ROS), was initiated as a separate project in 2000 (Revenue Commissioners Annual Report, 2000). ROS was set up in a separate physical location and given its own budget and its own staff. The initial target market for ROS was the business sector, the self-employed and certain taxes such as value-added tax (VAT). The large, PAYE sector was not included initially, in part because of the high cost of digital certificates at the time and in part because of the relatively limited penetration of PCs and Internet access in the customer base at that time.

The design of an online tax filing system must address a number of specific challenges that do not usually apply in other online types of government service applications. Two that are notable are a high level of security and the ability to handle large peaks in traffic and processing. The latter in particular can be a cause of problems (indeed the ROS system had a problem with managing traffic volumes in its first year of operation). Furthermore, taxation is, by its nature, a complicated subject and most businesses as well as many self employed individuals and even citizens on PAYE use intermediaries, such as accountants, to complete and file their tax returns. An online system must reflect these complexities. At the same time, any such system has to be sufficiently clear and simple to use that an ordinary tax payer, who might not have a high degree of computer or even tax literacy, can complete and file their taxes without undue difficulty. These are considerable challenges for any online service and it is noteworthy that the ROS website and service had been one of the successes of Irish e-government and has won a number of awards (Revenue Commissioners Annual Report, 2005: 39). If, as suggested above, usage rates are an important measure of success, then ROS has been highly successful with 53% of self-assessment taxpayers

using the system in 2003 and a total of €8.3 billion of revenue being collected via the system (Revenue Commissioners Annual Report, 2005). Furthermore, ROS reports significant savings of €600,000 in postage and 30 man-years per annum in processing effort (Accenture, 2005).

This study currently being undertaken has three objectives. Firstly, it examines the dimensions of website service quality that are valued by Irish citizens who use the revenue online service to file their tax returns. Secondly, it examines the degree to which website service excellence influences consumer trust in electronic government. Thirdly, by applying the newly operationalised e-S-QUAL measurement instrument, it explores the relevance of this instrument in the evaluation of e-government website service quality.

3 SERVICE QUALITY

Service quality is one of the most researched topics in the area of service marketing. Although research into the dimensions of website service quality that are valued by online consumers is in an embryonic stage, it is a subject of growing importance. In part, this is due to the fact that as competition for online consumers intensifies, service quality has become a key differentiator for online vendors and thus it has become necessary to have a reliable means by which to measure it. This is particularly true in the business to consumer electronic commerce marketplace where web vendors compete for a limited number of consumers and where consumer loyalty has become a key indicator of success.

Service quality has been defined as the difference between customers' expectations for service performance prior to the service encounter and their perceptions of the service received (Asubonteng *et al.*, 1996). When performance does not meet expectations, quality is judged to be low and when performance exceeds expectations, the evaluation of quality rates it as high. Thus, in any evaluation of service quality, customers' expectations are key to that evaluation. Moreover, Asubonteng *et al.*, (1996) suggest that as service quality increases, satisfaction with the service and intentions to reuse the service increase.

Meeting customer service requirements is both a performance issue (i.e. whether the service satisfies

the customers requirements) and a question of conformity to measurable standards. For example, Swartz and Brown (1989) distinguish between the consumer's post-performance evaluation of 'what' the service delivers and the consumer's evaluation of the service during delivery. The former evaluation has been termed 'outcome quality' (Parasuraman, 1985), 'technical quality' (Gronröos, 1983) and 'physical quality' (Lehtinen and Lehtinen, 1982). The latter evaluation has been termed 'process quality' by Parasuraman *et al.*, (1985), 'functional quality' by Gronröos (1983) and 'interaction quality' by Lehtinen and Lehtinen (1982).

The most frequently cited measure of service quality is SERVQUAL, an instrument developed by Parasuraman *et al.*, (1985, 1988). Designed to measure service quality from a customer perspective, it consists of five dimensions that represent the service attributes that consumers use to evaluate service quality. These five dimensions are tangibles, reliability, responsiveness, assurance and empathy. As already noted, in their model, Parasuraman *et al.*, (1985, 1988) suggest that it is the gap between consumer expectations with actual service performance that informs service quality perceptions. It is this performance-to-expectations gap that forms the theoretical basis of SERVQUAL. However, Parasuraman *et al.*, also note that the evaluation of service quality is not based solely on the service outcome but also involves evaluations of the process of service delivery.

Despite its popularity, a number of aspects of the SERVQUAL instrument, such as the proposed causal link between service quality and satisfaction (Woodside *et al.*, 1989; Babakus and Boller, 1992), and the question as to whether one scale can be universally applicable in measuring service quality regardless of the industry or environment (Asubonteng *et al.*, 1996; Finn and Lamb 1991; Cronin and Taylor, 1992, 1994; Teas, 1993) remain contentious. Moreover, although it remains the dominant model for both researchers and managers in service quality evaluation, its claimed universality and applicability is made even more questionable by the numerous modifications to the model that have been made in many studies that purport to use it (Paulin and Perrien, 1996).

4 WEBSITE SERVICE QUALITY

Website service quality, frequently termed e-service quality, has been defined as consumers' overall evaluation and judgment of the excellence and quality of e-service offerings in the virtual marketplace (Santos, 2003) and as the extent to which a website facilitates efficient and effective shopping, purchasing and delivery (Zeithaml 2002). e-Service quality is constantly evolving due to the pace of competition and the ease of duplicating service features in the online world (Trabold et al., 2006). Notwithstanding evidence of continuing consumer dissatisfaction with service delivered through the Internet (Gaudin 2003; Ahmad 2002), studies of e-service quality remain limited and frequently employ instruments that were developed for use in a traditional environment such as SERVQUAL. For example, some researchers (Van Iwaarden *et al.*, 2004) have used SERVQUAL to examine the quality factors perceived as important in relation to the use of websites, despite the fact that SERVQUAL was not designed to measure perceived service quality in an online environment and its applicability is therefore unlikely to extend to that context. While it is true that past conceptualisations can be useful platforms for describing e-services (Van Riel et al., 2001), there is an increasing awareness (Cai and Jun, 2003; Li et al., 2003) that the SERVQUAL instrument is limited in terms of its ability to measure e-service quality, particularly as there are dimensions of service quality that are unique to the electronic context. Moreover, Cox and Dale (2001) argue that dimensions of service quality specific to a traditional environment such as competence, courtesy, cleanliness, comfort, and friendliness are not salient in the electronic retail environment while such dimensions as accessibility, security, communication, credibility and appearance are of critical importance in an on-line environment. Support for inclusion of specific dimensions unique to the on-line retail environment is also provided by Long and McMellon (2004) who argue that factors such as geographic distance and the facelessness of the experience form part of the online service experience and therefore should be part of any e-service quality measurement instrument.

Despite the fact that several researchers have proposed scales to evaluate websites, many of these scales do not provide a comprehensive evaluation of the service quality of the website. For example, the objective of the WebQual scale (Loiacono *et al.*, 2000) is to provide website designers with

information regarding the website (e.g. informational fit to task) rather than to provide specific service quality measures from a customer perspective. Other scales such as that proposed by Barnes and Vidgen, 2002 provide a transaction-specific assessment rather than a detailed service quality assessment of a website. The SITEQUAL scale (Yoo and Donthu, 2001) excludes dimensions central to the evaluation of website service quality as does Szymanski and Hise's (2000) study, while other researchers (Parasuraman *et al.*, 2005) have expressed caution regarding the consistency and appropriateness of dimensions used in the eTailQ scale proposed by Wolfenbarger and Gilly (2003).

Recently, many of these concerns have been addressed by the original authors of the SERVQUAL instrument through the development and operationalisation of a multi-item scale specifically designed for examining website service quality (Parasuraman, Zeithaml and Malhotra, 2005). This scale, termed E-S-QUAL, is a four-dimensional, 22-item scale that captures the critical dimensions of service quality outlined in the extant literature on customer expectations of on-line services. The dimensions are efficiency, fulfilment, system availability, and privacy. The scale has an accompanying subscale called E-RecS-Qual which contains items focused on handling service problems and is relevant to customers who have had non-routine recovery service encounters with the website. E-RecS-Qual consists of a three-dimensional, 11 item scale. These three dimensions are responsiveness, compensation, and contact. Both scales, whose specific purpose is the measurement of website service quality, have been subjected to reliability and validity tests and demonstrate good psychometric properties.

As E-S-QUAL is a relatively new measure it has not been used extensively in online service quality research. Kim *et al.*, (2006) have recently utilised the measure in a study of online apparel retailers. By using this measure, they were able to identify successfully the exact e-service dimensions on which online apparel retailers are succeeding (and those on which they are failing) and thus identify the key factors that contribute to customer satisfaction (and dissatisfaction). Such insights are of enormous value as they provide retailers with the knowledge necessary to improve their online service, resulting in increased customer satisfaction, increased sales and higher customer profitability.

5 RESEARCH METHODOLOGY

Having reviewed the relevant literature, it was decided to employ the E-S-QUAL questionnaire (2005) using a web-based format in the evaluation of ROS. The survey was divided into two sections. In Section 1 a varying number of questions were asked regarding specific dimensions of online service quality as identified in Parasuraman *et al.* These dimensions and the number of items used to represent them are outlined in table 1.

Table 1: Quality dimensions measured by the survey.

Quality Dimension
Efficiency
System availability
Fulfilment
Privacy
Responsiveness
Efficiency
Compensation
Perceived value
Loyalty intentions

In addition, ROS themselves requested that a number of statements be added to the survey in order to focus on specific aspects of their service. An example of this is the statement that the ROS website “...enables me to complete the filing of my tax returns quickly”. Statements on the influence of each service quality dimension on citizens’ trust beliefs were also included. For example, in relation to the dimension of website efficiency, citizen’s were asked to agree or disagree with the statement: “*The ease of use of a website increases my trust in the on-line vendor.*” The purpose of these questions was to investigate which dimension of website service quality provides the strongest influence on citizens’ trust in ROS. In total, section one of the survey contained 31 statements. Section two of the survey collected demographic information.

In order to administer the questionnaire, the Revenue Online Service emailed self-employed citizens who file their tax returns online informing them of the study and inviting their participation. The email contained a direct link that directed the citizen to the online questionnaire. At the time of writing, the survey is live on the web and data is being collected. The response rate is high and rising. When the data collection period is completed, it is planned to input the data from both surveys into SPSS and to analyse the results.

6 CONCLUSION

This paper has outlined an in-progress study that aims to improve one aspect of the delivery of electronic government in Ireland. The findings will provide the Irish Revenue Online Service with insight into the key dimensions of service that are valued by Irish citizens who use their online service to file their tax returns. It will provide evidence that Irish citizens’ perception of online revenue service quality is driven or inhibited by specific factors, all of which it is possible to manage. Second, it shows the degree to which specific dimensions of service quality engender, or in their absence inhibit, citizen trust in the Revenue Online Service. Finally, it demonstrates the applicability of the E-S-QUAL survey instrument to improving our understanding of the e-government service environment. These contributions will improve both practitioners’ and researchers’ understanding of the factors that contribute towards the creation and maintenance of high quality e-government services and consequently influence citizen trust and satisfaction with e-government interactions.

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