

Evidences from link between quality and loyalty in e-service: an empirical study

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ABSTRACT

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: Service, e- Service, Service Quality and 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 e MITTAL (2000), HESKETT *et al.* (1994); PARASURAMAN e GREWAL (2000); TAYLOR e BAKER (1994); ZEITHAML *et al.* (1996)). The broad underlying model proposed and supported by this research is shown in Figure 1.

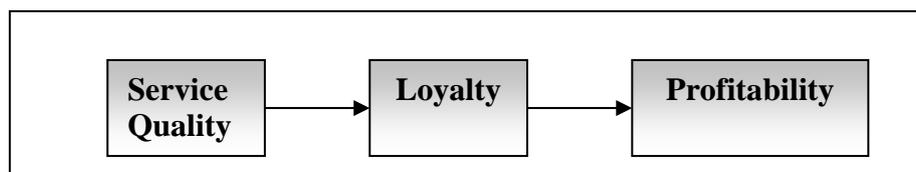


Figure 1 - Links between Service Quality, Loyalty and Profitability

Underlying this model, are two broad relationships. One is the link between customer loyalty and profitability. REICHHELD (1996b; REICHHELD (1996a) 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 e 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.

The other relationship underlying the above model is between service quality and customer loyalty (e.g., BOULDING *et al.* (1993); CRONIN e 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 link 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 e 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 e 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 alternative service providers (HOF *et al.* (1998); REIBSTEIN (2002)), for example, using sites that automate the comparison of 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 *et al.* (1991a)).

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. LITERATURE REVIEW

2.1 SERVICE

Today's economies are increasingly driven by service enterprises. Innovations in technology and integration with computers and telecommunications are viewed not only as a powerful facilitating mechanism for service organizational growth, but in fact are a driver creating new service markets, transforming industries and seen as enablers for transforming the nature, content, context and scope of the service offerings.

Over the years, services and the service sector have been defined in a variety of ways that leads to some confusion as to what constitutes a service and the service sector. Definitions of service have ranged from the narrow to the broad, with most narrow definitions of services relying upon listing industries contained in the service sector.

Broader definitions have been proposed that provide more latitude in determining what constitutes a service. MURDICK *et al.* (1990) ask the question, "What are services?" They propose the following definition: Services can be defined as economic activities that produce time, place, form, or psychological utilities. A maid service saves the consumer's time from doing household chores himself or herself. Department stores and grocery stores provide many commodities for sale in one convenient place. A database service puts together information in a form more useful for the manager. A "night out" at a restaurant provides psychological refreshment in the middle of a busy workweek.

While narrow definitions that allow us to assign organizational membership in the service sector are important, those that address the characteristics of services are more provocative. They make us see the core benefits of products in a new light, encouraging us to think about how we can successfully compete in the marketplace by addressing such issues as quality, product design, and process design.

In simple terms, services are deeds, processes, and performances (ZEITHAML *et al.* (1996)). This definition implies that services are not tangible things that can be seen, smelled, or touched. Services cannot be entirely divorced from manufactured goods, since almost all services are accompanied by facilitating goods. For example, a surgeon who performs a hip replacement is providing a service to the patient, but that service includes an important facilitating good, the replacement hip.

Manufactured goods and services are inextricably related, and savvy manufacturers are as interested in the quality of their services as of their goods. These companies realize that customers buy products whose core benefit is delivered not by a good or service, but by both. According to LEVITT (1972), "There is no such thing as a service industry. There are only industries whose service components are greater or less than those of other industries. Everybody is in service."

2.2 SERVICE QUALITY

Since the late 1970s, when the distinctive characteristics of services vis-à-vis goods became well recognized (CHASE (1978), SASSER *et al.* (1978)), a number of different

definitions of quality in services have been introduced (see LEHTINEN e LEHTINEN (1985) and GRONROOS (1983)).

Today, the definition of service quality and its relationship to other constructs of interest is still being actively researched. Two main conceptualizations of service quality exist in the literature - one based on the disconfirmation approach, and the other based on a performance-only approach (SANTOS (2003)).

GUMMESSON (1979) was one of the first to suggest that the concept of service quality was strongly related to perceptions and trust. GRONROOS (1983) then introduced the notion of “total service quality” as being the perception by a customer of the difference between the expected service and the perceived service. Early conceptualizations of service quality are usually based on the Oliver’s (1980) disconfirmation model. Service quality was thus usually understood to be a measure of how well the service level delivered matched customer expectations. GRONROOS (1984) defined the concept of perceived service quality, as “the outcome of an evaluation process, where the consumer compares his expectations with the service he perceives he has received”.

Hence, it is necessary to identify and prioritize expectations for service and incorporate these expectations into a process for improving service quality (GOODMANJA *et al.* (1996)). Understanding customers’ expectations for service quality will allow management and employees to make a concentrated effort to satisfy them. Further, what a customer expects from one type of service may not hold for another type of service (CRONIN e TAYLOR (1992)).

PARASURAMAN *et al.* (1985) agreed with this notion, and defined service quality as “the comparison between customer expectations and perceptions of service”. PARASURAMAN *et al.* (1988) developed a definition of service quality as being “the overall evaluation of a specific service firm that results from comparing that firm’s performance with the customer’s general expectations of how firms in that industry should perform”. Using this definition, more than a decade ago, they developed their multidimensional service quality assessment tool known as SERVQUAL.

PARASURAMAN *et al.* (1988; (1991a) conducted extensive studies in different industries and developed the SERVQUAL instrument: a 22-item scale with a set of service quality dimensions to quantify a customer’s assessment of a company’s service quality. Five key dimensions of service quality — reliability, responsiveness, assurance, empathy and tangibles — have been identified and form the foundation on which a lot of other studies on service quality have been built. SERVQUAL is widely recognized and used, and it is regarded as applicable to a number of industries, including the banking industry (YAVAS *et al.* (1997)).

However, SERVQUAL has been subject to certain criticisms, including vagueness in the definition of expectations, its dubious applicability in some industries (TEAS (1993)), the need for expectation measurement (CRONIN e TAYLOR (1992) and CRONIN *et al.* (2000)), and SERVQUAL’s dimensionality (CARMAN (1990)). Moreover, the traditional service quality dimensions cannot directly apply to Internet banking, because it represents a different and unique service delivery process. Different dimensions have been adopted in previous studies measuring electronic service quality. LOIACONO *et al.* (2001) established a scale called WEBQUAL with twelve dimensions: informational fit to task, interaction, trust, response time, design, intuitiveness, visual appeal, innovativeness, flow, integrated communication, business processes and substitutability. Their approach, however, seems more pertinent to interface design than to service quality measurement (ZEITHAML *et al.* (2000)).

Based on concepts from both the service quality and retailing literature, WOLFINBARGER e GILLY (2002) developed a scale named .comQ with four factors: Web site design, reliability, privacy/security and customer service. Previous studies of Internet banking service quality are more scarce. After extensive literature review, ZEITHAML *et al.* (2000; ZEITHAML *et al.* (2002b) developed the e-SERVQUAL measure of electronic service quality to study how customers judge e-service quality.

After extensive literature review, ZEITHAML *et al.* (2000; ZEITHAML *et al.* (2002a) developed the e-SERVQUAL (e-SQ) measure of electronic service quality to study how customers judge e-service quality. This new model was drawn up through a three-stage process involving exploratory focus groups and two phases of empirical data collection and analysis. It contains five broad sets of criteria as relevant to e-SQ perceptions: (a) information availability and content; (b) ease of use or usability; (c) privacy/security; (d) graphic style, and, (e) reliability/fulfillment.

A number of studies have examined various aspects of these criteria (PARASURAMAN *et al.* (2005)). Some have been hypothesized to be critical, whereas the importance of others has been demonstrated empirically. Availability and depth of information appear to be important because when users can control the content, order, and duration of product-relevant information, their ability to integrate, remember, and thereby use information improves (ARIELY (2000)). Ease of use appears relevant because Internet-based transactions are complex and intimidating to many customers. Privacy (the protection of personal information) and security (the protection of users from the risk of fraud and financial loss) have been shown empirically to have a strong impact on attitude toward use of online financial services (e.g., MONTOYA-WEISS *et al.* (2003)). Graphic style - which embodies such issues as color, layout, print size and type, number of photographs and graphics, and animation - has also been shown to affect customer perceptions of online shopping (HOFFMAN e NOVAK (1996); HOQUE e LOHSE (1999); SCHLOSSER e KANFER (1999)). Finally, reliability/fulfillment has been cited as an important facet of e-SQ (PALMER *et al.* (1999), WOLFINBARGER e GILLY (2002)). In fact, WOLFINBARGER (2003) found that reliability/ fulfillment ratings were the strongest predictor of customer satisfaction and quality, and the second strongest predictor of intentions to repurchase at a site.

2.2 CUSTOMER LOYALTY

In today's changing global environment, every organizational is searching for innovative ways to achieve competitive advantage, increase customer loyalty, and improve efficiency without sacrificing quality service (JALVAGI e MOBERG (1997)). Creating customer loyalty is essential for online vendor because the huge cost of attracting new customer online is only offset after many purchases from the same customer. Retaining customers is therefore an imperative for online vendor (REICHHELD e SCHEFTER (2000)). In general, one way of retaining customers is through increased service quality (HESKETT *et al.* (1994), REICHHELD e SCHEFTER (2000), ZEITHAML *et al.* (1996)). The reason for this is that in many cases quality service is an integral part of the product or service the customer is paying for. In traditional companies, service quality as perceived by customers directly influences customer loyalty (ZEITHAML *et al.* (1996)).

Moreover, loyalty is important for the profitability of e-services because loyal customers often will, over time, bring in substantial revenues and demand less time and attention from firms they patronize. Many customers are inclined to forgive customer-service mishaps, display decreasing sensitivity to price, and disseminate positive word-of-mouth about the business to others.

To YANG e PETERSON (2004), experience indicates that defining and measuring brand loyalty is extremely difficult. Researchers have used both attitudinal and behavioural measures to define and assess this variable (OLIVER (1999); ZEITHAML (2000)). From an attitudinal perspective, customer loyalty has been viewed by some researcher as a specific desire to continue a relationship with a service provider (CZEPIEL e R. (1987)). From behavioural view, customer loyalty is defined as repeat patronage, that is, the proportions of times a purchaser choose the same product or service in a specific category compared to the total number of purchases made by the purchaser category (Neal, 1999).

According to JACOBY e CHESTNUT (1978) measures of loyalty can be considered to belong to one out of three categories: a) behavioural measures (based on actual overt behaviour or self-reports of past behaviour); b) attitudinal measures (based on preference

statements or statements of past behaviour); c) composite measures that combine behavioural and attitudinal measures. The first approach focuses on behaviour, i.e. repeat-buying behaviour, and ignores the cognitive processes underlying that behavioural. The second approach focuses on attitudes, where brand loyalty is considered to depend on psychological commitment, and ignores the behavioural outcomes of attitudinal process. The third approach focuses on both behavioural and attitudinal dimensions, thereby addressing the complexity of the construct.

2.3 THE LINK BETWEEN QUALITY AND LOYALTY

At the conceptual level, there are arguments that support the link 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 alternative service providers (HOF *et al.* (1998); REIBSTEIN (2002)), for example, using sites that automate the comparison of 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 *et al.* (1991b)).

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3. METHODOLOGY

This 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.

3.1 MEASUREMENT

The measurement of web site quality is in its early stages and there is no amply accepted and tested scale (ZEITHAML *et al.* (2002b)). Several instruments have been developed with the reported objective of assessing the quality of web sites (e.g., ALADWANI e PALVIA (2002), BARNES e VIGDEN (2000), LOIACONO *et al.* (2001); WOLFINBARGER e GILLY (2002); YOO e DONTU (2001); ZEITHAML (2000; 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., CZEPIEL e R. (1987); JACOBY e CHESTNUT (1978), DICK e BASU (1994); REICHHELD (1996a); OLIVER (1999); ZEITHAML (2000); REICHHELD e SCHEFTER (2000); PARASURAMAN e GREWAL (2000); YANG e PETERSON (2004)) Consistent with this research, we measured loyalty towards a web site by two items related to behavioral intentions:

- L1: the intention of revisit the site; and;
- L2): world of mouth recommendation.

Table 1 - Measurement Items for Web Site Quality

Measurement Dimensions	General Description (*)	Measurement Items for an E-Banking Service
1. Privacy/ Security	Protection of personal information, risk of fraud and financial loss.	Q1. Safety in performing transactions.
2. Information Quality	The suitability of the information to the user's purposes.	Q2. Correct and up to date information about the bank's products and services.
3. Ease of Use	Effort of the end users in using the web site.	Q3. Ease of performing banking operations and accessing information.
4. Graphic Style	Presentation of graphics and text on the web site.	Q4. Visual attractiveness of web site.
5. Reliability	Ability to perform the promised service dependably and accurately.	Q5. Requests/ instructions correctly processed.
6. Responsiveness	Speed of response.	Q6. Speed in delivering the services.

Adapted from ZEITHAML et al. (2002b).

3.2 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).

3.3 DATA ANALYSIS

The data was analyzed employing Structural Equation Modeling (SEM), using SPSS. The SEM grows out of and serves purposes similar to multiple regression, but in a more powerful way which takes into account the modeling of interactions, nonlinearities, correlated independents, measurement error, correlated error terms, multiple latent independents each measure by multiple indicators, and one or more latent dependents also each with multiple indicator.

The model is shown (figure 2) 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.* (1997)). All the model fit measures were found to be within the threshold levels recommended by HAIR *et al.* (1997) (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.

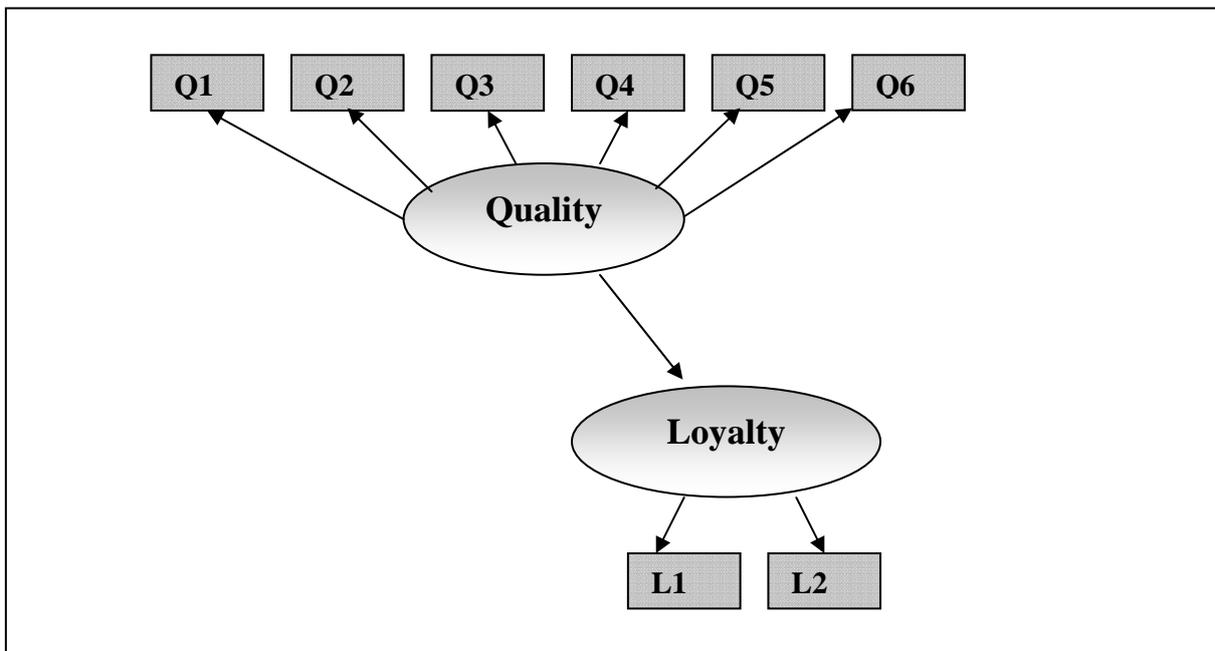


Figure 2 – Structural Equation Model.

Table 2 – Standardized Parameter Estimates for the Measurement Model

Indicators	Constructs	
	Service Quality	Loyalty
Q1	.575	
Q2	.601	

Indicators	Constructs	
	Service Quality	Loyalty
Q3	.631	
Q4	.434	
Q5	.732	
Q6	.767	
L1		.757
L2		.862

All coefficients are significant at the .000 level.

4. 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.

Finally, e-service quality may not only determined by web site quality. In some e-services, the quality of associated logistics and/or customer service components may also determine a customer's overall perception of service quality. 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).

Therefore, future work should examine the customer profile dependency of components of service quality other than those associated with the web site. In addition, future studies should examine customers of other countries in order to explore potential country and/or cultural effects.

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Evidences from link between quality and loyalty in e-service: an empirical study

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ABSTRACT

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: Service, e- Service, Service Quality and Loyalty.
