

Application of Latent Class Analysis to the Investigation of Customer Loyalty in Service Companies

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Abstract. Loyalty as a strategic goal presents important returns for the organization. The existence of a base of loyal customers shields the company against actions from competitors, thus, ensuring medium- and long-term survival. Unfortunately, detection of truly loyal customers is not an easy task. Current research has clearly shown that the so-called “direct” or “behavioral” measurements (Berné, 1997; Jacoby & Chesnut, 1978) are not sufficient for this purpose, given that they can lead to identifying as *loyalty* patterns of repetitive purchasing that do not imply a real commitment to the service providers. It has also been shown that indirect measurements (Berné, 1997) can lead to interpreting as loyalty attitudes and intentions that never materialize in a real purchasing pattern. In our view, both approaches should be combined to reach the goal of detecting and describing different segments of consumers according to their loyalty to the service provided. The most important finding of this research focuses on the identification of different levels of loyalty, based on the attitudinal and behavioral measurements employed. Six different segments of consumers with varying characteristics emerged (true loyalty, latent loyalty, superficial loyalty, repetitive purchasing, forced loyalty and absence of loyalty).

Keywords: services marketing, latent class analysis, customer loyalty

Introduction

A large amount of resources has been invested over decades in the analysis and assessment of perceived quality and customer satisfaction, as a means to ensure consumer loyalty and, thus, guarantee the survival and growth of the organization (Martínez-Tur, Peiró, & Ramos, 2001). Underneath this line of research lies the assumption that there is a direct and positive causal relationship between satisfaction and loyalty. Nevertheless, this relationship has not always been found empirically. Although significant correlations between both constructs have been found in a number of studies, they have not been as high as expected, thus, demonstrating that satisfaction is necessary, but not sufficient, to guarantee customer loyalty. Several authors have complained about the popularity of studies on satisfaction, rejecting the idea that satisfaction and loyalty must go together (Bloemer & Kasper, 1995; Jones & Sasser, 1995; Oliver, 1997, 1999; Reichheld, 1996; Stewart, 1997). From their point of view, despite the fact that loyal consumers are usually satisfied consumers, satisfaction in itself is not a reliable indicator of loyalty. Explaining loyalty also requires identifying any other indicators. In this sense, satisfaction becomes only one of the predictors of loyalty behavior.

The most devastating criticism to the satisfaction para-

digm comes from Reichheld (1996). This author considers that the study of satisfaction has become an end in itself, disengaged from loyalty and organizational benefits. His research revealed that from 60% to 80% of defector customers had indicated high or very high levels of satisfaction in previous surveys. In the same line, Oliver (1999) proposed the need for a change of paradigm, where the search for loyalty is established as the only valid strategic goal. This new framework seeks to go deeper in understanding the role that customer satisfaction plays in loyalty, taking into account other determinants and their interrelationships.

The scarceness of results obtained to date is the result not only of the excessive simplicity of the model supporting them but also to the conceptualization and the measurement of loyalty employed. Jacoby and Chestnut (1978) warned about these aspects, and tried to elaborate a unifying framework that would be able to bring together the multiplicity of criteria existing at the moment. They revised the definitions and measurements employed, and grouped them into three main categories: *behavioral indicators*, *attitudinal indicators*, and *mixed indicators*. Behavioral indicators are based on observation of the actual behavior of consumers or on the information they provide about their purchasing behavior. Attitudinal indicators of loyalty are based either on preference judgments made by consumers, or on consumers' reports about intended purchasing behav-

ior. Mixed or compound indicators integrate attitudinal and behavioral approaches. Jacoby and Chestnut (1978) concluded their review by highlighting the existing confusion about the definition of loyalty and proposed a new definition of the construct to clarify and state precisely its meaning. They regard loyalty as “a behavioral response, oriented and thus not random, expressed in time, about one or more alternatives from a set of brands, and a function of a psychological process of decision-making or evaluation” (Jacoby & Chestnut, 1978, p. 80–81). As a result, the individual develops a commitment toward the brand. The presence of commitment is what differentiates loyalty from other types of repetitive purchasing behavior, and also makes it possible to establish different levels of loyalty. Together with their definition, Jacoby and Chestnut (1978) established a set of restrictive conditions that must be satisfied to distinguish what it is loyalty from what it is not. Thus, loyalty is behavior, not intention. More precisely, it is a behavior prolonged in time, which takes place in a competitive market, where alternatives can be assessed and a decision about them can be taken; a behavior responding to stable criteria, and, thus, susceptible to modification, prediction, and control.

Bloemer and Kasper (1995) recalled the contributions from Jacoby and Chestnut (1978) in a study designed to clarify the relationship between loyalty and satisfaction. They took the definition from these authors and, based on it, made explicit the differences between the concepts of *repetitive purchasing*, *true loyalty*, and *spurious loyalty*. Repetitive purchasing behavior only makes reference to the acquisition of the product, without taking into account the customers' level of commitment to the brand. Spurious loyalty is defined as “a behavioral response, oriented and thus not random, expressed in time, with respect to one or more alternatives, and as a function of inertia” (Bloemer & Kasper, 1995, p. 313). They adapted the theory from Jacoby and Chestnut (1978) that assumes the existence of a continuum inside the construct of loyalty and, following their predecessors, considered that the different levels of loyalty correspond to the degree of commitment to the brand. Apart from this distinction, they also defended the existence of two different types of satisfaction, with different consequences for loyalty. More precisely, they differentiated between *overt* and *latent* satisfaction, depending on the level of elaboration underlying the assessment judgments made by the consumer. In their research, Bloemer and Kasper (1995) found that overt satisfaction is directly and strongly related to true loyalty, defining overt satisfaction as the explicit and favorable assessment of the brand by the consumer. In 1998, Bloemer and Ruyter reproduced their postulates and findings in the context of loyalty toward commercial establishments.

There is another approach to the study and definition of the concept of loyalty that is also rooted in the work of Jacoby and Chestnut (1978), which situates loyalty in the classic framework of attitude theory. This approach was started by Dick and Basu (1994), but its main representa-

tive is Oliver (1997, 1999). Dick and Basu developed a rather complex model to explain how loyalty evolves, how it changes, and what the consequences of those changes are. They pointed to a number of cognitive, affective, and conative factors as antecedents, and to a number of social rules and situational factors as modulators, of loyalty, which is defined as the relationship existing between the relative attitudes toward a given brand and the frequency of purchasing it. Dick and Basu define *relative attitude* as a consumers' favorable attitude toward a brand with regard to all the potential alternatives. The definition employed by these authors allows for a differentiation between four levels or categories of loyalty. First, a poor relative attitude, together with a low pattern of repetitive purchasing, makes reference to the *absence of loyalty*. Second, a poor relative attitude together with a high pattern of repetitive purchasing indicates *spurious loyalty*. Thirdly, a strong relative attitude together with a low pattern of repetitive purchasing reflects *latent loyalty* and, finally, only when we get a favorable correspondence between relative attitude and repetitive behavior can we speak about *true loyalty*. In this framework, it seems clear that the relative attitude is responsible for both strong resistance to the persuasive messages of competitors, and for minimizing motivation with respect to the search for alternatives.

Oliver (1997, 1999) takes the work by Dick and Basu (1994) as a starting point, but goes beyond it and talks about a process in the construction of loyalty; this process consists of four different stages. First, the customers become loyal in a cognitive sense; second, in an affective sense; third, in a conative sense. Finally, customers become loyal in a behavioral sense. This last stage is known as the *inertia of action*, and Oliver (1997, 1999) establishes a clear distinction with respect to previous stages. True loyalty is not seen here as the intentional, proactive, motivated, and consensual search for a brand, but as the final result of a process in which the initial motivations vanish and the behavior becomes blind, in such a way that reacquisition by inertia governs truly loyal customers.

All the studies reviewed to date approach loyalty from a conceptual perspective, but very few of them give a concrete, operational definition of loyalty (Bloemer & Kasper, 1995). Most of them only provide some guidelines about what should be evaluated according to their postulates, but a measuring tool, useful and coherent with the proposed theories, has never been developed. This is probably one of the main reasons why incomplete measurements of loyalty are still employed in most applied studies. Thus, loyalty has been measured as the frequency of purchasing (Sivadas & Baker-Prewitt, 2000), or the resistance against the rising of prices (Fornell, 1992) but, for most studies that have been carried out, loyalty is calculated combining two items: (1) intention of repeating the purchase, and (2) intention to recommend the product to other potential customers (Bei & Chiao, 2001; Cronin, Brady & Hult, 2000; Cronin & Taylor, 1992; McDougall & Levesque, 2000; Selnes, 1993). However, these measures are incomplete:

they register what the customer does, or has the intention to do, but that information cannot be taken as loyalty following the definition employed above. Isolated from other measures, they cannot explain loyalty; they only describe a set of behaviors, preferences, or intentions. Nevertheless, some authors (McMullan & Gilmore, 2003) have recently started developing tools for assessing loyalty based on some of the existing theories.

Apart from the problems concerning the definition and measurement of the construct of loyalty, it must be emphasized that loyalty has been linked historically to the concept of brand, whereas the loyalty to other concepts like services remained almost unexplored (Gremler & Brown, 1996). Bloemer, Ruyter, and Wetzels (1999) indicate several reasons why the findings obtained in the field of *loyalty to brand* should not be extended to the field of *loyalty to service*. Given the importance of personal interactions when dealing with services, it is expected that loyalty to service will depend heavily on how these interactions progress. Moreover, the perception of risk associated with change is higher for services. Finally, it has been demonstrated that loyalty is more likely among service consumers than among product consumers.

Within the field of loyalty to service, the work by Zeithaml, Berry, and Parasuraman (1996) can be emphasized. The authors developed a 13-item scale to assess "behavioral intentions." Validity of construct assessments yielded five empirical factors: loyalty to organization, propensity to change, willingness to pay more, external response to problems, and internal response to problems. Nevertheless, the reliability of some of these factors was not completely satisfactory, and the authors concluded that the number of items in the scale should be increased. Other researchers (Bloemer et al., 1999; Yu & Dean, 2001) have employed this scale to assess loyalty to services. There have been also attempts to replicate the psychometric properties of the scale, without success (Yu & Dean, 2001).

Despite the fact that these studies are within the framework of assessment and measurement of loyalty to service, they forget to mention an aspect whose importance has been emphasized already in this paper: Is it possible to empirically identify and define the different types of loyalty proposed here? Can we detect truly loyal consumers with the tools available? It is evident that the so-called direct or behavioral measurements (Berné, 1997; Jacoby & Chestnut, 1978) are not enough, given that they can lead us to identify as loyalty habits of repetitive purchasing that do not imply a real commitment to service providers, and depend on a number of situational factors susceptible to change. It has also been mentioned that indirect measurements (Berné, 1997) could lead us to interpret as loyalty attitudes and intentions that never materialize in a real purchasing pattern. In our opinion, a joint measurement combining both approaches (Jacoby & Chestnut, 1978) should be closer to our objective of detecting and describing different segments of consumers according to their loyalty to service. In summary, the main objectives of our research

were: (1) to classify the consumers of restaurant services in the area of Santiago de Compostela, in north-western Spain, according to their propensity to loyalty, or cognitive loyalty; (2) to outline the sociodemographic characteristics of those groups of consumers; (3) to empirically identify the truly loyal consumers by combining attitudinal and behavioral measurements; and (4) to validate the profiles thus obtained regarding consumers' degree of *involvement*, a construct tightly related to loyalty.

Method

Sample

A sample of 180 restaurants, representative of the restaurant services offered in the area, was selected, and an average of 25/26 customers per restaurant were interviewed. A total of 4606 subjects participated in the study (2866 men and 1740 women). Their ages ranged from 16 to 84 years old ($M = 36.33$; $SD = 12.54$).

Procedure

The customers were asked to complete a structured questionnaire that included the five items related to loyalty. Four of these, following the classification by Berné (1997), are indirect indicators of loyalty: two measures of intention, a measure of perceived quality, and a measure of perceived value. The fifth item related to loyalty is a direct measure (Berné, 1997), based on the customers' self-reported behavior.

The average time to complete the questionnaire was 15 min. The interviewers were not related in any way to any of the restaurants, although authorization and collaboration was required from every restaurant's manager. It must be stated that the present research is part of a wider project involving more than 400 restaurants and hotel businesses of the area of Santiago de Compostela.

Instruments

The variables employed in the study are reported in Table 1. The questionnaire included four indirect measures of loyalty (two measures for intentions, one for perceived quality, and one for perceived value), from which the different segments of consumers will be identified, based on their cognitive loyalty. Under the term "intentions," the two more usual items used to evaluate loyalty (Cronin et al., 2000; Cronin & Taylor, 1992; McDougall & Levesque, 2000; Selnes, 1993) are employed: the intention to acquire a given service again, and the intention to recommend the service to other potential customers. With respect to perceived quality and perceived value, it is important to em-

Table 1. Variables of the study

Construct	Variables	Items	Options
Loyalty			
Indirect measures			
Intentions	Come back	Do you plan to come back to the restaurant?	(1) Surely not; (2) Probable not (3) I am not sure; (4) Probably yes; (5) Surely yes.
	Recommend	Would you recommend it to your family or your friends?	(1) Surely not; (2) Probable not (3) I am not sure; (4) Probably yes; (5) Surely yes.
Perceived quality	Perceived quality	Global assessment of this restaurant	(1) Very bad; (2) Bad; (3) Fair; (4) Good; (5) Excellent
Perceived value	Perceived value	Do you think that the service in the restaurant is worth the price?	(1) No; (2) Maybe; (3) Yes
Direct measure			
Purchasing rate	Purchasing rate	Taking into account all the times you have lunch or dinner outside home, the percentage of times you come to this restaurant is . . .	From 0% to 100%
Purchasing habits			
	Companions	You came to this restaurant . . .	(1) Alone; (2) With your partner; (3) With your family; (4) With friends; (5) With work-mates.
	Experience	How frequently do you have lunch or dinner outside home?	(1) High (on a daily basis, 2 or 3 times a week); (2) Medium (once a week, every 15 days); (3) Low (once a month, rarely)
Sociodemographical characteristics			
	Sex	Sex	(1) Man; (2) Woman
	Age	Age	(1) 18–25 years, (2) 26–40 years, (3) 41–55 years, (4) More than 56 years
Involvement			
	Pleasure	How much do you like this restaurant?	Score from 0 to 10
	Trust	What is your level of trust in this restaurant?	Score from 0 to 10
	Identification	To what extent choosing this restaurant, says something about you, reflects your taste or lifestyle?	Score from 0 to 10
	Utility	To what extent do you think it is worth to choose this restaurant?	Score from 0 to 10
	Importance	To what extent it is important for you to have a seat available at this restaurant?	Score from 0 to 10
	Information	Are you usually aware about novelties, products, services, etc., available at this restaurant?	Score from 0 to 10

phasize that these are two of the most well-known predictors of consumers' behavior. The direct measure of loyalty is effectively obtained through an item asking the customer his/her relative frequency of use of a given service. The questionnaire also included: (1) two modulator variables of the target behavior: which companion is chosen to visit the restaurant (none, friends, relatives, etc.) and how experienced the customer is in this kind of services, and (2) six items dealing with the construct involvement, adapted from the EIM scale (Rial, Varela, Braña, & Levy, 2000). Involvement has been extensively studied in the context of advertising and commercialization of products. It comprises both the affective and the rational components of the relationship between customer and product, which makes it a useful explanatory and predictive variable of consumers' behavior. There have been two distinct tendencies when con-

sidering this construct: one regards involvement as a state, and the other regards it as a process. In our conception, developed through previous studies (Rial et al., 2000; Varela, Rial, Braña, & De la Flor, 1998), involvement is considered as a process, consistent with the model of antecedents-state-consequents proposed by Mittal and Lee (1989). Thus defined, the construct is measured through a scale containing six dimensions: *pleasure*, *trust*, *identification*, *utility*, *importance*, and *information*.

Results

The main objective of this research was to determine if it is possible to reduce the indirect indicators of loyalty to a

Table 2. Goodness of fit for the models with 1, 2, 3, and 4 latent classes in the first subsample

		L ²	BIC	d.f.	Sig.
Model 1	1-class	3033.43	246.94	360	4.9e-417
Model 2	2-classes	908.40	-1839.38	355	3.5e-50
Model 3	3-classes	430.60	-2278.48	350	0.0021
Model 4	4-classes	350.92	-2319.46	345	0.40

more general and basic measure of the interviewees' attitudes toward the service. To accomplish this, we assume that there is a latent variable representing the *cognitive predisposition toward loyalty*, which is responsible for the relationships found between these *indirect* indicators (Intention to come again, intention to recommend, perceived quality, and perceived value). The latent-class analysis fits very well both to our requirements and to the ordinal measures employed to determine the segments of consumers. Latent-class analysis allows us to identify a set of mutually exclusive groups, or latent classes, representing the segments of consumers. These latent classes explain the existing similarities between cases in the segmentation variables, all of them ordinal. Similar to cluster analysis, latent-class analysis allows for the classification of objects, according to their similarity, into groups whose size and amount is unknown a priori. However, in contrast to cluster analysis, latent-class analysis provides several statistical criteria to test the validity of the model, thus, helping in determining the optimal number of segments.

To test the stability of the results obtained, the sample was split into two random subsamples with the same size. The first subsample (2307 subjects) was used to identify the latent-class model with the best fit. The second subsample (2307 subjects) was used to validate the model obtained using the first subsample. This validation strategy implies finding a final model in which the conditional likelihood and the likelihood for the latent classes are equal for both subsamples.

Table 2 reflects the goodness-of-fit statistics for the different models applied to the first subsample. According to statistical criteria, the model with four latent classes fit best to the data, $L^2_{(345)} = 350.92$; $p = .40$. Similarly, when comparing the values of the Bayesian information criteria (BIC), this model had the lowest value (-2319.46), which also indicates that the best-fitting model includes four different segments of consumers.

Applying the same models for the second subsample, it can be seen that the model with four latent classes also constitutes a good approach to the responses of the interviewees, $L^2_{(345)} = 326.85$; $p = .75$. In fact, this is also the best-fitting model for the second subsample. We could be tempted to conclude that the model with four latent classes is the best representation of the cognitive predisposition toward loyalty; but this is inappropriate without first comparing the structural equivalence and complete homogeneity models. As can be seen in Table 3, our results support

Table 3. Results for cross-validation of models

		L ²	BIC	d.f.	Sig.
Unrestricted model	4-classes	677.77	-4664.19	690	.62
Structural equivalence model	4-classes	689.62	-5340.92	716	.67
Complete homogeneity model	4-classes	701.57	-5363.28	719	.67

Table 4. Estimated parameters for the 4-latent class model (N = 4606). **Bold type** reflects the main conditional likelihood on each of the segmentation variables for each of the latent classes

	Class 1	Class 2	Class 3	Class 4
Likelihood	0.5670	0.2882	0.1237	0.0211
n	2677	1274	556	99
Perceived quality				
Very bad	0.0000	0.0000	0.0003	0.0294
Bad	0.0000	0.0000	0.0061	0.0980
Fair	0.0011	0.0126	0.2985	0.6616
Good	0.4696	0.8387	0.6909	0.2108
Excellent	0.5293	0.1487	0.0043	0.0002
Perceived value				
No	0.0000	0.0003	0.0423	0.2931
Maybe	0.0075	0.0813	0.5895	0.6436
Yes	0.9925	0.9184	0.3682	0.0633
Come back				
Surely not	0.0000	0.0007	0.0093	0.3271
Probably not	0.0000	0.0167	0.0879	0.3983
I am not sure	0.0006	0.2033	0.4175	0.2439
Probably yes	0.0486	0.4927	0.3954	0.0298
Surely yes	0.9508	0.2867	0.0899	0.0009
Recommend				
Surely not	0.0000	0.0000	0.0080	0.3445
Probably not	0.0000	0.0005	0.0996	0.4479
I am not sure	0.0000	0.0336	0.3938	0.1840
Probably yes	0.0062	0.6567	0.4842	0.0235
Surely yes	0.9938	0.3091	0.0144	0.0001

the hypothesis of equivalence between both subsamples, both with respect to the conditional likelihood, $L^2_{(26)} = 11.85$; $p = .99$, and to the likelihood of the latent classes, $L^2_{(3)} = 11.95$; $p = .076$.

Once the model with four latent classes has been tested and validated, the examination of the parameters estimated by the model will reveal the distinctive characteristics of each of the four segments of consumers identified. Table 4 shows the conditional likelihood on each of the segmentation variables for each of the latent classes.

The first segment of consumers was the largest (58.12% of the simple size). They scored very high in almost all criteria, thus, revealing a clear intention of repeating and recommending the service offered. They considered the

service to be of good quality and worth the price. The second segment of consumers represented 27.66% of the sample, and scored below the first segment and above the third segment. In general, they showed good intentions of repeating and recommending the service, and gave good scores in perceived value and quality of service. The third group comprised 12.07% of the sample; their intention of repeating or recommending the service was unclear, and they were unsure about both the quality and the value of the service. Finally, the fourth segment includes the 99 most critical customers (2.15% of the sample). According to these results, we have labeled each of these clusters of customers as strong cognitive loyalty, moderate cognitive loyalty, low cognitive loyalty, and annoyance, respectively.

Given both the small size of the last segment and its peculiarities, we considered that this group, although transcendental for business management, does not fit with the objectives of this research. For this reason, the fourth segment of customers were dropped from subsequent analysis.

With the results obtained we could conclude that the consistency of the solution is almost completely guaranteed. Nevertheless, there are other validation procedures available, based on the configuration of profiles and their relationships with other variables. To be relevant, the segments of consumers must be related to other variables in such a way that these variables can be used later to predict which segment a given consumer belongs to. For this purpose, a number of behavioral variables were incorporated in the questionnaire. A logit analysis revealed that three of these variables were significantly related to the three segments of consumers. These were the age of the customer, the frequency of visits to restaurants, and the companion chosen for visiting the restaurant. The logit model found (see Figure 1) had a good fit, $L^2_{(218)} = 216.75; p = .51$, and identified three main effects on loyalty (A): an effect related to age (AB), another related to the companion chosen for visiting the restaurant (AC), and another related to the

frequency of visits to restaurants (AD). Table 5 shows the parameters for the model.

The effect of age on cognitive loyalty shows that the likelihood of being in the segments of moderate cognitive loyalty and low cognitive loyalty decreases and the likelihood of being in the segment of strong cognitive loyalty increases, as age increases. Although this effect is stronger when comparing strong cognitive loyalty vs. low cognitive loyalty (parameters 3 2, 3 3, and 3 4), it is also visible when comparing strong cognitive loyalty vs. moderate cognitive loyalty (parameters 2 2, 2 3, and 2 4).

The effect of companions on cognitive loyalty shows that the likelihood of being in the segment of strong cognitive loyalty increases when the customer comes alone, while being in the company of others (family, workmates, partner, or friends) increases the likelihood of being in the segments of moderate cognitive loyalty and low cognitive loyalty. In both cases, the group situated further away from the strong loyalty of those coming alone are those coming with his/her partner (parameters 2 4 and 3 4). On the other extreme, the smallest (although significant) differences with those coming alone are for those customers coming with friends (parameters 2 5 and 3 5).

Finally, the association between cognitive loyalty and frequency of visits indicates that the likelihood of being in the segments of moderate cognitive loyalty and low cognitive loyalty increases as the frequency of visits to restaurants decreases.

In summary, the best-fitting logit model identifies three significant direct effects (age, companions, and experience in using the service) on the likelihood of being in one of the three segments included in the latent variable cognitive loyalty (strong, moderate, and low), with no higher-order interactions between predictors.

More precisely, being older reduces the likelihood of being in the moderate and low loyalty segments. On the other side, experience with the service is positively related to cognitive loyalty: the most experienced customers are also the most loyal customers. Finally, we have found that those customers coming alone are more inclined to loyalty than those coming with friends, and that the latter are more inclined to loyalty than those coming with the family, while the least loyal customers are those visiting the restaurant with their partners. These three effects account for 5% of the variability of cognitive loyalty.

The measurements employed thus far to identify the dif-

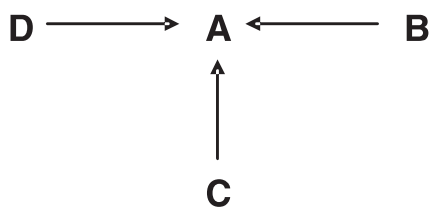


Figure 1. Logit model AB, AC, AD.

Table 5. Parameters for the logit model AB, AC, AD

		2 2	2 3	2 4	2 5	3 2	3 3	3 4	3 5	Wald	d.f.	Sig.
AB	β	-0.33	-0.97	-1.21		-0.57	-1.43	-2.09				
	z	-3.55	-8.82	-7.35		-4.89	-9.43	-7.26		188.16	6	.0001
AC	β	0.61	0.41	0.69	0.38	0.67	0.70	0.98	0.59			
	z	4.28	2.77	4.94	2.94	3.11	3.22	4.77	3.04	44.83	8	.0001
AD	β	0.40	0.50			0.40	0.76					
	z	4.53	5.32			3.23	6.12			58.11	4	.0001

Table 6. Segmentation of consumers according to their loyalty

		Cognitive predisposition		
		High	Medium	Low
Purchasing rate	0%–50%	Latent loyalty 36.7%	Superficial loyalty 27.8%	Absence of loyalty 13.6%
	50%–100%	True loyalty 18.7%	Repetitive purchasing 2.8%	Forced loyalty 0.4%

ferent segments of loyalty only take into account the indirect aspects traditionally related to the construct of loyalty. Nevertheless, as noted at the beginning of this paper, these measurements can lead us to erroneously assume a large number of loyal customers (in our case, 58.12% of the sample). This information must be combined with the actual behavior of the customer in order to obtain the whole set of segments. Following the taxonomy of Dick and Basu (1994), a cut-point in the relative percentage of visits was established at 50%, which generates new segments of consumers (Amine, 1998; see Table 6).

As can be seen in Table 6, the combination of cognitive and behavioral measurements generates six segments of consumers. The largest segment, latent loyalty (36.7%), includes customers scoring high in cognitive loyalty, but choosing the service under evaluation less than 50% of the time. Our target segment, true loyalty (18.7%), combines a positive attitude toward the service with a noticeably loyal behavior, choosing the service under evaluation more than 50% of the time. The classifi-

cation described here also reveals two segments often mentioned in the literature about loyalty, but excluded from the taxonomy of Dick and Basu (1994): repetitive purchasing and forced loyalty, where customers display a moderate or low cognitive loyalty but, regardless of this, exhibit a repetitive purchasing pattern. These characteristics situate these segments of consumers away from true loyalty, but allow business managers to try to change their attitudes, given that these customers will come back again. On the other hand, the segments of superficial loyalty and absence of loyalty are not regular consumers of the service under evaluation, which makes difficult to change their attitudes.

Having determined the final set of six segments, we again tested its validity by using the involvement construct as predictor of the assignment to a particular segment. This validation strategy requires a clear theoretical relationship between the predictor and the segments, so that the predictor levels should vary across segments. (Hair, Anderson, Tatham, & Black, 1999). For our purposes, the involvement construct has systematically shown a strong relationship with the segmentation variables (Voces, Varela, & Rial, 2004). The differences between segments with respect to the six items related to involvement are showed in Figure 2. A progressive decline in the involvement scores can be seen as we move away from true loyalty. The differences are not only of a quantitative nature; the profiles for the six segments of consumers are also qualitatively different.

The differences between the true loyalty and the latent loyalty segments are purely quantitative: The profiles are very similar; the increase in involvement within the latent loyalty segment of consumers may be just a question of time,

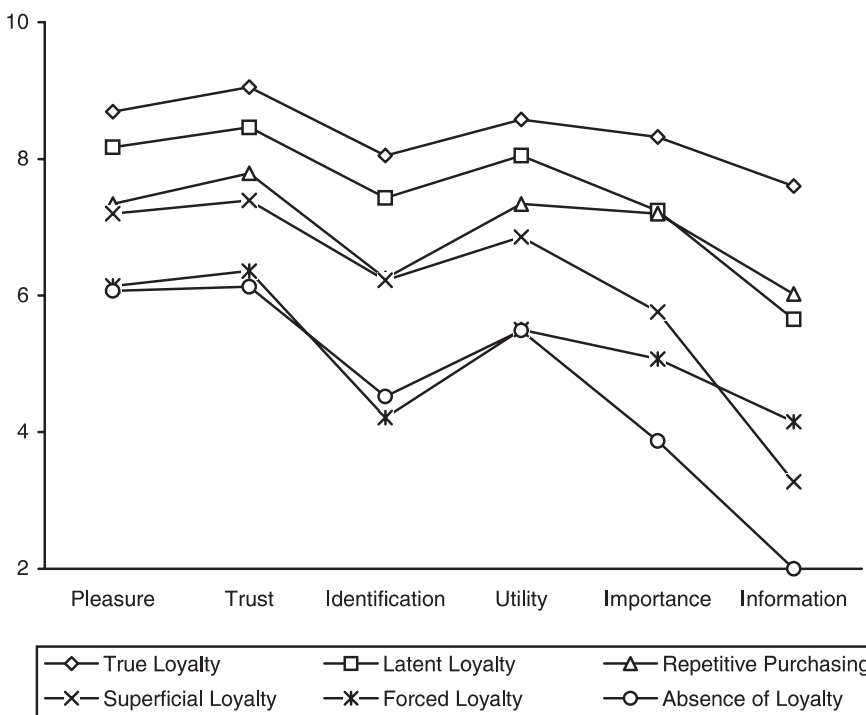


Figure 2. Profiles of involvement for the different levels of loyalty.

Table 7. Discriminant functions

Function	Eigenvalue	Canonical correlation	Contrast of functions	Wilks' λ	χ^2	d.f.	Sig.
1	0.729	0.649	1 to 5	0.555	1957.037	30	.000
2	0.035	0.185	2 to 5	0.959	139.360	20	.000
3	0.006	0.077	3 to 5	0.993	23.835	12	.021
4	0.001	0.032	4 to 5	0.999	4.286	6	.638
5	0.000	0.016	5	1.000	0.877	2	.645

Table 8. Classification results for discriminant analysis. **Bold type** reflects the percentages of subjects correctly classified on each latent loyalty segment

Original	Predicted group					
	Latent loyalty	True loyalty	Superficial loyalty	Repetitive purchasing	Absence of loyalty	Forced loyalty
Latent loyalty	19.9	38.5	18.3	14.5	3.6	5.1
True loyalty	9.9	64.4	7.4	14.3	1.9	2.2
Superficial loyalty	12.3	8.4	35.7	13.6	16.6	13.4
Repetitive purchasing	2.2	25.0	15.2	35.9	6.5	15.2
Absence of loyalty	2.4	1.6	18.6	6.0	49.2	22.2
Forced loyalty	0.0	7.7	0.0	7.7	23.1	61.5

at least for the newcomers. When comparing the profiles corresponding to the latent loyalty and repetitive purchasing segments, we can see that the distance between them is large with respect to identification with the service, but none with respect to importance given to availability of service. The repetitive purchasing segment even exceeds the latent loyalty segment in the information criteria, which is strongly related to knowledge and experience; this effect may be the result of the greater experience of the former with the service. On the other hand, the most visible differences between the superficial loyalty and repetitive purchasing segments of consumers are restricted to the information and importance criteria. Finally, the lowest scores in involvement correspond to the absence of loyalty and forced loyalty segments of consumers, but they are again restricted to the information and importance criteria. The observed differences between the patterns for repetitive purchasing and forced loyalty, and the rest of patterns should also be noted.

In order to test the predictive power of involvement on loyalty, a discriminant analysis was performed. Three significant discriminant functions were found and are shown in Table 7. The first function is the most important; it accounts for 42.1% of the total variance. Taken simultaneously, the three discriminant functions accounted for 46.1% of total variance in loyalty. The level of predictive power for the discriminant functions can be examined in Table 8.

The predictive power for the discriminant functions can be considered high; the ratio of correct assignments is 37.3%. This percentage clearly exceeds the criteria establishing that accuracy should be at least 25% higher than random assignment. It is important to emphasize here that the criteria is exceeded not only for the whole sample, but also for the individual segments of consum-

ers, with the exception of the latent loyalty segment. The best results are obtained for the true loyalty and forced loyalty segments.

The analysis of erroneous assignments is also relevant for interpreting the results of the discriminant analysis; for instance, a high percentage of members of the absence of loyalty segment are erroneously assigned to the forced loyalty segment, and vice versa. In a similar fashion, some members of the repetitive purchasing segment are erroneously assigned to the true loyalty segment, and vice versa. It should also be noted the small percentage of customers in the segment of superficial loyalty are erroneously assigned to true loyalty (7.4%).

In summary, the three methods employed allowed us to obtain and validate a taxonomy of six different groups of customers according to their level of loyalty. The use of latent-class analysis obtained three different segments of customers according to their cognitive predisposition toward loyalty (strong cognitive loyalty, moderate cognitive loyalty, and low cognitive loyalty). Logit analysis related these three segments to three different behavioral variables: (1) age, (2) companion chosen for visiting the restaurant, and (3) frequency of visits to restaurants. These three characteristics affect the likelihood of being in a given segment, so they are related to the cognitive predisposition toward loyalty. Finally, if we take into account the actual behavior of customers, we obtain six segments from the original taxonomy of three, based on high or low frequency of visits to restaurants. This taxonomy of six segments was further validated by means of a discriminant analysis, based on the relationship existing between the loyalty and involvement constructs, so that involvement was able to assign customers to segments of loyalty with considerable accuracy.

Conclusions

As a strategic goal, loyalty represents important returns for the organization. The existence of a base of loyal customers shields the company against actions from competitors. At the same time, these companies have a certain monopoly in their market share. These factors ensure the survival of the company in the medium- to long-term (Cavero & Cebollada, 1997).

Loyalty also implies other less visible advantages; which were outlined by Reichheld (1996). For example, one of the advantages of loyal customers is that they tend to spend more on the service as time goes by, an effect called *increase in returns per client*. Another effect among loyal customers is that, as loyalty consolidates, interaction with these customers becomes faster and more efficient; their knowledge about products and services offered is higher, so they demand less attention and information from the organization, thus lowering *costs of exploitation*. Reichheld mentions the well-known fact that loyal customers tend to recommend the organization to others (*the references*), but he adds that recommendation also conveys another set of advantages. The customers coming to the organization through other customers tend to spend more time in the organization than those arriving through direct marketing strategies. They have detailed information about where the company performs better, and what are its weak points, in such a way that false expectations, which could be generated using other strategies of promotion, are discarded. For this reason, these customers are similar to their prescribers in their capacity to promote the organization. Finally, Reichheld also mentions the so-called “reduction of the price elasticity,” which has been traditionally defined as the willingness of the loyal customer to pay more, if needed, to obtain services from the organization. Nevertheless, Reichheld speaks about “the costs of the bonus,” giving a slightly different interpretation of this fact: The loyal customers are less sensitive to price promotions, so they effectively pay more than newcomers, who are the target of these promotions.

In summary, the potential benefits of loyalty justify the need to correctly define and measure this construct. If the market contains segments of customers with different levels of loyalty, it is important to be able to identify these segments, but also to discover what triggers them, and how can they can be persuaded.

We can conclude from our results that loyalty is a complex construct that cannot be evaluated only through classical measures of “intention to recommend,” or “intention to repeat the purchase.” There is a clear need for suitable scales to accurately identify truly loyal customers, a primary target for every company/organization.

The characterization of the three segments of consumers based on their cognitive predisposition toward loyalty constitutes a new approach to the analysis of some key

issues in the study of loyalty: the sociodemographical and psychological characteristics of loyal consumers. It has been hypothesized that there are differences between consumers in their predisposition toward loyalty, and some of the predictive characteristics mentioned include age, sex, study level, income level, family size, perceived risk, propensity to change, experience in purchasing, variety seeking, etc. Antón and Rodríguez (2000) revised some of the research intended to determine the sociodemographical profile of loyal customers. Their conclusions were pessimistic. They even cite authors like Exter (1986) and Hawkins, Best, and Coney (1994), who reject the existence of a segment of consumers inclined toward loyalty, understanding loyalty as specific and related only to a given product or service. Nevertheless, despite the disparity of frameworks and results obtained, Antón and Rodríguez collected some of the most stable findings in the literature: The likelihood of being a loyal customer increases as age, family size, and experience in purchasing increase, and propensity to change decreases. The influence of study level or income level remains unclear. In a related work, Homburg and Giering (2001) tested the modulating effect of personal characteristics in the relationship between satisfaction and loyalty, concluding that variety seeking, age, and income level are key modulators of loyalty, and sex and involvement are not.

Some of the characteristics previously mentioned are tested again in the present study: sex, experience in purchasing and companion chosen. Logit analysis allows for testing not only the existence of deterministic relationships between cognitive loyalty and personal and situational characteristics but also the existence of interactions between them, and the goodness-of-fit of the model, expressed as the percentage of variance in loyalty accounted for. We concluded that these characteristics are significant predictors for the different levels of cognitive loyalty. Taken together, they account for 5% of variance, a result within the interval ranging from 4% to 12%, depending on the product/service evaluated, found by Antón and Rodríguez (2000) in their review of the literature.

The most important finding of this research focuses on the identification of the different levels of loyalty, based on the attitudinal and behavioral measurements employed. Six different segments of consumers with varying characteristics emerged (true loyalty, latent loyalty, superficial loyalty, repetitive purchasing, forced loyalty and absence of loyalty). This constitutes valuable information for service management and knowledge of customers' characteristics. Finally, the study also revealed the relationship between loyalty and involvement. We consider that this relationship should be extended further, given that involvement could be, together with perceived quality, satisfaction, and perceived value, another helpful predictor of the desired “true loyalty.”

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