

Authors:**Vanessa Apaolaza Ibáñez**

Associate Professor, Ph.D.
Department of Business Economics and Finance
(Economía Financiera II)
Faculty of Economics and Business Administration
University of the Basque Country, Bilbao, Spain.

Patrick Hartmann

Associate Professor, Ph.D.
Department of Business Economics and Finance
(Economía Financiera II)
Faculty of Economics and Business Administration
University of the Basque Country, Bilbao, Spain.

Pilar Zorrilla Calvo

Professor, Ph.D.
Department of Business Economics and Finance
(Economía Financiera II)
Faculty of Economics and Business Administration
University of the Basque Country, Bilbao, Spain.

Contact:**Vanessa Apaolaza**

Departamento de Economía de la Empresa y Financiación
(Economía Financiera II)
Facultad de Ciencias Económicas y Empresariales
Universidad del País Vasco
Avda. Lehendakari Aguirre, 83
48015 Bilbao
Spain

Tel: 00 34 945- 01 4489

Mail: egpapibv@vc.ehu.es

**The antecedents of customer loyalty in residential energy markets:
Service quality, satisfaction, trust and switching costs**

Abstract

In the recently deregulated European energy markets, energy utilities previously operating in a monopolistic environment are now focusing on customer satisfaction and loyalty. In this study, 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. Regarding perceived service quality of the energy utility, three distinct dimensions are identified: supply quality, technical service quality and functional service quality. Subsequently, the proposed model is tested in the scope of a representative survey of Spanish residential energy customers. Results indicate significant effects only of the functional dimension of service quality on satisfaction and, indirectly, on customer loyalty. Effects of further variables in the model on customer loyalty are significant. Implications for energy managers are discussed.

1. Introduction

In the recently deregulated European energy markets, energy utilities previously operating in a monopolistic environment are now exposed to free market competition. More complex energy service companies have emerged in the aftermath of industry deregulation. These new firms often engage in multiple businesses, from cable access to commodity trading to more traditional energy generation, delivery and distribution. Thus, the increasing market competition coupled with the increasing sophistication of customers' demands has posed a new challenge to the energy industry (Senia, 2002). Consequently, at present, many energy companies are focusing on customer satisfaction and loyalty. Numerous examples illustrate the importance of customer loyalty strategies in the service industry, as opposed to relying solely on pricing strategies. Research has shown that a 5 per cent increase in customer loyalty can produce a profit increase of 25 per cent to 85 per cent (Reichheld & Sasser, 1990). Furthermore, according to Nesbit (2000) and Pesce (2002), 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. 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 2.020 residential consumers in the Spanish energy market.

2. Literature review

2.1. Relationship between satisfaction and customer loyalty in the residential energy market

Customer loyalty has been largely treated by researches as either repurchase behaviour (e.g. Liljander & Strandvik, 1993; Loveman, 1998; Söderlund, 1998) or repurchase behaviour combined with an attitudinal component (e.g. Andreassen & Lindestad, 1998; de Ruyter et al., 1998; Lemmink & Mattsson, 1998; Price & Arnould, 1999; Bloemer & Poiesz, 1989; Bloemer & Kasper, 1995; Zeithaml et al., 1996; Dick & Basu, 1994).

While the first of these two approaches remains popular with services researchers, authors have long recognised the problems associated with treating loyalty exclusively as repurchase behaviour (Butcher et al., 2001). Repeated or continuous purchase from the same supplier is not always the result of a psychological commitment towards the company (Dufer & Moulins, 1989). For instance, a low degree of repeat purchasing of a particular service may very well 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 & 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 et al., 1998; Bloemer & Kasper, 1995).

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 itself in diverse ways, e.g. as recommendations of the company to others (Parasuraman et al., 1994; Butcher et al., 2001; Zeithaml et al., 1996; Andreassen & Lindestad, 1998; Swan & Oliver, 1989), a low sensitivity to price increases (LaBarbera & Mazursky, 1983; de Ruyter et al., 1998; Zeithaml et al., 1996; Parasuraman et al., 1994; Delgado-Ballester & Munuera-Alemán, 2001), preferences for a particular provider (de Ruyter et al., 1998; Zeithaml et al., 1996; Butcher et al., 2001), and a high resistance to the change of the energy provider (Butcher et al., 2001; Parasuraman et al., 1994; Day, 1969; Zeithaml et al., 1996).

Most authors agree about the positive influence of customer satisfaction on the loyalty construct (e.g. LaBarbera & Mazursky, 1983; de Ruyter et al., 1996; Zeithaml et al., 1996; Kasper, 1988; Parasuraman et al., 1988; Johnson & Fornell, 1991; Andreassen & Lindestad, 1998; Bitner, 1995; Bitner et al., 1990; Bloemer & de Ruyter, 1998; Liljander & Strandvik, 1995; Reichheld, 1996; Stauss & Neuhaus, 1997; Oliva et al., 1992; Cronin & Taylor, 1992; Anderson & Sullivan, 1993; Selnes, 1993; Rust & Zahorik, 1993; Getty & Thompson, 1994; Taylor & Baker, 1994; Rust & Williams, 1994; Patterson & Spreng, 1997; Oliver, 1999; Cronin et al., 2000; Johnson & Gustafsson, 2000). 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 & DeSarbo, 1988; Bitner, 1990; Spreng & Olshavsky, 1993; Churchill & Suprenant, 1982; Anderson & Sullivan, 1993; Lewis, 1993; de Ruyter & Bloemer, 1999). From an emotional perspective, satisfaction is considered a positive emotional state resulting from the consumption experience (Liljander & Strandvik, 1997; Andaleeb, 1996; Mano & Oliver, 1993; Westbrook, 1987; Oliver, 1981). On the other hand, customer satisfaction also depends on perceived value (Bolton & Drew, 1991; Gene, 1995; Ravald & Grönroos, 1996; Woodruff, 1997; Andreassen & Lindestad, 1998; McDougall & Levesque, 2000), 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 residential energy market, customer satisfaction can be understood as a general feeling or mood based on the result of the service perceived after the purchase and compared with expectations prior to the purchase. Positive or negative emotions -the emotional component of satisfaction- will arise as a result of the evaluation of the perceived discrepancy between previous expectations and the real performance of the services (cognitive component). A number of studies show the favourable effect customer satisfaction can have on customer loyalty in the residential energy market (Powell, 2000; Lloyd, 2000; Bennington et al., 2000; Davids, 2001; Johnson, 2001a; 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, although not the only one, in enhancing customer loyalty, which leads us to suggest the following hypothesis:

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

2.2. 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; Rekettye & Tersztyánszky, 2002; Power 2002, Umbrell, 2003; Hoggard, 2003). Most researchers define perceived service quality as the comparative judgement of expectations versus perceived performance (e.g. Parasuraman et al., 1988; Anderson et al., 1994; Grönroos, 1982; Bolton & 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. Hence, perceived quality is the “perceived ability of a product to provide satisfaction ‘relative’ to the available alternatives” (Monroe and Krishnan, 1985, p. 212).

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 et al., 1988), the SERVPERF scale -which does not

take into account expectations- (Cronin & Taylor, 1994), and the service quality model of Grönroos (1982; 1984). 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 differentiates between *what* customers receive in their interactions with the service provider (technical quality) and *how* they receive the service (functional quality). In a similar way, Dabholkar et al. (1996) distinguish between basic quality ("what" is delivered) and relational quality ("how" the service is delivered). Thus, the concept of service quality as a multi-dimensional variable is widely accepted in the literature.

In the residential energy market, three distinct dimensions of service quality can be identified: *supply quality*, *technical quality* and *functional quality* of the service. Supply quality refers to the quality 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) to clients. These units are transformed into a service that provides heat, cold, illumination, movement, etc. (Oriol, 1995). 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. Technical quality refers to the services the client receives from the energy company beyond the basic service, e.g. adequate consultation services 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 existence or not of billing errors and the regular control and maintenance of home installations can be considered part of the technical quality of the service. Perceived functional service 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.). Functional quality cannot be evaluated as objectively as the supply or technical dimension of the service. Frequently, it is perceived quite subjectively (Grönroos, 1988).

Several authors suggest a positive influence of supply quality and technical quality on satisfaction and loyalty of residential energy customers (Whitehead, 2003; Rosier, 2000; Gellings, 1998; Thumann, 1998). Conversely, other authors claim that these dimensions represent attributes that the client expects to form part of the service of any energy supplier, and thus do 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 & Hanna, 2001). Following Naumann and Jackson (2000), supply quality and technical quality 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: Supply quality has a positive effect on customers loyalty mediated by customer satisfaction.

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

Regarding functional service quality numerous authors suggest that the energy company should exploit every interaction with their clients to improve the clients perception of the overall quality of the services delivered, thus increasing their level of satisfaction with the energy company and contributing to the establishment of a stable relationship (Lewis, 2001; Coyles & Gokey, 2002; De la Llana, 1998; Brown, 2001). Hayes & Helms (1999) and Rienzner & Testa (2003) state that many energy companies have seen the need to undertake changes at a cultural, organisational and management level in order to enhance functional service quality and thus increase the satisfaction and loyalty of their clients. Therefore, the following hypothesis is suggested:

H4: Functional quality has a positive effect on customer loyalty, mediated by customer satisfaction.

On the other hand, authors such as Grönroos (1984) or Tarney & Roma (2000) conclude that functional service quality has a greater influence on overall customer satisfaction than technical quality of the service. A study by Apaolaza et al. (2001) of the customers of the Spanish energy utility Iberdrola leads to similar results. Hence, the following hypothesis is proposed:

H4a: Functional service quality has a greater effect customer satisfaction than supply quality or technical quality of the service.

2.3. The influence of trust in the energy provider on customer loyalty

The research of the trust concept originates 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 activities. Thus, the importance of trust in the service provider has been contrasted in numerous studies (Price & Arnould, 1999; Geyskens et al., 1998; Grossman, 1998; Ganesan, 1994; Morgan & 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 (Dwyer et al., 1987; Mayer et al., 1995). Aldrich & 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 & 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 and the need to worry whether or not a supplier will fulfil its promises and satisfy consumer's needs (Ravald & Grönroos, 1996).

Coyles & 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 (Benady, 1999; Coyles & Gokey, 2002; McCullagh, 2003; Wijnholds, 2000; Hunter et al., 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, 2001b; Tarney & Roma, 2000; Doney & Cannon, 1997), others defend an exclusively direct influence of trust on customer loyalty in the general case of service customers (Moorman et al., 1993; Garbarino & Johnson, 1999; Setó, 2003), 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 & 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.

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

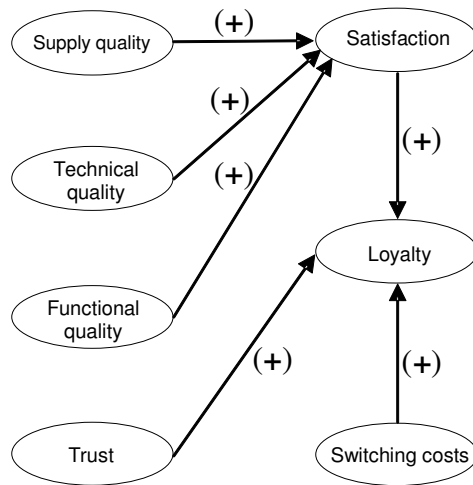
Switching costs can be defined as the costs involved in changing from one service provider to another (Porter, 1980). In addition to objectively measurable monetary costs, switching costs also pertains to the time and psychological effort involved in facing the uncertainty of dealing with a new service provider (Dick & Basu, 1994; de Ruyter et al., 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, the level of competition and loyalty programs (e.g. membership programs, customer clubs) may increase the perceived and actual cost of switching (Gummesson, 1995). Thus, in situations where a "loose monopoly" exists, for example, in the case of the energy sector where the concentration of service providers in the market approaches a monopoly situation, the costs of changing suppliers for the client are perceived to be high. Nevertheless, as the client is offered more valuable alternatives, the costs of changing providers are reduced and competition becomes more intense (Jones & Sasser, 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 (obtaining discounts, prizes, etc., benefits of loyalty programs) and, mainly, the time and effort involved in the information search regarding alternative providers, as well as in the decision making process (Brown, 2001; Lewis, 2002). Most residential energy costumers perceive a high degree of switching costs (Jones & Sasser, 1995; Masokin, 2000; Watson et al., 2002; Lewis, 2002).

The perception of switching costs is considered a significant factor affecting customer loyalty (Andreasen, 1985; Storbacka et al., 1994; Jones et al., 2000; Sharma & 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 expect that:

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

Figure 1: Hypothesized model



3. 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.

3.1. Sample

The data collections was conducted as part of an Emer-Gfk Omnibus survey consistend of personal interviews in the respondent's homes. The fieldwork took place in april 2003. 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.

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)

3.2. Measurement

Scale development was based on a review of relevant literature. “Supply quality”, “technical service quality” and “functional 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 item SERVQUAL scale (Parasuraman, Zeithaml & Berry, 1988). The measurement was based exclusively on perceived results, not expectations, a recommended approach if relations between measured constructs are subsequently assessed (Zeithaml et al., 1996).

The “customer satisfaction” construct is usually measured as either a single-item scale (Newman & Werbel, 1973; Andreassen & Lindestad, 1998; Delgado-Ballester & Munuera-Alemán, 2001; Sivadas & Baker-Prewitt, 2000; Bloemer et al., 1998; Mittal & Lassar, 1998; Selnes, 1993; Wirtz, 2001; Zins, 2001; Bitner, 1990; Bolton & Drew, 1991; Cronin & 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 et al., 1992; Danaher & Mattsson, 1994; Price et al., 1995; Churchill & Surprenant, 1982), 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 (McDougall & Levesque, 2000; Hallowell, 1996; Nguyen & LeBlanc, 1998; Rust & Zahorik, 1993; Danaher & Haddrell, 1996; Setó, 2003). In this study, due to budget restrictions and limitations 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 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 & Cannon, 1997; Selnes, 1993; Price & Arnould, 1999; Sharma & Patterson, 1999).

Switching costs were measured by a single item on a 5 point Likert-scale, assessing “procedural switching costs”, i.e. the customers perception of the time and effort associated with changing energy supplier (Ping, 1993; Jones et al., 2000).

Finally, customer loyalty was assessed by a multi-dimensional scale measuring the behavioural and attitudinal dimensions of the construct on five point Lickert-scales (e.g. Zeithaml et al., 1996; Garbarino & Johnson, 1999; Jacoby & Kyner, 1973; Dick & Basu, 1994; Andreassen & Lindestad, 1998; De Ruyter et al., 1998; Lemmink & Mattsson, 1998; Price & Arnould, 1999; Oliver, 1999; Zins, 2001; Nguyen & LeBlanc, 1998). Agreement scales of the constructs trust, switching cost and customer loyalty were anchored by “strongly agree” (5) and “strongly disagree” (5). Constructs and indicators are depicted in Table 2.

Table 2: Measurement scales of constructs

<p>Supply quality Gives priority to avoiding supply interruptions (e.g. blackouts). In case of supply interruptions, service is re-established shortly.</p>
<p>Technical service quality Adequate information about anticipated supply interruptions (because of maintenance, etc.). Adequate consultation about how to save energy, safety of home installations, etc. Regular control and maintenance of home installations. Offers flexible contracts, adapted to client’s specific needs. Does not commit billing errors.</p>
<p>Functional service 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.</p>
<p>Trust in the energy company I have a feeling of familiarity with my company. My company is trustworthy. I am in good hands.</p>
<p>Overall satisfaction with the energy provider What is your overall level of satisfaction with your energy company?</p>
<p>Loyalty toward the energy provider I have the intention to continue being a client of my energy company in the future. I would positively recommend my energy provider to my friends or others. I would stay with my company, although I would have to pay a somewhat higher price.</p>
<p>Perceived costs of switching the energy provider. Changing to another energy provider would mean sacrifices in time and effort for me.</p>

The measurement scales were tested by confirmatory factor analysis (Amos 5.0; Arbuckle & Wothke, 1999). Two indicators of the original scale presented factor loadings inferior to 0.5 and were subsequently eliminated: “Regular control and maintenance of home installations”, “Doesn’t commit billing errors”. The final measurement model is presented in Table 3.

Criteria for model adjustment (Hu & 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 & Sörbom, 1984), as well as the Compared Fit Index (CFI; Bentler, 1990) are close 1,0 being indicative of adequate fit. Also the Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980), indicates adequate fit with values less than 0.05 (Kaplan, 2000). The chi-square criteria ($\chi^2=165,377$, $p=0,000$) is not considered an adequate indicator for samples larger than 500 units.

The dimensionality of the constructs was established following Anderson & Gerbing (1988). Factor loadings of all indicators are significant ($p<0,000$) and exceeding minimum recommended values of 0.5. 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” and “supply quality” which did not fulfil this condition, Anderson & 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 & Larcker, 1981; Bagozzi & Yi, 1994; Hair et al., 1999).

Table 3: Confirmatory factor analysis (Standardized regression coefficients, critical ratios, correlations, variance extracted, construct reliability, model fit)

Indicator	Factor						
	Supply quality	Technical quality	Functional 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	0,88 (165,4**)						
Functional 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	

Chi-square = 165,377; d.f. = 71; p = 0,000; 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).

4. 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 4).

Table 4: Model fit

Chi-square	16,89
d.f.	72,00
P	0,00
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
RMSEA lower bound	0,03
RMSEA upper bound	0,05
P for test of close fit (PCLOSE)	0,97

The results of the structural equation analysis of the causal relation between latent variables are presented in Table 5.

Significant positive effects on the satisfaction construct are observed as a result of influences of the variables functional quality and trust. At the same time, customer loyalty is being significantly influenced by variables trust, satisfaction and switching cost. 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. $R=0,29$).

Table 5: Structural equation analysis: regression coefficients (standardized, un-standardized; critical ratios)

	Satisfaction	Loyalty
Supply quality	0,05	0,09
	0,06	0,04
	0,59	0,73
Technical quality	0,09	-0,03
	0,09	-0,01
	0,96	-0,23
Functional quality	0,47	0,10
	0,67	0,06
	9,09	1,32
Trust	0,30	0,30(*)
	0,73	0,30
	6,89	4,66
Satisfaction		0,29(*)
		0,12
		4,38
Switching costs		0,29
		0,19
		6,67

(*) Critical ratio for differences between parameters: $t=2,23$

5. Conclusions

In the empirical study, the hypotheses developed upon the literature review were tested for the specific case of the residential energy market. In first place, the study confirms 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 supply quality 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 service quality on both variables are not significant (H3). These findings confirm the opinion of authors like Coyles & Gokey (2002), Simmonds (2002) or Lewis (2002), who suggest, that those variables are perceived indifferently between energy companies and therefore are not significant variables enhancing customer satisfaction.

On the other hand, the positive impact of functional service 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, functional service 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 functional service quality with those of supply and technical quality, the effect of the former variable is stronger, given the absence of significant effects of both of the latter ones (H4a). These findings are supportive of the opinion, that while technical and supply quality can be considered “hygienic factors” of the service offerings of the energy company, functional quality are “satisfying” or “motivating factors”, given its potential to enhance residential customer satisfaction (Grönroos, 1984; Naumann & Jackson, 2000; Tarney & Roma, 2000; Drummond & 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 & Roma, 2000; Doney & Cannon, 1997) and on the other, exclusively direct effects of this variable on loyalty (Moorman et al., 1993; Garbarino & Johnson, 1999; Wetzels et al., 1998; Nesbit, 2001; Setó, 2003).

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 & Johnson (1999) or Setó (2003), who suggest a stronger influence of trust on loyalty than 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 et al., 2000; Storbacka et al., 1994).

Overall, the study shows the dependence of the loyalty of residential customers in the energy market as much on satisfaction and trust in the energy provider, as on switching costs. These results are in line with the view of several authors that customer satisfaction is necessary, but not sufficient to predict customer loyalty (Jones & Sasser, 1995; Storbacka et al., 1994; Bloemer et al., 1998; Mittal & Lassar, 1998; Bloemer & Kasper, 1995; Sheth & Parvatiyar, 1995; Bendapudi & Berry, 1997; Söderlund, 1998; Bloemer & de Ruyter, 1998). In addition, the results suggest that to enhance customer satisfaction it is necessary to concentrate on functional quality of the service (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.

6. Limitations and further research

Limitations of the study include the limited number of indicators used for the measurement of some of the construct, as a result of limitations in budget and number of items to be included in the Omnibus survey. 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 present study, including a higher number of indicators for the measured constructs. In addition, the behavioural component of the construct “customer loyalty” should 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, after which the relationships between the considered constructs can be better understood. On the other hand, extending the research to a higher number of variables, such as customer involvement or brand image would extend the explaining power of the model with regard to the loyalty of residential customers towards their energy provider.

References

- Aldrich, H.E.; Fiol, C.M. (1994). “Fools rush in?. The institutional context of industry creation”. *Academy of Management Review*, Vol. 19, n° 4, pp. 645-670.
- Andaleeb, S.S. (1996). “An experimental investigation of satisfaction and commitment in marketing channels: the role of trust and dependence”. *Journal of Retailing*, Vol. 72, n° 1, pp. 77-93.
- Anderson, E.W.; Fornell, C.; Lehmann, D.R. (1994). “Customer satisfaction, market share and profitability: findings from Sweden”. *Journal of Marketing*, Vol. 58, n° 3, July, pp. 53-66.
- Anderson, E.W.; Sullivan, M.W. (1993). “The antecedents and consequences of customer satisfaction for firms”, *Marketing Science*, Vol. 12, n° 2, Spring, pp. 125-143.
- Anderson, J.C.; Gerbing, D.W. (1988). “Structural Equation Modelling in Practice: A Review and Recommended Two-Step Approach”. *Psychological Bulletin*, Vol. 103, n° 3, pp. 411-423.
- Andreasen, A.R. (1985). “Consumer responses to dissatisfaction in loose monopolies”, *Journal of Consumer Research*, Vol. 12, n° 2, September, pp. 135-141.
- Andreassen, T.W.; Lindestad, B. (1998). “Customer loyalty and complex services: the impact of Corporate Image on Quality, Customer Satisfaction and Loyalty for Customers with Varying Degrees of Service Expertise”, *International Journal of Service Industry Management*, Vol. 9, n° 1, pp. 7-23.
- Antonevich, J. (2002). “What's the survey saying?”. *Public Utilities Fortnightly*, March/April, Vol. 1, n° 2, pp. 40-41.
- Apaolaza, V.; Zorrilla, P.; Aldámiz-Echevarría, C. (2001). “La relación entre imagen corporativa y satisfacción global del cliente. El caso de Iberdrola”. *XV Congreso Nacional de la AEDEM. La empresa deslocalizada*. Comunicaciones. Gran Canaria. Junio 2001, pp. 115-120.
- Arbuckle, J. L.; Wothke, W. (1999). *Amos 4.0 User's Guide*, SmallWaters Corporation, Chicago.

- Bagozzi, R.P.; Yi, Y. (1994). "Advanced Topics in Structural Equation Models", in Bagozzi, R.P. (Ed.), *Advanced Methods of Marketing Research*, Blackwell, Oxford, pp. 1-51.
- Benady, D. (1999). "Power Struggle", *Marketing Week*, Vol. 22, n° 37, October, pp. 27-28.
- Bendapudi, N.; Berry, L.L. (1997). "Customer's motivations for maintaining relationships with service providers", *Journal of Retailing*, Vol. 73, n° 1, Spring, pp. 15-38.
- Bennington, L.; Cummane, J.; Conn, P. (2000). "Customer satisfaction and Call Centers: an Australian study". *International Journal of Service Industry Management*, Vol. 11, n° 2, pp. 162-173.
- Bentler, P.M. (1990). "Comparative Fit Indexes in Structural Models", *Psychological Bulletin*, Vol. 107, n° 2, pp. 238-246.
- Bitner, M.J. (1990). "Evaluating service encounters: the effects of physical surroundings and employee responses", *Journal of Marketing*, Vol. 54, n° 2, April, pp. 69-82.
- Bitner, M.J. (1995). "Building service relationships: it's all about promises", *Journal of the Academy of Marketing Science*, Vol. 23, n° 4, pp. 246-251.
- Bitner, M.J.; Booms, B.M.; Tetreault, M.S. (1990). "The service encounter: diagnosing favourable and unfavourable incidents", *Journal of Marketing*, Vol. 54, n° 1, pp. 71-84.
- Bloemer J.M.; Kasper, H. (1995). "The complex relationship between consumer satisfaction and brand loyalty", *Journal of Economic Psychology*, Vol. 16, n° 2, pp. 311-329.
- Bloemer, J.M.; de Ruyter, K. (1998). "On the relationship between store image, store satisfaction and store loyalty", *European Journal of Marketing*, Vol. 32, n° 5/6, pp. 499-513.
- Bloemer, J.M.; de Ruyter, K.; Peeters, P. (1998). "Investigating drivers of bank loyalty: the complex relationship between image, service quality and satisfaction", *International Journal of Bank Marketing*, Vol. 16, n° 7, pp- 276-286.
- Bloemer, J.M.; Poiesz, T.B. (1989). "The illusion of consumer satisfaction", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour*, Vol. 2, pp. 43-48.
- Bolton, R.N.; Drew, J.H. (1991). "A multistage model of consumers' assessments of service quality and value", *Journal of Consumer Research*, Vol. 17, n° 4, March, pp. 375-384.
- Brown, K. (2001). "Consumer research for the electric and natural gas utility industry". www.retailenergy.com/articles/gas.htm, April 2003.
- Butcher, K.; Sparks, B.; O'Callaghan, F. (2001). "Evaluative and relational influences on service loyalty", *International Journal of Service Industry Management*, Vol. 12, n° 4, pp. 310-327.
- Churchill, G.A.; Surprenant, C. (1982). "An investigation into the determinants of customer satisfaction", *Journal of Marketing Research*, Vol. 19, n° 4, November, pp. 491-504.
- Cohen, E. (2000). "The art of war", *Public Utilities Fortnightly*, Fall, pp. 14-17.
- Coyles, S.; Gokey, T.C. (2002). "Customer retention is not enough". *The Mckinsey Quarterly*, n° 2, http://www.mckinseyquarterly.com/article_page.asp?ar=1176&L2=16, April 2002.
- Cronin J.J.; Brady, M.K.; Hult, G.T. (2000). "Assessing the effects of quality, value and customer satisfaction on consumer behavioural intentions in service environments", *Journal of Retailing*, Vol. 76, n° 2, pp. 193-218.
- Cronin J.J.; Taylor, S.A. (1994). "SERVPERF versus SERVQUAL: reconciling performance-based and perceptions-minus-expectations measurement of service quality", *Journal of Marketing*, Vol. 58, n° 1, January, pp. 125-131.
- Cronin, J.J.; Taylor, S.A. (1992). "Measuring service quality: a re-examination and extension", *Journal of Marketing*, Vol. 56, n° 3, July, pp. 55-68.
- Dabholkar, P.A.; Thorpe, D.J.; Rentz, J.O. (1996). "A measure of service quality for retail stores: scale development and validation", *Journal of the Academy of Marketing Science*, Vol. 24, n° 1, Winter, pp. 3-16.
- Danaher, P.J.; Haddrell, V. (1996). "A comparison of question scales used for measuring customer satisfaction", *International Journal of Service industry Management*, Vol. 7, n° 4, pp. 4-26.
- Danaher, P.J.; Mattsson, J. (1994). "Customer satisfaction during the service delivery process", *European Journal of Marketing*, Vol. 28, n° 5, pp. 5-16.
- Davids, B. (2001). "Electric Utilities can increase customer satisfaction while lowering billing costs". http://www.primen.com/about/pr_electric.asp, April 2003.
- Day, G.S. (1969). "A two-dimensional concept of brand loyalty", *Journal of Advertising Research*, Vol. 9, n° 3, pp. 29-35.
- de la Llana, L. (1998). "Organization transformation: the Meralco experience". *Managing Service Quality*, Vol. 8, n° 1, pp. 24-33.
- de Ruyter, K.; Bloemer, J. (1999). "Customer loyalty in extended service settings: the interaction between satisfaction, value attainment and positive mood", *International Journal of Service industry Management*, Vol. 10, n° 3, pp. 320-336.
- de Ruyter, K.; Wetzels, M.; Bloemer, J. (1996). *On the Relationship Between Perceived Service Quality and Behavioural Intentions: a Cross-sectional Perspective*. Proceedings of the 25th EMAC Conference, Warwick, UK.

- de Ruyter, K.; Wetzels, M.; Bloemer, J. (1998). "On the relationships between perceived service quality, service loyalty and switching costs", *International Journal of Service Industry Management*, Vol. 9, n° 5, pp. 436-453.
- Delgado-Ballester, E.; Munuera-Alemán, J.L. (2001). "Brand trust in the context of consumer loyalty", *European Journal of marketing*, Vol. 35, n° 11, pp. 1238-1258.
- Dick, A.; Basu, K. (1994). "Customer loyalty: toward an integrated conceptual framework", *Journal of the Academy of Marketing Science*, Vol. 22, n° 2, Spring, pp. 99-113.
- Doney, P.M.; Cannon, J.P. (1997). "An Examination of the nature of trust in Buyer-Seller Relationships", *Journal of Marketing*, Vol. 61, n° 2, April, pp. 35-51.
- Drummond, J.; Hanna, F. (2001). *Selling Power. Marketing Energy Under Deregulation*. Ed. Trafford. Canada.
- Dufer, J.; Moulins, J.L. (1989). "La relation entre la satisfaction du consommateur et sa fidélité à la marque : un examen critique", *Recherche et Applications en Marketing*, Vol. 4, n°2, pp. 21-36.
- Dukart, J.R. (1998). "Quality: Do you measure up", *Utility Business*, Vol. 1, n° 4, July/August, pp. 32-36.
- Dwyer, F.R.; Schurr, P.H.; Oh, S.(1987). "Developing buyer-seller relationship", *Journal of Marketing*, Vol. 51, n° 2, April, pp. 11-27.
- Fornell, C. (1992). "A national customer satisfaction barometer: the Swedish experience", *Journal of Marketing*, Vol. 56, n° 1, January, pp. 1-18.
- Fornell, C.; Larcker, D.F. (1981). "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", *Journal of Marketing Research*, Vol. 18, n° 1, February, pp. 39-50.
- Ganesan, S. (1994). "Determinants of Long-term Orientation in Buyer-Seller Relationships". *Journal of Marketing*, Vol. 58, n° 2, April, pp. 1-19.
- Garbarino, E.; Johnson, M. (1999). "The different roles of satisfaction, trust, and commitment in customer relationships". *Journal of Marketing*, Vol. 63, n° 2, April, pp. 70-87.
- Gellings, C.W. (1998). *Effective Power Marketing*. Ed. PennWell. Oklahoma.
- Gene, P. (1995). "Building brand equity and customer loyalty", *Electric Perspectives*, Vol. 20, n° 3, May/June, pp. 54-62.
- Getty, J.M.; Thompson, K.N. (1994). "The relationship between quality, satisfaction and recommending behaviour in lodging decision", *Journal of Hospitality & Leisure Marketing*, Vol. 2, n° 3, pp. 3-22.
- Geyskens, I.; Steenkamp, J-B.E.M.; Kumar, N. (1998). "Generalizations About Trust in Marketing Channel Relationships Using Meta-Analysis", *International Journal of Research in Marketing*, Vol. 15, n° 3, July, pp. 223-248.
- Grönroos, C. (1982). "An Applied Service Marketing Theory". *European Journal of Marketing*, Vol. 16, n° 7, pp. 30-41.
- Grönroos, C. (1984). "A Service Quality Model and its Marketing Implications". *European Journal of Marketing*, Vol. 18, n° 4, pp. 36-44.
- Grönroos, C. (1988). "Service Quality: The Six Criteria of Good Perceived Service", *Review of Business*, Vol. 9, n° 3, pp. 10-13.
- Grossman, R.P. (1998). "Developing and managing effective consumer relationships". *Journal of Product and Brand Management*, Vol. 7, n° 1, pp. 27-40.
- Gummesson, E. (1995). "Relationship marketing: its role in the service economy", in Glynn W. and Barnes, J.G. (Eds), *Understanding Services Management*, pp. 244-268.
- Hair, J.F.; Anderson, R.E.; Tatham, R.L.; Black, W.C. (1999). *Análisis Multivariante*. Ed. Prentice Hall. Madrid.
- Hallowell, R. (1996). "The relationships of customer satisfaction, customer loyalty and profitability: an empirical study", *International Journal of Service Industry Management*, Vol. 7, n° 4, pp. 27-42.
- Hart, C.W.; Johnson, M.D. (1999). "A Framework for developing trust relationships", *Marketing Management*, Vol. 8, n° 1, pp. 20-22.
- Hayes, T.; Helms, M. (1999). "Process improvement in a utility company". *Business Process Management Journal*, Vol. 5, n° 4, pp. 297-310.
- Hellier, P.K.; Geursen, G.M.; Carr, R.A.; Rickard, J.A. (2003). "Customer repurchase intention: A general structural equation model", *European Journal of Marketing*, Vol. 37, n° 11, pp. 1762-1800.
- Herzberg, F. (1966). *Work and the nature of man*. Cleveland, O.H.: Word Publishing.
- Hoggard, J. (2003). "Increasing customer loyalty and satisfaction in a competitive energy marketplace", http://www.equarius.com/downloads/EICS_slick.pdf, March 2004.
- Hu, L.T.; Bentler, P.M. (1995). "Evaluating model fit". In Hoyle, R.H. (Ed.). (1995). *Structural equation modelling: Concepts, issues and applications*. Thousand Oaks, Sage Publications, London, pp. 76-99.
- Hunter, R.; Melnik, R.; Senni, L. (2003). "What power consumers want". *The McKinsey Quarterly*, n° 3, http://www.mckinseyquarterly.com/article_page.asp?ar=1320&L2=8&L3=48&srld=69, January 2004.
- Iberdrola (2002). "Proyecto La Voz del Cliente". *Revista de Comunicación Interna. Adelantamos los plazos del Plan Estratégico*. Mayo 2002, n° 2, pp. 18-19.

- Jacoby, J.; Kyner, D.B. (1973). "Brand loyalty versus Repeat Purchasing Behaviour", *Journal of Marketing Research*, Vol. 10, n° 1, February, pp. 1-9.
- Johnson, M.D.; Fornell, C. (1991). "A framework for comparing customer satisfaction across individuals and product categories", *Journal of Economic Psychology*, Vol. 12, n° 2, pp. 267-286.
- Johnson, M.D.; Gustafsson, A. (2000). *Improving customer satisfaction, loyalty and profit*. University of Michigan Business School Management Series. U.S.
- Johnson, R.R. (2001a). "Aftershocks", *Public Utilities Fortnightly*, Spring, pp. 4-6.
- Johnson, R.R. (2001b). "E-payment pick-up", *Public Utilities Fortnightly*, Winter, pp. 8-10.
- Jones, M.A.; Mothersbaugh, D.; Beatty, S. (2000). "Switching barriers and repurchase intentions in services", *Journal of Retailing*, Vol. 76, n° 2, pp. 259-274.
- Jones, T.O.; Sasser, W.E. (1995). "Why satisfied customers defect?", *Harvard Business Review*, Vol. 73, November-December, n° 6, pp. 88-99.
- Jöreskog, K.G.; Sörbom, D. (1984). *LISREL VI user's guide*, 3rd ed., Scientific Software, Mooresville, IN.
- Kaplan, D. (2000). *Structural Equation Modelling: Foundations and Extensions*. Newbury Park, Sage Publications, London.
- Kasper, H. (1988). "On problem perception, dissatisfaction, and brand loyalty", *Journal of Economic Psychology*, Vol. 9, n° 3, September, pp. 387-397.
- LaBarbera, P.A.; Mazursky, D. (1983). "A longitudinal assessment of consumer satisfaction/dissatisfaction: the dynamic aspect of the cognitive process", *Journal of Marketing Research*, Vol. 20, n° 4, November, pp. 393-404.
- Lemmink, J.; Mattsson, J. (1998). "Warmth during non-productive retail encounters: the hidden side of productivity", *International Journal of Research in Marketing*, Vol. 15, n° 5, pp. 505-517.
- Lewis, B.R. (1993). "Service quality: recent developments in financial services", *International Journal of Bank Marketing*; Vol. 11, n° 6, pp. 19-25.
- Lewis, P. (2001). "Customer Research: Efficient Deregulated Marketing – Dispelling the Myths", *Competing for Household Customers in the Power Market Conference in Berlin*, October, www.energyforum.net/feature/feat131.shtml, February 2002.
- Lewis, P. (2002). "The Psychology Affecting Loyalty of Electricity & Gas Customers", *The Global Energy Marketing Conference in University of Vaasa, Finland*, www.energyforum.net/feature/feat174_intro.shtml, February 2002.
- Liljander, V.; Strandvik T. (1997). "Emotions in service satisfaction", *International Journal of Service Industry Management*, Vol. 8, n° 2, pp. 148-169.
- Liljander, V.; Strandvik, T. (1993). "Estimating zones of tolerance in perceived service quality and perceived service value", *International Journal of Service Industry Management*, Vol. 4, n° 2, pp. 6-28.
- Liljander, V.; Strandvik, T. (1995). "The nature of customer relationships in services", in Swartz, T.A.; Bowen, D.E.; Brown, S.W. (Eds), *Advances in Services Marketing and Management*, Vol. 4, JAI Press, Greenwich, CT, pp. 141-167.
- Lloyd, P. (2000). "Energy marketing: What do customers want?", *Public Utilities Fortnightly*, Fall, pp. 36-41.
- Loveman, G.W. (1998). "Employee satisfaction, customer loyalty, and financial performance", *Journal of Service Research*, Vol. 1, n° 1, pp. 18-31.
- Mano, H.; Oliver, R. (1993). "Assessing the dimensionality and structure of the consumption experience: evaluation, feeling, and satisfaction", *Journal of Consumer Research*, Vol. 20, n° 3, pp. 451-466.
- Masokin, M. (2000). "Foreign Suppliers Posing Strong Threat to Austrian I&C Utilities", <http://www.energyforum.net/feature/feat146.shtml>, April, 2003.
- Mayer, R.C.; Davis, J.H.; Schoorman, F.D. (1995). "An integrative model of organizational trust". *Academy of Management Review*, Vol. 20, n° 3, pp. 709-734.
- McCullagh, P. (2003). "Of Customer Loyalty and Energy", http://www.energyusernews.com/CDA/ArticleInformation/features/BNP_Features_Item/0%2C2584%2C14501%2C00.html, March 2004.
- McDougall, G.; Levesque, T. (2000). "Customer satisfaction with services: putting perceived value into the equation", *Journal of Services Marketing*, Vol. 14, n° 5, pp. 392-410.
- Mittal, B.; Lassar, W.M (1998). "Why do customers switch?. The dynamics of satisfaction versus loyalty", *Journal of Services Marketing*, Vol. 12, n° 3, pp. 177-194.
- Monroe, K.B.; Krishnan, R. (1985). "The Effect of Pride on Subjective Product Evaluations", in *Perceived Quality*, pp. 209-232. Edited by Jacob Jacoby and Jerry C. Olson, Lexington, Mass.: Lexington Books.
- Moorman, C.; Deshpande, R.; Zaltman, G. (1993). "Factors Affecting Trust in Market Research Relationships". *Journal of Marketing*, Vol. 57, n° 1, pp. 81-101.
- Morgan, R.M.; Hunt, S.D. (1994). "The Commitment-Trust Theory of Relationship Marketing", *Journal of Marketing*, Vol. 58, n° 3, July, pp. 20-38.

- Naumann, E; Jackson, D. (2000). "Vuelve la pregunta clave: ¿Cómo satisfacer a los clientes?". *Harvard-Deusto Marketing & Ventas*, September/October, n° 40, pp. 24- 30.
- Nesbit, B. (2000). "E-Business: Why Waiting could cost you", *Public Utilities Fortnightly*, Fall, pp. 18-20.
- Nesbit, B. (2001). "Power to the people", *Public Utilities Fortnightly*, Winter, pp. 36-42.
- Newman, J.W.; Werbel, R.A. (1973). "Multivariate Analysis of Brand Loyalty for Major Household Appliances", *Journal of Marketing Research*, Vol. 10, n° 4, November, pp. 404-409.
- Nguyen, N.; LeBlanc, G. (1998). "The mediating role of corporate image on customers' retention decisions: on investigation in financial services", *International Journal of Bank Marketing*, Vol. 16, n° 2, pp. 52-65.
- Novak, E. (2002). "Does satisfaction pay?". *Public Utilities Fortnightly*, March/April, Vol. 1, n° 2, pp. 34-39.
- Oliva, T.A.; Oliver, R.L.; MacMillan, I.C. (1992). "A Catastrophe Model for Developing Service Satisfaction Strategies", *Journal of Marketing*, Vol. 56, n° 3, July, pp. 83-95.
- Oliver, R.L. (1981). "Measurement and evaluation of satisfaction processes in retail settings", *Journal of Retailing*, Vol. 57, n° 3, Fall, pp. 25-48.
- Oliver, R.L. (1999). "Whence consumer loyalty?", *Journal of Marketing*, Vol. 63, n° 4, Special Issue, pp. 33-44.
- Oliver, R.L.; DeSarbo, W.S. (1988). "Response determinants in satisfaction judgments". *Journal of Consumer Research*, Vol. 14, n° 4, March, pp. 495-507.
- Oliver, R.L.; Swan, J.E. (1989). "Consumer perceptions of interpersonal equity and satisfaction in transaction: a field survey approach", *Journal of Marketing*, Vol. 53, April, pp. 21-35.
- Oriol, I. (1995). "Cambio de enfoque en el futuro del sector energético". *Economía Industrial*, n° 302, pp. 169-171.
- Parasuraman, A., Zeithaml, V.A.; Berry, L.L. (1988). "SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality", *Journal of Retailing*, Vol. 64, n° 1, Spring, pp. 12-40.
- Parasuraman, A.; Zeithaml, V.A.; Berry, L.L. (1994). "Reassessment of expectations as a comparison standard in measuring service quality: implications for future research", *Journal of Marketing*, Vol. 58, n° 1, January, pp. 111-124.
- Patterson, P.; Spreng, R. (1997). "Modelling the relationship between perceived value, satisfaction and repurchase intentions in a business-to-business, services context: an empirical examination", *International Journal of Service Industry Management*, Vol. 8, n° 5, pp. 414-434.
- Pesce, B. (2002). "What's in a brand?". *Public Utilities Fortnightly*, March/April, Vol. 1, n° 2, pp. 24-26.
- Ping, R. (1993). "The effects of Satisfaction and Structural Constraints on Retailer Exiting, Voice, Loyalty, Opportunism and Neglect", *Journal of Retailing*, Vol. 69, n° 3, pp. 320-352.
- Porter, M.E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, Macmillan, New York, NY.
- Powell, M.L. (2000). "The Utility Challenge. Who's Minding the Consumer?". http://www.energycodes.gov/news/2000_workshop/pdfs/powell_m.pdf, April 2003.
- Power, J.D. (2002). "Midsize U.S. Businesses Rank their Utilities", *Transmission and Distribution World*, Vol. 54, n° 7, July, pp. 56-57.
- Price, L.L.; Arnould, E.J. (1999). "Commercial Friendships: Service Provider-Client Relationships in Context", *Journal of Marketing*, Vol. 63, n° 4, October, pp. 38-56.
- Price, L.L.; Arnould, E.J.; Tierney, P. (1995). "Going to extremes: managing service encounters and assessing provider performance", *Journal of Marketing*, Vol. 59, n° 2, April, pp. 83-97.
- Ravald, A.; Grönroos, C. (1996). "The value concept and relationship marketing", *European Journal of Marketing*, Vol. 30, n° 2, February, pp. 19-30.
- Reichheld, F. (1996). *The Loyalty Effect*, Harvard Business School Press, Boston, MA.
- Reichheld, F.F. (1996). "Learning from customer defections", *Harvard Business Review*, Vol. 74, n° 2, pp. 56-69.
- Reichheld, F.F.; Sasser, W.E. (1990). "Zero defections: quality comes to services", *Harvard Business Review*, Vol. 68, n° 5, September-October, pp. 105-111.
- Reketye, G.; Tersztyánszky, T. (2002). "In Hungary, customers rate their electricity distributors", *Transmission and Distribution World*, Vol. 54, n° 7, July, pp. 63-67.
- Rienznner, R.; Testa, F. (2003). "The captive consumer no longer exists. Creating customer loyalty to compete on the new deregulated markets of public utilities". *Total Quality Management and Business Excellence*, Vol. 14, n° 2, pp. 171-187.
- Rosier, B. (2000). "Energy Utilities step up the fight for power", *Marketing*, January, p. 13.
- Rust, R.T.; Williams, D.C. (1994). "How length of patronage affects the impact of customer satisfaction on repurchase intention", *Journal of Customer Satisfaction, Dissatisfaction and Complaining Behavior*, Vol. 7, n° 2, pp. 107-113.
- Rust, R.T.; Zahorik, A.J. (1993). "Customer satisfaction, customer retention, and market share", *Journal of Retailing*, Vol. 69, n° 2, Summer, pp. 193-215.

- Selnes, F. (1993). "An examination of the effect of product performance on brand reputation, satisfaction and loyalty", *European Journal of Marketing*, Vol. 27, n° 9, pp. 19-35.
- Senia, A. (2002). "Branding the utility", *Utility Business*, Vol. 5, n° 7, July, pp. 32-36.
- Sharma, N.; Patterson, P.G. (2000). "Switching Costs, Alternative Attractiveness and Experience as Moderators of Relationship Commitment in Professional, Consumer Services", *International Journal of Service Industry Management*, Vol. 11, n° 5, pp. 470-490.
- Sheth, J.N.; Parvatiyar, A. (1995). "Relationship marketing in consumer markets: antecedents and consequences", *Journal of the academy of marketing science*, Vol. 23, n° 4, pp. 255-271.
- Simmonds, J. (2002). "Affinity relationships to boost brand recognition and customer loyalty for European utilities", www.energyforum.net/feature/feat193.shtml, March 2002.
- Sivadas, E.; Baker-Prewitt, J. (2000). "An examination of the relationship between service quality, customer satisfaction and store loyalty", *International Journal of Retail & Distribution Management*, Vol. 28, n° 2, pp. 73-82.
- Söderlund, M. (1998). "Customer satisfaction and its consequences on customer behaviour revisited", *International Journal of Service Industry Management*, Vol. 9, n° 2, pp. 169-188.
- Spreng, R.A.; Olshavsky, R.W. (1993). "A desires congruency model of consumer satisfaction", *Journal of the Academy of Marketing Science*, Vol. 21, n° 3, pp. 169-177.
- Stauss, B.; Neuhaus, P. (1997). "The qualitative satisfaction model", *International Journal of Service Industry Management*, Vol. 8, n° 3, pp. 236-249.
- Steiger, J.H.; Lind, J.C. (1980). "Statistically based tests for the number of common factors", Paper presented at the Annual Meeting of the Psychometric Society, June, Iowa City, IO.
- Storbacka, K.; Strandvik, T.; Grönroos, C. (1994). "Managing Customer Relationship for Profit: the Dynamics of Relationship Quality", *International Journal of Service Industry Management*, Vol. 5, n° 5, pp. 21-38.
- Swan, J.E.; Oliver, R.L. (1989). "Post-purchase communications by consumers", *Journal of Retailing*, Vol. 65, n° 4, Winter, pp. 516-533.
- Tarney, W.; Roma, B. (2000). "Lessons from the call center". *Public Utilities Fortnightly*, Fall, pp. 32-33.
- Taylor, S.A.; Baker, T.L. (1994). "An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions", *Journal of Retailing*, Vol. 70, n° 2, pp. 163-178.
- Thumann, A. (1998). *Customer Choice: Purchasing Energy in a Deregulated Market*. The Fairmont Press, Inc. Lilburn.
- Umbrell, C. (2003). "Gold star service", *American-Gas*, Vol. 85, n° 4, May, pp. 14-16.
- Watson, A.; Viney, H.; Schomaker, P. (2002). "Consumer attitudes to utility products: a consumer behaviour perspective". *Marketing Intelligence & Planning*, Vol. 20, n° 7, pp. 394-404.
- Westbrook, R.A. (1980). "Intra-personal affective influences on customer satisfaction with products". *Journal of Consumer Research*, Vol. 7, n° 1, June, pp. 49-54.
- Westbrook, R.A. (1987). "Product/consumption based affective responses and post purchase processes". *Journal of Marketing Research*, Vol. 24, n° 3, August, pp. 258-270.
- Wetzels, M.; De Ruyter, K.; Van Mirgelen, M. (1998). "Marketing Service Relationships: The Role of Commitment", *Journal of Business and Industrial Marketing*, Vol. 13, n° 4/5, pp. 406-423.
- Whitehead, P. (2003). "Satisfied customers are not necessarily loyal". <http://www.energyforum.net/feature/feat200.shtml>, April 2003.
- Wijnholds, H. (2000). "Competitive Electricity Markets in the U.S. and the E.U.: Can they Learn from Each Other?". *Journal of Euromarketing*, Vol. 9, n° 1, pp. 37-55.
- Wirtz, J. (2001). "Improving the measurement of customer satisfaction: a test of three methods to reduce halo", *Managing Service Quality*, Vol. 11, n° 2, pp. 99-111.
- Woodruff, R.B. (1997). "Customer Value: The Next Source for Competitive Advantage". *Journal of the Academy of Marketing Science*, Vol. 25, n° 2, Spring, pp. 139-153.
- Zeithaml, V.A. (1988). "Consumer Perceptions of Price, Quality and Value: A Means-End Model and Synthesis of Evidence", *Journal of Marketing*, Vol. 52, n° 3, Julio, pp. 2-22.
- Zeithaml, V.A.; Berry, L.L.; Parasuraman, A. (1996). "The behavioral consequences of service quality", *Journal of marketing*, Vol. 60, n° 2, April, pp. 31-46.
- Zins, A.H. (2001). "Relative attitudes and commitment in customer loyalty models: Some experiences in the commercial airline industry", *International Journal of Service Industry Management*, Vol. 12, n° 3/4, pp. 269-294.