2005

Internet retailing quality: a conceptual perspective

Julie E. Francis
University of Wollongong, jfrancis@uow.edu.au
Internet retailing quality: a conceptual perspective

Abstract
Cronin (2003, p.335) describes new constructs as “...a proverbial dream come true” because literature can be moulded to explain new constructs, there are limited grounds on which to compare research results and reviewers favour new information. This is pertinent to Internet retailing quality in that the construct is relatively new and while various studies offer models and measures of Internet retailing quality, many identify substantially different quality criteria and the results are rarely compared. This raises questions regarding the extent to which Internet retailing quality is understood. Accordingly, this paper will examine Internet retailing quality from a conceptual perspective by drawing from ‘old’ information pertaining to quality management and model/scale development. From this foundation it will emerge that there are at least four variations of the Internet retailing quality construct, that the understanding of the variations is limited and that testing hypotheses about Internet retailing quality is premature.

Keywords
Internet, Retailing, Quality, Conceptual, Perspective

Disciplines
Business | Social and Behavioral Sciences

Publication Details

This conference paper is available at Research Online: http://ro.uow.edu.au/commpapers/1689
Internet Retailing Quality: A Conceptual Perspective

Julie E. Francis, University of Wollongong

Abstract

Cronin (2003, p.335) describes new constructs as “…a proverbial dream come true” because literature can be moulded to explain new constructs, there are limited grounds on which to compare research results and reviewers favour new information. This is pertinent to Internet retailing quality in that the construct is relatively new and while various studies offer models and measures of Internet retailing quality, many identify substantially different quality criteria and the results are rarely compared. This raises questions regarding the extent to which Internet retailing quality is understood. Accordingly, this paper will examine Internet retailing quality from a conceptual perspective by drawing from ‘old’ information pertaining to quality management and model/scale development. From this foundation it will emerge that there are at least four variations of the Internet retailing quality construct, that the understanding of the variations is limited and that testing hypotheses about Internet retailing quality is premature.

Keywords: Internet retailing quality, model and scale development

Introduction

It has been suggested that poor quality management is prevalent in Internet retailing and the situation has been partially attributed to an absence of sound, managerially useful models and measures of Internet retailing quality (Wolfinbarger & Gilly, 2003; Zeithaml, 2002). Concurrently, some researchers have tested hypotheses about Internet retailing quality (e.g. Harris & Goode, 2004) and in doing so they implicitly assert that reliable, valid measures of the construct are available. Given these contradictory positions, this paper examines Internet retailing quality from a conceptual perspective. Initially, the core objectives and principles of managing quality will be outlined then the procedures for developing models and measures of quality will be considered. In turn, the insights will be used to assess the theoretical merit of extant Internet retailing quality studies, to demonstrate that the understanding of this new construct is limited and to propose that additional scale development studies are required.

Managing Quality

While the construct of Internet retailing quality is relatively new, the strategic and conceptual issues associated with quality are not. Specifically, marketers have been interested in quality since the 1950’s when authors such as Deming, Feigenbaum and Juran sought to shift the attention of production-oriented managers towards that of meeting customer requirements (Mann, 1999; Giroux & Landry, 1998). As Feigenbaum (1956, p.101) observed “While delivery and other factors may sell a product the first time, it is usually quality which keeps the product sold and which keeps the customer coming back a second and third time.” Researchers have since examined the link between quality, customer loyalty and profitability (e.g. Heskett et al, 1994; Rust, Zahorik & Keiningham, 1995). Subsequently, it has been established that effectively managing quality increases customer retention and purchase behaviour while enhancing operational efficiency and profitability (Fisk, Grove & John, 2000; Zeithaml, 2000).
Regarding the scope of issues that should be managed, Feigenbaum (1956, p.94) specified that quality concerns “...end only when the product has been placed in the hands of a customer who remains satisfied.” During the 1980’s and 90’s many firms encountered financial difficulties after implementing inadequate or ‘cosmetic’ quality management programs that undervalued this scope related caveat and did not focus on the customer’s requirements (Lovelock, 2001; Zeithaml, 2000). In turn, contemporary authors emphasise that all business activities should be governed by the pursuit of quality (e.g. D’Cruz & Fleck, 1989; Ghobadian & Galleear, 2001) and in particular, Rust, Zahorik and Keiningham’s (1995) Return-On-Quality (ROQ) approach stipulates that quality directed efforts should be assessed in terms of the relevance to customers, impact on customer retention and projected returns.

These principles support two initial conclusions about Internet retailing quality. Firstly, a key objective of examining the construct is to understand the issues that will encourage existing customers to repeat and increase their purchase behaviour. Secondly, the construct includes a range of issues that do not end until the customer has obtained that which they purchased online. Transposed, Internet retailing quality studies that examine the views of consumers who have never purchased a product online or do not look beyond the pre-purchase search of Web sites may provide misleading, inaccurate or at best, incomplete accounts of the construct.

Examining the quality management process reveals further insights. On this matter Feigenbaum (1956) describes three phases: specifying the requirements of customers, measuring quality relative to the specifications and analysing quality data to foster corrective actions. Similarly, Quality Function Deployment prescribes identifying the requirements of customers, matching the requirements with quantifiable measures then measuring and analysing quality performance (D’Cruz & Fleck, 1989; Zairi & Youssef, 1995). Quality models and scales are integral to the identification-measurement-analysis process. In particular, displaying quality requirements via conceptual models fosters the development of meaningful, readily communicated management goals while measuring quality provides data that is used to diagnose performance and determine improvement priorities (Ghobadian & Galleear, 2001; Zeithaml, Berry & Parasuraman, 1988).

In this context it may be seen that efforts to develop models and measures of Internet retailing quality are readily justifiable. Concurrently, the extent to which such instruments provide a sound, managerially useful contribution towards identifying, measuring and analysing the customer’s quality requirements is inherently bound by the instrument development procedures. Thus, examining the development of Internet retailing quality models and scales is critical.

**Developing Quality Models and Scales**

The development of Internet retailing quality models and scales incorporates various universal and construct-specific considerations. Focusing on universal issues, the reliability and validity of measurement scales cannot be fully optimised and demonstrated on the basis of a single scale administration study. Rather, developing instruments demands an initial scale construction stage followed by multiple scale administration studies during which the instrument is sequentially refined and assessed using data collected from separate samples (Catell, 1978; Nunnally & Bernstein, 1994; Rummel, 1970). Furthermore, determining the most appropriate procedures through which to perform each stage necessitates examining a wide range of methodological concerns. While the confines of this paper do not facilitate examining these matters thoroughly, two manuscripts that are frequently cited in scale development studies warrant particular note.
Specifically, many scale development studies cite Churchill (1979) and Anderson and Gerbing (1988) to justify the procedures that were employed. However, Churchill (1979) addresses only a portion of the scale development considerations, certain guidelines have limited applicability to measures of quality and some studies that purport to follow Churchill (1979) do not perform the recommended replication study (Finn & Kayande, 1979; Reinecke-Flynn & Pearcy, 2001). Regarding Anderson and Gerbing (1988), this manuscript is often cited in studies that involve Confirmatory Factor Analysis (CFA). However, it is rarely, if ever, acknowledged that Anderson and Gerbing’s (1988) approach of performing CFA with data collected from the second administration of a new scale has been directly criticised as premature (e.g. Fornell & Yi, 1992; Hayduk & Glaser, 2000) or that performing CFA in the initial stages of scale development may actually hinder developing a thorough understanding of the new construct (Blustein, 2003; Catell, 1978; Crowley & Fan, 1997; Hurley et al, 1997).

Regarding construct-specific issues, Internet retailing is a type of service (Gronroos et al, 2000; Kolesar & Galbraith, 2000). As marketing literature reveals, measuring service quality is especially difficult (Carman, 1990; Parasuraman, Zeithaml & Berry, 1985) and such measures should assess the service delivery process as well as the service outcomes (Gronroos, 1984; Reeves & Bednar, 1994). Also, as the components of quality vary across different types of conventional services, it is necessary to amend generic quality scales, such as SERVQUAL, to suit the given type of service (Buckle, 1996; Parasuraman, Zeithaml & Berry, 1994). In Internet retailing however, the extent to which the processes and outcomes associated with purchasing products online differ from conventional services has prompted various authors, including the SERVQUAL developers, to assert that it is necessary to develop entirely new measures of quality for Internet retailing (Gronroos et al, 2000; Zeithaml, Parasuraman & Malhotra, 2000).

Furthermore, accumulating research suggests that just as the components of quality vary across conventional services, they also vary across different types of Internet retailing. For instance, some Internet retailing quality researchers have distinguished situations involving goods that are delivered via post or courier from situations involving electronically delivered, or downloaded, goods (Wolfinbarger & Gilly, 2003; Zeithaml, Parasuraman & Malhotra, 2000). More recently, the Fulfilment-Product Classification Scheme (Francis & White, 2004a) reveals four types of Internet retailing and thus, four potential variations of Internet retailing quality. The categories are offline-goods, where tangible goods are ordered online then physically dispatched (e.g. books, groceries), electronic-goods, where digital goods are purchased then downloaded (e.g. software, MP3’s), offline-services, where services are purchased online then consumed offline (e.g. airline or event tickets), and electronic-services where services are purchased, co-produced and consumed online (e.g. share trading, adult entertainment). The study of Internet shopper requirements and value across these situations then concluded that it may be necessary to develop a category-specific quality measurement scale for each of the four Fulfilment-Product categories of Internet retailing (Francis & White, 2004a).

**Internet Retailing Quality Models and Scales**

The previously discussed principles provide an initial basis for assessing extant Internet retailing quality models and scales. For instance, where a core objective of examining quality is to identify and measure the requirements of customers, Table 1 reveals that some Internet retailing quality scale development studies did not examine the requirements of Internet shoppers. Rather, Harris and Goode (2004) developed a measure of Internet retailing quality by rewording SERVQUAL, contrary to the advice of the SERVQUAL developers. The next four
studies in Table 1 examined the views of Internet users who did not have online purchase experience and thus, were not qualified to discuss online purchase processes and outcomes. Ultimately, these studies identify few, if any, purchase or post-purchase quality requirements. For instance, in Janda, Trocchia and Gwinner’s (2002) scale, 19 of the 22 items could be answered after a non-shopping visit to a Web site. It warrants emphasis that while Janda, Trocchia and Gwinner (2002) administered their scale to Internet shoppers, the scale construction study in which the quality criteria were initially proposed did not expressly involve Internet shoppers and did not specify that completed online purchase incidents were examined.

Table 1: Internet Retailing Quality Model and Scale Development Studies

<table>
<thead>
<tr>
<th>Authors &amp; Scale (if named)</th>
<th>Based on Internet Shopper Requirements</th>
<th>Scope of Quality Requirements</th>
<th>Type of Internet Retailing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harris &amp; Goode, 2004</td>
<td>Reworded SERVQUAL</td>
<td>As per SERVQUAL</td>
<td>Books &amp; Airline</td>
</tr>
<tr>
<td>Barnes &amp; Vidgen, 2001 (WebQual)</td>
<td>✗</td>
<td>Pre-purchase only</td>
<td>Books</td>
</tr>
<tr>
<td>Janda, Trocchia &amp; Gwinner, 2002 (IRSQ)</td>
<td>✗</td>
<td>Primarily Web Site</td>
<td>Generic</td>
</tr>
<tr>
<td>Loiacono, Watson &amp; Goodhue, 2002 (WebQual)</td>
<td>✗</td>
<td>Pre-purchase only</td>
<td>Generic</td>
</tr>
<tr>
<td>Yoo &amp; Donthu, 2001 (SITEQUAL)</td>
<td>✗</td>
<td>Pre-purchase only</td>
<td>Generic</td>
</tr>
<tr>
<td>Long &amp; McMellon, 2004</td>
<td>✗</td>
<td>Primarily Web Site</td>
<td>Generic</td>
</tr>
<tr>
<td>Jun &amp; Cai, 2001</td>
<td>✗</td>
<td>Pre, during &amp; post-purchase</td>
<td>Offline-Goods</td>
</tr>
<tr>
<td>Francis &amp; White, 2002 (PIRQUAL)</td>
<td>✗</td>
<td>Pre, during &amp; post-purchase</td>
<td>Offline-Goods</td>
</tr>
<tr>
<td>Wolfinbarger &amp; Gilly, 2003 (eTailQ)</td>
<td>✗</td>
<td>Pre, during &amp; post-purchase</td>
<td>Offline-Goods</td>
</tr>
<tr>
<td>Parasuraman, Zeithaml &amp; Malhotra, 2005 (E-S-QUAL)</td>
<td>✗</td>
<td>Pre, during &amp; post-purchase</td>
<td>Offline-Goods</td>
</tr>
<tr>
<td>Yang, Peterson &amp; Cai, 2003</td>
<td>✗</td>
<td>Pre, during &amp; post-purchase</td>
<td>Banking</td>
</tr>
<tr>
<td>Siu &amp; Mou, 2003</td>
<td>✗</td>
<td>Pre, during &amp; post-purchase</td>
<td>Banking</td>
</tr>
<tr>
<td>Francis &amp; White, 2004b (PIRQUAL)</td>
<td>✗</td>
<td>Pre, during &amp; post-purchase</td>
<td>Offline-Services, Electronic-Goods, Electronic-Services</td>
</tr>
</tbody>
</table>

Concurrently, examining the requirements of experienced Internet shoppers is not sufficient to ensure that the full scope of quality concerns is covered. In particular, Long and McMellon (2004) and Tih and Ennis (2004) examined the views of actual Internet shoppers. However, these scale development studies treated all types of Internet retailing as a single uniform group, thereby amalgamating the divergent online purchase processes and outcomes. Notably, these generic quality measurement scales identify few purchase or post-purchase requirements (Table 1). For instance, Tih and Ennis (2004) do not identify any customer requirements associated with the delivery of purchased products while Long and McMellon (2004) identify that the sole requirement of customers is to have a range of shipping options.
In contrast, the remaining studies in Table 1 examined the requirements of experienced Internet shoppers and focused on a specific type of Internet retailing. Subsequently, these scales offer more detailed accounts of Internet shopper requirements and category-specific quality criteria. Nevertheless, concerns remain regarding the extent to which the construct of Internet retailing quality is understood and can be adequately measured at this point in time. For instance, none of the scales have been subjected to incremental refinement studies. Among the offline-goods scales for instance, Jun and Cai (2001) have not administered their preliminary scale while Francis and White (2002) and Wolfinbarger and Gilly (2003) performed single administrations of their preliminary scales. As for Parasuraman, Zeithaml and Malhotra’s (2005) E-S-QUAL, while the scale was administered on three occasions, refinement procedures were implemented on the first occasion and the subsequent studies did not involve modifying problematic items or attempting to identify missing explanatory variables. The use of CFA with data obtained from the first scale administration reported by Wolfinbarger and Gilly (2003) and Parasuraman, Zeithaml and Malhotra (2005) also raises concerns regarding the premature application of CFA.

Table 1 also indicates that quality in Internet retailing situations other than those involving offline-goods is particularly under-researched. Regarding quality in online banking, only two studies have been conducted and Siu and Mou (2003) offer the sole case of administering and assessing a quality measurement scale. Also, Francis and White (2004b) deliver the only known study of quality in offline-services, electronic-goods or electronic-services Internet retailing. Furthermore, that study presents preliminary models of the quality components, with the scale administration-assessment being proposed for future research. This constitutes a substantial gap in the literature given that these categories incorporate some of the most frequently purchased Internet offerings, including airline tickets, software, music and adult entertainment.

Conclusion

This paper raised questions regarding the extent to which Internet retailing quality is understood and whether it is appropriate to test hypotheses involving the construct. By focusing on key quality management and scale development principles it emerged that no Internet retailing quality scale may be considered to be fully developed, that there may be four variations of Internet retailing quality and that efforts to develop quality scales for some of the most popular Internet retailing contexts have only recently commenced. Notably, this broad critique did not encompass other potentially problematic scale development issues, such item wording, types of response scales and assessing validity. Subsequently, it appears appropriate to conclude that at present, Internet retailing quality is only partially understood and that in the absence of reliable, valid measure of Internet retailing quality, the construct is not amenable to hypothesis testing.

Accordingly, research is required to address these knowledge gaps and limitations. For instance, advancing the development of the offline-goods quality models and scales would enhance the understanding of quality in this Internet retailing category and deliver instruments that could be used by managers to increase customer loyalty and profitability. Likewise, constructing and refining quality scales for the alternate categories (offline-services, electronic-goods, electronic-services) would contribute to Internet retailing theory and management. Furthermore, after developing such instruments, researchers could establish benchmarks for Internet retailing quality performance and begin to examine broader issues, such as the long-term effects of managing quality in Internet retailing or cross-cultural differences in quality requirements.
References


