

Exploring customer perceptions of e-service quality in Collaborative Virtual Environments: a critical incident analysis

Eman Gadalla, Alex Zarifis

Manchester Business School, University of Manchester, Manchester, UK, M15 6PB

Abstract:

E-service has been increasingly recognized by both researchers and practitioners as being one of the key determinants in successful e-commerce. Second Life (SL) is a popular example of a collaborative virtual environment (CVE) that is an immersive, three-dimensional, virtual world. Inhabitants of SL often describe their experiences in-world as having great social presence. However, there are doubts expressed about whether human behaviours will be the same in VWs as they are in real life or on 2D websites. Hence, it seems dangerous to assume that marketing models such as service quality developed elsewhere will apply in these 3D CVEs. Using the Critical Incident Technique, this research aims to explore how customers conceptualize e-service quality in CVEs, such as Second Life. In addition, a primary concern of the online consumer is that of trust, often considered as a parameter within e-service quality. The second objective of this research is to explore what respondents believe constitutes institutional trust in CVE environments. The results will illustrate whether there are differences between respondent perceptions of what constitutes e-service quality and trust in CVE environments compared to the 2D website and offline context, and whether any new issues arise.

1. Introduction:

E-service has been increasingly recognized by both researchers and practitioners as being one of the key determinants in successful e-commerce. Recently, there has been considerable interest amongst marketers and advertisers in using collaborative virtual environments sometimes referred to as virtual worlds (e.g., Second Life), as sites for engaging consumers in deeper and more sustaining ways, for example, Goel and Mousavidin (2007) examine the potential for Customer Relationship Management in VWs. Perhaps because interaction is conducted through onscreen representations of the users known as avatars, inhabitants of virtual worlds such as Second Life often describe their experiences in-world as having great social presence.

Notwithstanding, there are doubts expressed about whether human behaviours will be the same in VWs where interaction is conducted through the medium of an avatar as they are in real life or on 2D websites (e.g., Junglas et al., 2007) and the viability of VW business models in general (e.g., Noam, 2007). Hence, it seems dangerous to assume that marketing models developed elsewhere (such as service quality) can be applied without modification or will even apply in collaborative virtual environments (CVEs)

Motivated by the general agreement in the literature that service quality is critical in the online environment, this study seeks to understand how customers conceptualize e-service quality in CVEs, such as Second Life. In addition to e-service quality, a primary concern of the online consumer is that of trust. Trust is often included as a parameter within e-service quality, (Zeithaml, Parasuraman and Malhotra, 2002). This research puts special emphasis on this aspect as it is crucial, a potential 'deal-breaker'. If all the other aspects of e-service quality are

met with a high degree of success but trust is not achieved it is unlikely that a transaction will take place.

2. Background:

2.1 Retail service quality:

One of the leading fields of marketing research is the study of service quality (Grapentine, 1998). The specific field of service quality research that this study examines is e-retail service quality. Developed from Internet marketing and the traditional service quality literature, the concept of service quality on the Internet, Santos (2003) defines e-service quality as “*the consumers’ overall evaluation and judgment of the excellence and quality of e-service offerings in the virtual marketplace*” (Santos, 2003, p.235). The construct of service quality from an academic perspective, has explored the theoretical framework and conceptualisation of the construct (Cronin and Taylor, 1994), and from a practitioner standpoint, the linkages between providing high quality service and attaining superior firm performance (Zeithaml, 2000).

A number of studies address measurement of online service quality, developing a range of measurement scales. These scales include the following: SITEQUAL to measure Internet service quality (Donthu 2001), PIRQUAL to assess perceived Internet retail quality (Francis and White 2002), WebQual to measure Website quality (Barnes and Vidgen 2002; Loiacono, Watson, and Goodhue 2002), eTailQ (Wolfenbarger and Gilly 2003), and more recently, E-S-QUAL (Parasuraman, Zeithaml, and Malhotra 2005). Nonetheless, there is a lack of empirical investigations on the role of service quality and trust within the context of collaborative virtual environments, more precisely in Second Life (SL).

2.2 Trust within retail service quality:

Trust has a crucial role in electronic commerce because several of the features that reinforce it in the ‘bricks and mortar’ environment do not exist in electronic markets. The most important of these are human presence and the ‘cues’ such a presence provides. There are many theories and models that attempt to capture the nature of this characteristic online from the late nineties (e.g., Jarvenpaa and Tractinsky, 1999) to today (e.g., Pavlou *et al*, 2007).

These models are a development of theories of trust extant in the psychology literature (e.g., Rotter, 1967). The best of these models attempt to identify different types of trust at different stages of the purchase, including an interpretation of pre and post purchase states. One of the most prominent and widely referenced models of online trust is McKnight *et al*, 2002 that identifies four high level constructs and 16 sub constructs. The high level constructs are ‘Disposition to trust’ an inherent character trait, ‘Institution based trust’, trust in the internet as a channel for transactions, ‘Trusting beliefs’ in the specific vendor, ‘Trusting intentions’ the intention to transact with the specific vendor. The focus of this exploratory research in the new environment of CVEs is on ‘Institutional trust’. This type of trust will enable us to assess the nature of trust in CVEs within a wider understanding of service quality in virtual world retailing.

2.3 Collaborative virtual environments:

Thanks to the Internet nearly a billion individuals worldwide have the possibility to communicate in various ways (Ondrejka, 2005), making possible the rapid increase in use of spatial three-dimensional interfaces for multiplayer games, groupware systems, and multi-user chat systems (Gerhard, Moore and Hobbs, 2004). A collaborative virtual environment (CVE) is a computer-generated, multi-user, three-dimensional interface in which users can also

experience other participants as being present in the environment (Schroeder 2002). Each user interacts freely with the simulated environment through his or her individual avatar, defined as a representation of the user's identity within the computer environment (Gerhard et al., 2004). The Second Life platform is an example of a CVE.

Benford et al. (1995) suggests CVEs have a number of characteristics: navigation, embodiment, communication, and interaction. Churchill et al (1998) argues that CVEs support shared context, awareness of others, negotiation and communication, and flexible and multiple viewpoints. Through these features, CVEs have the potential to address the practical collaborative needs of geographically dispersed users (Garau 2003). Indeed, for Garau (2003) a primary attraction of CVEs is the combination of 3D spatial interaction with multi-sensory immersion. Since each avatar is both part of the perceived environment and represents the user to others, CVEs potentially offer a high level of mutual awareness (Slater and Wilbur 1997).

2.4 Why service quality in Second Life?

Second Life is a 3D virtual world launched in 2003 by Philip Rosedale (CEO at Linden Lab). About nine million 'residents' from almost 200 countries around the world used SL in August 2007. Noticeably 35 to 45 thousand players are active every day (Lindenlab, 2007). The features of CVEs contribute to the use of SL for entertainment, professional, and educational purposes; millions of people live their fantasies and create a "second life" where imagination is the only limitation. SL offers at least three things: (1) a 3D space or environment; (2) avatars that represent the individual user; and (3) interactive chat, either using text or voice or both (Dickey, 2005). Everything found in SL's landscape, including stores, businesses, houses, office buildings, campuses, island villas, night clubs, and jewellery, are all constructed by residents themselves (Cross, O'Driscoll, & Trondsen, 2007). SL is considered one of the largest and most popular examples of an immersive, three-dimensional, virtual world. Furthermore, the global market for virtual goods is estimated to be approximately USD \$1.5 billion a year, and Second Life plays a significant role in this market. In 2008, Residents of Second Life purchased and sold more than USD \$360 million of virtual goods and services. Shopping for virtual goods has become one of the most compelling and popular aspects of the Second Life experience. As well as virtual goods, it is also possible to order real world goods from stores in SL. Hence, SL offers a good resource for this research.

Because of the relative novelty of such environments, both marketing and academic research related to Second Life is in its nascent stages and is just beginning to fully articulate the theories, models and tools for conducting research and reaching understanding. Further research in this area is necessary to investigate the user's shopping experience in Second Life and to shed greater light on how people perceive service quality and trust in virtual worlds.

3. Research objectives:

An understanding of the role of e-service is critically important as evidenced by suggestions that as much as £8 billion in potential Web sales were lost in a year due to inadequate e-service (Taylor, 2001). As such, in the context of CVEs, it is desirable for online service providers to uncover what attributes consumers utilize in their assessment of overall service quality and satisfaction and which attributes are more important. This research considers that for CVEs in general and for service quality and trust in particular the new environment presents a new dynamic that draws from both the bricks and mortar and online 2D commerce. This new context, in addition to the new or adapted business models, (Noam, 2007), creates a new environment. Rather than make assumptions or projections from the other environments, which would be unreliable, (Junglass *et al*, 2007), empirical evidence must be examined.

Moreover, motivated by the call made by Zeithaml et al. (2002) for a “comprehensive examination of the antecedents, composition, and consequences” of service quality delivery through websites, the objectives of this research are twofold:

1. To explore and understand how customers conceptualize e-service quality in CVEs. This can be achieved through answering the following questions:
 - What do respondents believe constitutes e-service quality in 3D environments?
 - Is there any difference between respondents perceptions of what constitutes e-service quality in 2D and 3D environments?

As discussed above, there is a degree of maturity in the area of institutional trust in 2D electronic retail. Despite this the new, 3D contexts that CVEs provide make it imperative to re-investigate institutional trust within this research. Thus, the second research objective is:

2. In the context of CVEs, to explore how consumers conceptualize institutional trust as defined by McKnight *et al*, 2002. This can be achieved by answering the following questions:
 - What do respondents believe constitutes institutional trust in 3D environments?
 - Is there any difference between respondent perceptions of what constitutes institutional trust in 2D and 3D environments?

4. Research Design

4.1 Method

The approach for this research is inspired by the work of Bitner, Booms, and Tetreault (1990) who recommended the use of Critical Incident Technique (CIT) when the purpose of the research is to increase knowledge of a phenomenon about which relatively little has been documented and/ or to describe a real-world phenomenon based on thorough understanding. Bitner et al. (1990) define CIT as follows: “*a classification technique employing content analysis of stories or "critical incidents" as data.*” *An incident is deemed critical when it “contributes to or detracts from the general aim of the activity in a significant way”* (Bitner, Booms, and Tetreault 1990, p. 73). There is much evidence of the successful use of CIT in research on service quality, both offline and online (Bitner, Nyquist, and Booms, 1985; Bitner, Booms, and Tetreault 1990; Zeithaml and Bitner, 2003; Sweeney and Lapp, 2004; Holloway and Beatty, 2003).

The main strengths of CIT are the ability of the researcher a) to concentrate on a specific occurrence that will help in generating an accurate and in-depth record of events (Grove et al., 1997), b) to use both quantitative and qualitative data analysis (Gremier 2004). The collected data are from the respondent’s perspective and in his or her own words (Edvardsson 1992). Thus, the CIT method reflects the normal way service customers think about incidents (Stauss 1993) and does not force them into any given framework. In this research, CIT will help record and understand clearly the set of cognitive and emotional perceptions informants associate with a particular CVE shopping experience.

4.2 Sample

For the purpose of this study, a ‘user’ of a virtual store in CVEs is defined as a person who has visited, purchased from, or enjoyed the services offered by a virtual store at least once in the last 3 months. One justifiable use of a purposive sample is for exploratory purposes, that is, to get different views on the dimensions of a phenomenon, to probe for possible explanations

or hypotheses, and to explore constructs for dealing with particular phenomenon. Based on this argument a purposive sample of 15 users with different levels of online purchase experience will be selected. The sample composition will reflect the gender and age characteristics of the Second Life 'population'. In addition, respondents are sought from the USA, the UK and Germany, as these three represent over 50% of SL users.

5. Expected Results

We argue that the features of CVE's may produce a different customer shopping experience when 'shopping' in the 3D context to that from a 2D e-tail website. This paper presumes that there might be some differences between respondents' perceptions of what constitutes e-service quality in 3D environments compared to the 2D and the offline, concentrating mainly on issues concerning institutional trust. This area is largely unexplored, so it is appropriate to use a qualitative technique. The Critical Incident Technique, which shows much evidence of successful use in research on service quality, will be undertaken and the resulting data analysed using NVivo.

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