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Antecedents of customer loyalty in residential energy markets:

Service quality, satisfaction, trust and switching costs

VANESSA APAOLAZA IBÁNEZ, PATRICK HARTMANN, PILAR ZORRILLA CALVO

Abstract

A conceptual framework is proposed that analyses the effect of perceived service quality, customer satisfaction, trust in the energy provider and perceived switching costs on customer loyalty in residential energy markets. Three distinct dimensions of perceived service quality are identified: technical quality of core services, technical quality of peripheral services and service process quality (functional service quality). The proposed model is tested in the scope of a representative survey of Spanish residential energy customers. Regarding the dimensions of service quality, the results indicate significant effects only of service process quality on satisfaction and, indirectly, on customer loyalty. Loyalty effects of further variables in the model are significant.

Key words: *Customer loyalty, satisfaction, service quality, switching costs, residential energy market*

INTRODUCTION

Vanessa Apaolaza Ibáñez and Patrick Hartmann are Associate Professors and Pilar Zorrilla Calvo is Professor at the University of the Basque Country, Bilbao, Spain.
Contact:
Vanessa Apaolaza Ibáñez, Facultad de Ciencias Económicas y Empresariales, Universidad del País Vasco, Avda. Lehendakari Aguirre, 83; 48015 Bilbao, Spain; Tel: 34 945- 01 4489; e-mail: vanessa.apaolaza@ehu.es

In numerous recently deregulated energy markets, utilities previously operating in monopolistic environments are now exposed to free market competition. More complex energy service companies have emerged in the aftermath of industry deregulation, often engaged in multiple businesses, from cable access to commodity trading to more traditional energy generation, delivery and distribution. Increasing market competition coupled with the increasing sophistication of customers' demands has posed a new challenge to the energy industry. Consequently, at present, many energy companies are focusing on customer satisfaction and loyalty [Senia, 2002], as costs of new client acquisition in residential energy markets can be up to 5 to 6 times higher than costs associated with the retention of existing customers [Nesbit, 2000; Pesce, 2002]. Energy managers, therefore, are seeking ways to understand the most influential factors in customer loyalty towards energy providers.

The antecedents of customer loyalty have been widely studied in the case of service companies. Results of most of the published studies identify positive influences of the perception of service quality on customer satisfaction and a positive impact of the latter on customer loyalty. At present, however, there is only a very limited number of studies examining the relationship of these variables in the specific case of the residential energy customer. In this study, a conceptual framework is proposed that analyses the effects of perceived service quality, customer satisfaction, trust in the provider and switching costs on customer loyalty in the residential energy market. To test the framework, structural equation modelling techniques are applied to a representative sample of residential consumers in the Spanish energy market.

LITERATURE REVIEW

Satisfaction and customer loyalty in the residential energy market

Customer loyalty has been largely treated by researches as either repurchase behaviour [e.g. Liljander and Strandvik, 1993; Loveman, 1998; Söderlund, 1998] or repurchase behaviour combined with an attitudinal component [e.g. Andreassen and Lindestad, 1998; de Ruyter, Wetzels and Bloemer, 1998; Price and Arnould, 1999; Bloemer and Poiesz, 1989; Zeithaml, Berry and Parasuraman, 1996; Dick and Basu, 1994]. While the first of these two approaches remains popular with services researchers, authors have recognised the problems associated with treating loyalty exclusively as repurchase behaviour [Butcher, Sparks and O'Callaghan, 2001]. Repeated or continuous purchase from the same supplier is not always the result of a psychological commitment towards the company [Dick and Basu, 1994]. For instance, a low degree of repeated purchasing of a particular service may be the result of situational factors, such as the lack of availability, variety seeking, or lack of provider preference. Furthermore, loyalty as the mere repetition of purchase behaviour may not be based on the preferential disposition to buy, but rather on factors that act as barriers to change [Liljander and Strandvik, 1995]. Therefore, the behavioural approach to loyalty may not yield a comprehensive insight into the underlying reasons for loyalty. Instead it is a consumer's disposition in terms of preferences or intentions that plays an important role in determining loyalty [Bloemer, de Ruyter and Peeters, 1998]. Consequently, residential customers can be considered loyal to their energy provider, if, in addition to repeatedly purchasing the company's services, they also hold favourable attitudes towards it. Positive attitudes can manifest themselves in diverse ways, e.g. as recommendations of the company to others [Zeithaml, Berry and Parasuraman, 1996; Andreassen and Lindestad, 1998; Swan and Oliver, 1989], a low sensitivity to price increases [Zeithaml, Berry and Parasuraman, 1996; Parasuraman, Zeithaml and Berry, 1994], preferences for a particular provider [de Ruyter, Wetzels and Bloemer, 1998; Zeithaml, Berry and Parasuraman, 1996], and a high resistance to the change of the service provider [Zeithaml, Berry and Parasuraman, 1996].

Most authors agree on the positive influence of customer satisfaction on the loyalty construct [e.g. Zeithaml, Berry and Parasuraman, 1996; Parasuraman, Zeithaml and Berry, 1988; Johnson and Fornell, 1991; Bitner, Booms and Tetreault, 1990; Bloemer and de Ruyter, 1998; Stauss and Neuhaus, 1997; Cronin and Taylor, 1992; Anderson and Sullivan, 1993; Rust and Zahorik, 1993]. As a result, at present, most energy companies aim to enhance customer loyalty by increasing the level of customer satisfaction [Novak, 2002; Thumann, 1998]. Among service researchers, the concept of customer satisfaction is usually discussed from two different perspectives: According to a cognitive perspective, this term is understood to be the assessment resulting from comparing customer's expectations and their perception of the value of the services received [Oliver and DeSarbo, 1988; Bitner, 1990; Churchill and Suprenant, 1982; de Ruyter and Bloemer, 1999]. From an emotional perspective, satisfaction is considered a positive emotional state resulting from the consumption experience [Roest and Pieters, 1997; Liljander and Strandvik, 1997; Rust and Oliver, 1994; Mano and Oliver, 1993; Westbrook, 1987]. On the other hand, customer satisfaction also depends on perceived value [Bolton and Drew, 1991; Ravald and Grönroos, 1996; Woodruff, 1997], which can be defined as "the consumer's overall assessment of the utility of a product, based on perceptions of what is received (benefits received) and what is given (price paid and other costs associated with the purchase)" [Zeithaml, 1988, p. 14].

In the scope of this study, satisfaction is conceptualised as an overall, post-consumption affective response by the residential energy customer. A number of studies show a favourable effect of customer satisfaction on customer loyalty in the residential energy market [Powell, 2000; Bennington, Cummane and Conn, 2000; Antonevich, 2002]. At present, most energy utilities conduct annual customer satisfaction studies in order to verify the company's ability

to meet the customer's needs and desires. Customer satisfaction is considered one of the main factors in enhancing customer loyalty, which leads us to suggest the following hypothesis:

H1: Customer satisfaction has a positive effect on customer loyalty.

The impact of perceived service quality on customer satisfaction and loyalty in the residential energy market

Service quality is considered to be an important factor in increasing customer satisfaction and loyalty in the liberalized energy market [Dukart, 1998; Umbrell, 2003; Hoggard, 2003]. Most researchers define perceived service quality as the comparative judgement of expectations versus perceived performance [e.g. Parasuraman, Zeithaml and Berry, 1988; Anderson, Fornell and Lehmann, 1994; Grönroos, 1982; Bolton and Drew, 1991]. According to Zeithaml [1988], perceived quality is defined as the consumer's judgment about a product's overall excellence or superiority compared to substitutes.

Among the models for measuring service quality three methods stand out: the SERVQUAL measurement scale -which is based on the comparative judgement of expectations versus perceived performance - [Parasuraman, Zeithaml and Berry, 1988], the SERVPERF scale -which does not take into account expectations- [Cronin and Taylor, 1994], and the service quality model of Grönroos [1982, 1984, 1988]. Grönroos suggests three components of service quality: technical quality, functional quality and corporate image. Whereas technical quality can be evaluated in an objective way, functional quality refers to the way in which a customer receives the service and, therefore, depends on the skill of the company's employees in dealing with its clients. This dimension of quality is very much related to the buyer-seller interactions themselves and how they function. Hence, Grönroos [2001] differentiates

between *what* customers get (*technical* quality) and *how* they get it (*functional* service quality or *process* quality), based on staff interaction with consumers [Grönroos, 1994, 2000; Harris and de Chernatony, 2001; de Chernatony and Segal-Horn, 2003]. In a similar way, Dabholkar, Thorpe and Rentz [1996] distinguish between basic quality ("what" is provided), and relational quality, ("how" it is provided). Thus, the concept of service quality as a multi-dimensional variable is widely accepted in the literature.

Following the service quality model of Grönroos [1990, 2001], two distinct dimensions of service quality can be identified in the residential energy market: *technical service quality* and *functional service quality* (or *service process quality*). Technical service quality refers to both the energy supply (*technical quality of core services*) and further provider services (*technical quality of peripheral services*). Thus, technical quality of core services assesses the quality perception of the basic service of the energy companies, i.e. the supply of energy in the form of kilowatts per hour (electricity) or cubic meters (natural gas), transformed into a service that provides heat, cold, illumination, movement, etc. When evaluating the supply quality of an energy supplier, the consumer will consider the number of supply interruptions (blackouts in the case of electric energy), the time it takes the company to re-establish the supply in case of interruption, the existence of electricity oscillations, etc. [Iberdrola, 2002]. Besides energy supply, energy utilities also offer other products and services linked to their core activity. Thus, *technical quality of peripheral services* refers to the services the client receives from the energy company beyond the basic service, e.g. adequate information regarding the purchase of services or on energy saving and the security of the installations, adequate information on anticipated supply interruptions, as well as the ability to adapt services to the specific needs of clients. Also the regular control and maintenance of home installations can be considered part of this dimension of technical service quality. However, *perceived*

functional service quality or *process quality* refers to the way in which the client receives the service from his energy supplier, e.g. prompt service, behaviour of employees (politeness, courtesy, punctuality, etc.). The functional quality dimension cannot be evaluated as objectively as the technical dimension. Frequently, it is perceived quite subjectively [Grönroos, 1988].

Several authors suggest a positive influence of technical service quality on satisfaction and loyalty of residential energy customers [Whitehead, 2003; Rosier, 2000; Gellings, 1998; Thumann, 1998]. However, some authors claim that an adequate level of this dimension of service quality is expected by the client to form part of the service of any energy supplier, and thus does not constitute a means for companies in this sector to differentiate themselves, considering that energy goods and services offered to residential customers are practically identical in all companies [Simmonds, 2002; Drummond and Hanna, 2001]. Following Naumann and Jackson [1999], technical quality of core services and technical quality of peripheral services could be considered hygienic factors [Herzberg, 1966], i.e. variables that do not contribute to an increase in the level of customer satisfaction. However, a lack of these components of service quality would cause dissatisfaction. To test the diverse opinions expressed in the literature, the following hypotheses are suggested:

H2: Technical quality of core services has a positive effect on customers loyalty mediated by customer satisfaction.

H3: Technical quality of peripheral services has a positive effect on customers loyalty mediated by customer satisfaction.

Regarding service process quality, several authors suggest that the energy company should exploit every interaction with its clients to improve the clients perception of the overall quality of the services delivered, thus increasing their level of satisfaction and contributing to the establishment of a stable relationship [Lewis, 2001; Coyles and Gokey, 2002; De la Llana, 1998; Brown, 2001]. Emphasis on functional service quality should encourage a consumer-focused culture within which staff interaction with consumers may be the basis of a strong services company [de Chernatony and Segal-Horn, 2003]. Many energy companies have seen the need to undertake changes at a cultural, organisational and management level in order to enhance service process quality and thus increase the satisfaction and loyalty of their clients [Hayes and Helms, 1999; Rienzner and Testa, 2003]. The following hypothesis is suggested:

H4: Service process quality has a positive effect on customer loyalty, via the customer satisfaction construct.

On the other hand, authors such as Grönroos [1984] or Tarney and Roma [2000] state that service process quality can have a greater influence on overall customer satisfaction than technical quality of the service. Hence, the following additional hypothesis is proposed:

H4a: Service process quality has a greater effect on customer satisfaction than technical service quality.

The influence of trust in the energy provider on customer loyalty

In the analysis of personal relationships in the field of social psychology, trust is considered an inherent characteristic of any valuable social interaction. It is only recently that the concept has become a popular issue in marketing literature, due to the relational orientation emerging

in marketing research. The importance of trust in the service provider has been contrasted in numerous studies [Price and Arnould, 1999; Geyskens, Steenkamp and Kumar, 1998; Ganesan, 1994; Morgan and Hunt, 1994]. Trust is usually defined as the feeling of security or faith that a customer has in his/her service supplier, based on the expectation that the company does not intend to lie, break promises or take advantage of the customer's vulnerability [Mayer, Davis and Schoorman, 1995]. Aldrich and Fiol [1994] define this term as a belief, present in the absence of evidence, that things are going to work well in the company. According to Delgado-Ballester and Munuera-Alemán [2001], trust is a feeling of security held by the consumer that his/her consumption expectations will be met. This sense of security is based on two general dimensions: In first place, on the assumption that the service provider has the required capacity to respond to the consumer's needs, for example, by offering new products that the customer may need, or by a constant quality level of its services. The second dimension is based on the development of emotional and affective links between the consumer and the supplier. Trust helps to reduce the psychological costs involved in dealing with a service provider, i.e. the cognitive effort made by a client worrying whether or not a supplier will fulfil its promises and satisfy consumer's needs [Ravald and Grönroos, 1996]. Coyles and Gokey [2002] argue that the feeling of trust arises after a prolonged period of satisfactorily consumption of the services of the same energy company. As a consequence, the customer feels safe and, in addition, has the perception that the company cares about him. It is widely accepted in the literature that the development of trust in the energy supplier implies the willingness of residential customers to maintain a long term relationship with this supplier [Coyles and Gokey, 2002; McCullagh, 2003; Wijnholds, 2000; Hunter, Melnik and Senni, 2003]. Furthermore, the impact of trust on customer loyalty becomes especially relevant when confronted with switching decisions with a high level of perceived risk and uncertainty [Lewis, 2002].

A certain controversy exists in the literature about whether or not trust has an effect on customer satisfaction and if its influence on loyalty is mediated by satisfaction. While some authors maintain trust as a prerequisite for customer satisfaction in the residential energy market [e.g. Johnson, 2001; Tarney and Roma, 2000; Doney and Cannon, 1997], others suggest an exclusively direct influence of trust on customer loyalty in the general case of services customers [Moorman, Deshpande and Zaltman, 1993; Garbarino and Johnson, 1999], as well as in the specific case of residential energy customers [e.g. Nesbit, 2001]. Reflecting the opinion of most authors, the following hypothesis is established:

H5: Trust in the energy supplier has a positive and direct effect on customer loyalty in the residential energy market.

By some authors, trust is found to be a more influential antecedent of loyalty towards the energy provider than customer satisfaction [Hart and Jonson, 1999]. Nesbit [2001] even suggests that the feeling of trust is the most relevant factor for residential customers in maintaining a long-term relationship with an energy supplier. Based on our review of the above literature, we set out the following hypothesis:

H5a: Trust in the energy supplier has a greater effect on loyalty towards the energy provider than customer satisfaction.

The impact of perceived switching costs on customers loyalty in the residential energy market

Switching costs can be defined as the costs involved in changing from one service provider to another [Porter, 1980]. In addition to objectively measurable monetary costs, switching costs

also refer to the time and psychological effort involved in facing the uncertainty of dealing with a new service provider [Dick and Basu, 1994; de Ruyter, Wetzels and Bloemer, 1998]. Similarly, Hellier et al. [2003, p. 1765] understand by these costs "the customer's estimate of the personal loss or sacrifice in time, effort and money associated with the customer changing to another service provider". In addition to customer uncertainty, the structure of the market and the level of competition may increase the perceived and actual switching costs [Gummesson, 1995].

Principal switching costs for a client in the energy market are: the perceived risk involved in the uncertainty of dealing with a new service supplier, the opportunity costs relative to the loss of economic advantages obtained by continuing the relationship [benefits of loyalty programs -e.g. membership programs, customer clubs- such as discounts, prizes, etc.] and, mainly, the time and effort involved in the information search regarding alternative providers, as well as in the decision making process [Brown, 2001; Hellier et al., 2003]. Most residential energy costumers perceive a high degree of switching costs [Masokin, 2000; Watson, Viney and Schomaker, 2002; Lewis, 2002].

The perception of switching costs is considered a significant factor affecting customer loyalty [Storbacka, Strandvik and Grönroos, 1994; Jones, Mothersbaugh and Beatty, 2000; Sharma and Patterson, 2000; Lewis, 2002; Whitehead, 2003]. In many cases, unsatisfied customers stay with their company because time and effort needed to choose another energy provider are perceived as high. Therefore, it seems reasonable to state the following hypothesis:

H6: Perceived switching costs have a positive effect on customer loyalty.

METHOD

The empirical study was carried out together with the Spanish energy utility Iberdrola and the market research institute Emer-GfK. In the scope of a representative survey of the Spanish population, perceived service quality of the Spanish energy companies, degree of trust in the company, customer satisfaction and loyalty, as well as the perception of switching costs were measured.

Sample

The data collection was conducted as part of an Emer-Gfk omnibus survey consistent of personal interviews in the respondent's homes. The studied population consisted of the whole of the Spanish population of 15 years of age and older. To obtain a representative sample, 2020 valid interviews were carried out, which supposes a random sample error of 2,2% with a 95% level of confidence. The respondents were members of the family that took part in the decision about the election of the energy service provider.

Sample units were selected through stratified sampling by region and size of the place of residence, as well as sex and age. Households were then selected by random sampling from each stratum out of the electoral register. In table 1, the distribution of customers of different energy companies in the sample is depicted.

Measurement

Scale development was based on a review of relevant literature. "Technical quality of core services", "technical quality of peripheral services" and "service process quality" were measured by 10 point multi-item Likert-type agreement scales with anchors of "strongly disagree" (0) and "strongly agree" (10). The items of the constructs -all dimensions of

perceived service quality- were adapted from the 22 items SERVQUAL scale [Parasuraman, Zeithaml and Berry, 1988]. The measurement was based exclusively on perceived results, not expectations, a recommended approach if relations between measured constructs are subsequently assessed [Zeithaml, Berry and Parasuraman, 1996].

The "customer satisfaction" construct is usually measured as either a single-item scale [Andreassen and Lindestad, 1998; Bloemer, de Ruyter and Peeters, 1998; Bitner, 1990; Bolton and Drew, 1991; Cronin and Taylor, 1992; Westbrook, 1980] or in the scope of a multi-item construct assessing the satisfaction for each component of the service [Fornell, 1992; Oliva, Oliver and MacMillan, 1992; Churchill and Surprenant, 1982; Oliver and Swan, 1989; Söderlund, 1998]. Satisfaction as a multidimensional construct can be also measured as the degree of agreement or disagreement with respect to items related with the feelings experienced during the service encounter and/or the degree to which their prior expectations were met [Hallowell, 1996; Rust and Zahorik, 1993; Danaher and Haddrell, 1996]. In this study, due to restrictions regarding the number of items to be included in the omnibus survey, respondents were asked to scale their global satisfaction with their energy company on a single-item 10 point Likert-scale anchored by "very satisfied" and "very dissatisfied". "Trust in the energy provider" was measured on 5 point Likert-scales as a multi-item construct consistent of two indicators [Doney and Cannon, 1997; Price and Arnould, 1999; Sharma and Patterson, 1999]. Switching costs were measured by a single item on a 5 point Likert-scale, assessing "procedural switching costs", i.e. the customer's perception of the time and effort associated with changing their energy supplier [Ping, 1993; Jones, Mothersbaugh and Beatty, 2000]. Finally, customer loyalty was assessed by a multi-dimensional scale measuring the behavioural and attitudinal dimensions of the construct on five point Likert-scales [e.g. Zeithaml, Berry and Parasuraman, 1996; Garbarino and Johnson, 1999; Dick and Basu, 1994;

Andreassen and Lindestad, 1998; de Ruyter, Wetzels and Bloemer, 1998]. Agreement scales of the constructs trust, switching cost and customer loyalty were anchored by “strongly agree” (5) and “strongly disagree” (1). Constructs and indicators are depicted in the Appendix.

The measurement scales were tested by confirmatory factor analysis. Two indicators of the original scales presented factor loadings inferior to 5.0 and were subsequently eliminated: “XYZ offers regular control and maintenance of home installations” and “I consider XYZ my first choice to buy energy services”. The final measurement model is presented in Table 2. Criteria for model adjustment [Hu and Bentler, 1995] indicate an adequate fit with Root Mean Square Residual [RMR] = 0,06. Both the Goodness of Fit Index [GFI] and the Adjusted Goodness of Fit Index [AGFI; Jöreskog and Sörbom, 1984], as well as the Compared Fit Index [CFI; Bentler, 1990] are close to 1,0 being indicative of adequate fit. Also the Root Mean Square Error of Approximation [RMSEA; Steiger and Lind, 1980], indicates adequate fit with values less than 0,05 [Kaplan, 2000]. The chi-square criteria is not considered an adequate indicator for samples lager than 500 units, such as in this case [Hair et al., 1999].

The dimensionality of the constructs was established following Anderson and Gerbing [1988]. Factor loadings of all indicators are significant ($p<0,000$) and exceeding minimum recommended values. Furthermore, the variance extracted measures range from 0,5 to 0,7, exceeding the square of the correlation estimate in all cases but one. For the factors “technical quality – peripheral services” and “technical quality – core services” which did not fulfil this condition, Anderson and Gerbing’s [1988] recommended additional analysis was carried out, restricting the correlation between factors to 1,0 and re-estimating the model. In all cases the resulting model had a significantly ($p<0,000$) lower fit, suggesting adequate discrimination and distinct factors. Also, variance extracted and construct reliability exceed recommended

thresholds of 0,4 and 0,6 respectively [Fornell and Larcker, 1981; Bagozzi and Yi, 1994; Hair et al., 1999].

RESULTS

Subsequently, based on the constructs of the measurement model, a structural equation analysis was conducted to assess causal effects between the variables. Since the model was developed modifying only latent variable correlations to regression coefficients, the fit of the structural model was nearly equal to that of the measurement model and can be considered as adequate (Table 3).

The results of the structural equation analysis of the causal relation between latent variables are presented in Table 4. Significant positive effects on the satisfaction construct are observed as a result of influences of the variables service process quality and trust. At the same time, customer loyalty is being significantly influenced by variables trust, satisfaction and switching costs. Trust in the energy provider has the comparatively highest impact on the loyalty construct (t=2,23), although differences with the influence of satisfaction are rather modest (R=0,30 vs. R=0,29).

The results of the study confirm the leading opinion in the literature about a significant influence of customer satisfaction on loyalty towards the service provider (H1). However, regarding the impact of perceived technical quality of core services of the energy provider on customer loyalty (H2), results lead to the rejection of this hypothesis. Regression coefficients of the impact of this variable on both satisfaction and customer loyalty are not significant in the scope of the structural model. Consequently, there is also no indirect effect of this variable on loyalty, mediated by the satisfaction construct. In the same way, influences of “technical quality – peripheral services” on both variables are not significant (H3). These findings

confirm the opinion of authors like Coyles and Gokey [2002], Simmonds [2002] or Lewis [2002], who suggest that technical service quality is perceived indifferently between energy companies and therefore does not significantly enhance customer satisfaction and loyalty.

On the other hand, the positive impact of service process quality on satisfaction (H4) is confirmed. This result supports the view that the way *how* the utility offers its service to its clients represents a principal factor in obtaining high degrees of satisfaction with the company. In addition, service process quality contributes -however only indirectly- to customer loyalty via customer satisfaction. There is no observable significant direct effect of this variable on loyalty. Regarding the comparison of effects of service process quality with those of technical service quality, the effect of the former variable is stronger, given the absence of significant effects of both dimensions of the latter one (H4a). These findings are supportive of the opinion that, while "technical quality – core services" and "technical quality – peripheral services" can be considered "hygienic factors" of the service offerings of the energy company, service process quality is a "satisfying" or "motivating factor", given its potential to enhance residential customer satisfaction [Grönroos, 1984; Naumann and Jackson, 1999; Tarney and Roma, 2000; Drummond and Hanna, 2001; Simmonds, 2002].

The hypothetical suggestion of a direct effect of trust in the company on customer loyalty (H5) is only partly accepted. Results obtained show also a significant influence of the variable on the satisfaction construct. Consequently, the study supports in part both opinions in the literature that suggest, on one hand, direct effects of trust on satisfaction and, indirectly, on loyalty [Tarney and Roma, 2000; Doney and Cannon, 1997] and on the other, exclusively direct effects of this variable on loyalty [Moorman, Deshpande and Zaltman, 1993; Garbarino and Johnson, 1999; Wetzels, de Ruyter and Van Mirgelen, 1998; Nesbit, 2001].

Furthermore, the impact of the trust construct on loyalty is stronger than the influence of all other studied variables. Differences are significant, although not large, giving support to the findings of authors such as Garbarino and Johnson [1999], who suggest a stronger influence of trust on loyalty than of the customer satisfaction construct (H5a).

Finally, the impact of switching costs on customer loyalty is confirmed (H6), supporting the results of a number of former studies [Jones, Mothersbaugh and Beatty, 2000; Storbacka, Strandvik and Grönroos, 1994].

CONCLUSIONS AND MANAGERIAL IMPLICATIONS

Overall, the study shows the dependence of the loyalty of residential customers in the energy market as much on trust in the energy provider and switching costs, as on customer satisfaction. These results are in line with the view of several authors arguing that customer satisfaction is necessary, but not sufficient to predict customer loyalty [Jones and Sasser, 1995; Storbacka, Strandvik and Grönroos, 1994; Bloemer, de Ruyter and Peeters, 1998; Sheth and Parvatiyar, 1995; Bendapudi and Berry, 1997; Söderlund, 1998; Bloemer and de Ruyter, 1998]. In addition, the results suggest that to enhance customer satisfaction it is necessary to concentrate on service process quality [Grönroos, 1984]. The way in which the client receives the service of its energy company (promptness, courtesy, politeness, etc.) can be more important than supply or technical service quality, when these variables are provided in a satisfactory way by all energy companies alike. Thus, personal interaction appears to be a key determinant of perceived service quality in the case of energy service providers. In fact, the findings from the Edison Electric Institute [Gellings, 1994] suggest it is from these interactions that consumers judge the extent to which the utility cares about them. Consequently, it seems reasonable to assert that employees play a crucial role in the success of an energy company's services. All employees, as they embody the organisation in

consumers' eyes [Grönroos, 1994], can have a powerful impact on consumers' perceptions of the organisation [Balmer and Wilkinson, 1991]. Marketers, therefore, need to communicate the company's goals, values and performance to its staff to encourage their participation in its success [Hogg, Carter and Dunne, 1998]. Companies also need to consider carefully their recruitment processes, the role staff is expected to play and their technical support, to ensure high-quality services [Grönroos, 2000; Harris and de Chernatony, 2001; McDonald, de Chernatony and Harris, 2001; de Chernatony and Segal-Horn, 2003].

Limitations and further research

Due to limitations in the number of items to be included in the omnibus survey, only a limited number of indicators could be used for the measurement of several of the constructs. Furthermore, there are some general limitation assessing customer satisfaction and, moreover, loyalty by verbal scales. Customer behaviours can differ significantly from verbal statements made in the scope of surveys. Future research should be aimed at replicating the study with a higher number of indicators for the measured constructs. In addition, the behavioural component of the construct "customer loyalty" could be measured as observed behaviour, i.e. in the scope of a panel study. This can in turn result in a better assessment of variables, extending the explaining power of the proposed model.

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APPENDIX

MEASUREMENT SCALES OF CONSTRUCTS

Technical quality – core service
XYZ gives priority to avoiding supply interruptions (e.g. blackouts).
In case of supply interruptions, service is reinstalled shortly.
Technical quality – peripheral services
XYZ offers adequate information about anticipated supply interruptions (due to maintenance, etc.).
XYZ offers adequate consultation about how to save energy, safety of home installations, etc.
XYZ offers regular control and maintenance of home installations.
XYZ offers flexible contracts, adapted to client's specific needs.
Service process quality
Prompt customer service without waiting time (no telephone queues, no lines in customer service centres).
The employees are polite, well dressed and appear neat.
Costumer requests are resolved promptly.
Trust in the energy company
I have a feeling of familiarity with XYZ.
XYZ is trustworthy.
Overall satisfaction with the energy provider
What is your overall level of satisfaction with XYZ?
Loyalty toward the energy provider
I intend to continue being a client of XYZ in the future.
I would positively recommend XYZ to my friends or others.
I would stay with XYZ, even if I had to pay a somewhat higher price.
I consider XYZ my first choice for buying energy services.
Perceived switching costs
Changing to another energy provider would mean sacrifices in time and effort for me.

FIGURE 1
HYPOTHESIZED MODEL

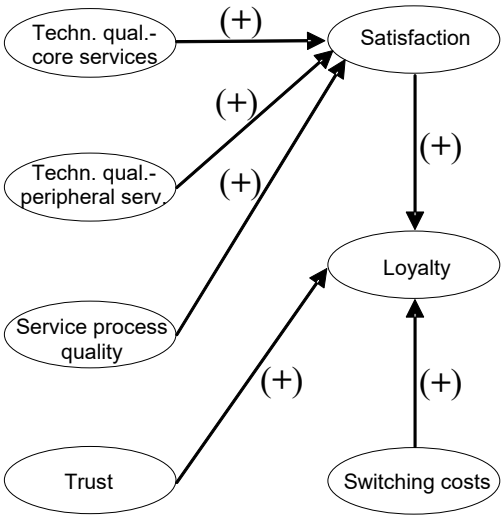

TABLE 1
DISTRIBUTION OF CUSTOMERS OF DIFFERENT ENERGY UTILITIES IN THE SAMPLE

Company	**% of sample (*)**
Iberdrola	37,47%
Endesa	40,45%
Unión Fenosa	15,85%
Hidro Cantábrico	6,23%
Gas Natural	7,12%

(*) Percentages add up to over 100% due to some respondents being customer of two different companies (electricity and natural gas).

TABLE 2
CONFIRMATORY FACTOR ANALYSIS
(STANDARDIZED REGRESSION COEFFICIENTS, CRITICAL RATIOS, CORRELATIONS, VARIANCE EXTRACTED, CONSTRUCT RELIABILITY, MODEL FIT)

	Factor						
Indicator	**Tech. qual.-core services**	**Tech. qual.-peripheral services**	**Service process quality**	**Trust**	**Satisfaction**	**Switching costs**	**Loyalty**
Supply interruption	0,81 [*]						
Service Re-establishment	0,83 [23,95]						
Information		0,81 [23,42]					
Consultation		0,72 [20,29]					
Flexible contracts		0,78 [*]					
Prompt service			0,90 [25,60]				
Politeness			0,75 [*]				
Customer requests			0,85 [24,31]				
Familiarity				0,78 [*]			
Trustworthiness				0,81 [18,85]			
Overall satisfaction					0,97 [*]		
Switching effort						0,89 [*]	
Continuity							0,68 [*]
Recommendation							0,52 [12,19]
Price premium							0,70 [14,74]
Variance Extracted	0,67	0,67	0,74	0,63	0,71	0,74	0,49
Construct Reliability	0,80	0,86	0,90	0,78	0,71	0,74	0,74
Correlations							
Technical quality-peripheral services	0,88 [165,4**]						
Service process quality	0,73	0,76					
Trust	0,62	0,60	0,63				
Satisfaction	0,66	0,67	0,76	0,68			
Switching cost	0,23	0,24	0,27	0,18	0,25		
Loyalty	0,59	0,57	0,63	0,65	0,68	0,45	
Model Fit	GFI = 0,97; AGFI = 0,96; CFI = 0,98; RMR=0,06; RMSEA=0,04.						

[*] Non standardized regression coefficients = 1.
[**] Chi-square difference with fixed correlation = 1 [d.f.=1; p<0,000].

TABLE 3
MODEL FIT

RMR	0,06
GFI	0,97
Adjusted GFI [AGFI]	0,96
Parsimony-adjusted GFI [PGFI]	0,58
Normed fit index [NFI]	0,97
Relative fit index [RFI]	0,96
Incremental fit index [IFI]	0,98
Tucker-Lewis index [TLI]	0,98
Comparative fit index [CFI]	0,98
RMSEA	0,04

TABLE 4
STRUCTURAL EQUATION ANALYSIS: REGRESSION COEFFICIENTS
(STANDARDIZED, UN-STANDARDIZED, CRITICAL RATIOS)

Factor	Satisfaction	Loyalty
Technical quality-core services	0,05 0,06 0,59	0,09 0,04 0,73
Technical quality-peripheral services	0,09 0,09 0,96	-0,03 -0,01 -0,23
Service process quality	0,47 0,67 9,09	0,10 0,06 1,32
Trust	0,30 0,73 6,89	0,30[*] 0,30 4,66
Satisfaction		0,29[*] 0,12 4,38
Switching costs		0,29 0,19 6,67

[*] Critical ratio for differences between parameters: t=2,23