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A CLIENT LOYALTY MODEL FOR SERVICES SUPPLIED FOR MIDDLE-LONG PERIODS

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ABSTRACT

In the present paper we propose a standard model for client loyalty evaluation of services supplied for middle-long periods as banking and assurance services, phone services, gas and electricity supply. In this class of services, the relationship between client and provider lasts until the client shows a clear disloyalty behaviour (switching to another provider or not using the service). We consider two different dimensions of loyalty: Behavioural Loyalty and Attitudinal Loyalty which we suggest to analyze in relation to Trust, Convenience, Overall Satisfaction and Inertia. The methodology is based on PLS-Path Modelling.

KEYWORD: Behavioural Loyalty, Attitudinal Loyalty, PLS-Path Modelling

INTRODUCTION

Generically, Customer Loyalty aims to retain and making the clients loyal towards a brand, a product or service. Indeed, because of nowadays systems characterized by higher competition levels and increasing difficulty in acquiring new clients the companies become much more stable and competitive if they can rely on a certain percentage of loyal clients. Out of doubt, as revealed by copious studies and publications, the companies meet economically higher convenience in making the clients loyal rather than acquiring new ones.

Specifically in the present paper the concept of loyalty is referred to those service companies characterized by supplying the client with a long-lasting service as banks or insurance societies.

Mainly we refer to mobile and residential telecommunication services and fee paying television systems, but gas and electric power companies. Such services are characterized by relationships played on the long time, so that the relative importance of a customer is very relevant.

Typically, in such services the relationships between customer and provider are based on binding contract and the service supply is broken off by an active (cancelling the contract) or passive (not using over a certain time) customer's behaviour. Such typologies of services are characterized by particular customers' behaviours, so that the Behavioural Loyalty can be determined on the base of the duration of the relationship according to the customer's personal history and to other variables as well as age, number of switches from first activation of the service, frequency and intensity in using the service. The Attitudinal Loyalty, mostly identified by psychological traits, can be evaluates through the "habit" to use the service, the facility for retrieving information and getting assistance. Inactivity and sensitivity to switching are also connected with Attitudinal Loyalty.

SEVERAL DIMENSIONS OF LOYALTY

Even if several authors have considered different aspect of loyalty, despite the different definitions, there are only two points of view to analyze it:

- Behaviourally
- Psychologically.

So, loyalty can be seen as a multidimensional construct identified by different dimensions, some of which typically behavioural and others underlying specific psychological processes. The different dimensions, proposed by a variety of authors and examined in the following, should be combined to evaluate customers' loyalty degree and to predict their behaviour in the market.

Behaviourally customers can be defined loyal if their behaviour is characterized by effective repurchasing.

However in 1978 Jacoby and Chestnut underlined that repurchase behaviour could be based on some factors external to a true exclusive interest in brand or product; besides they pointed out that such a definition of loyalty could be ambiguous if referred to a consumer multi-brand loyal. So, a customer could show repurchase behaviour only because of convenience or because he perceives the switching costs as too elevated. They individualized an *Attitudinal Loyalty* (Jacoby and Chestnut, 1978; Rundle and Thiele, 2005) defined as a customer's predisposition towards a brand connected with a preference ascribed to the brand itself (Bowen and Chen, 2001, Butcher et al., 2001) and characterized by intention to repurchase (Bloemer et al., 1999), commitment and word of mouth (Ganesh et al., 2000).

The *Complaining Behaviour*, having the negative meaning of dissatisfaction response or positive one is recognized as a dimension of loyalty by some authors (Bloemer et al., 1999; Yu and Dean, 2001) or as a mere consequence of loyalty by others (Dick and Basu, 1994; Robertson et al., 2003).

Propensity to be loyal (Raju, 1980; Martin, 1998) is associated with personality traits of customers and since it can be considered a way of being, it could transcend the attachment to a single brand.

Resistance to competitive offers is the capability to resist to competitive offers even if considered exciting. However, such a dimension measures either the resistance of customer or the protection from competing offers for instance by appropriate rules established by provider. However resistance to competitive offers (Delgado-Ballester and Munuera-Aleman, 2001) is considered as a consequence of loyalty by some authors and as a precondition of loyalty by others (Pritchard et al., 1999).

Situational Loyalty has been defined as propensity to stay loyal through a variety of consumption situations (Dubois and Laurent, 1999) and the tendency to show similar behaviour in similar situations (i.e. the ritual repurchasing of some products bought in traditional occasions)

Recently, to evaluate *Service Loyalty*, a *Servloyal* construct (Sudhahar et al., 2006) based on seven dimensions has been introduced. Besides the *behavioural* and the *attitudinal* dimensions, there figure *cognitive*, *conative*, *affective*, *trust* and *commitment* dimensions. *Cognitive Loyalty* (Oliver, 1999) is based upon the information about service performances (a typical item used to evaluate the fidelity to own bank is "according to me this bank offers the best price system"). However new information could move easily the client towards a new service

Conative Loyalty is based on the experience. So the client, due to positive occurrences with a provider, is focused on willing to continue to use the service in the future ("I have found this bank is better than others" or "Repeatedly the performance of this bank is superior to that of the competitor ones"). In *Affective Loyalty* the client feels himself involved with the service company ("I like the performance of this bank", "I am satisfied with my decision to stay with this bank"). *Trust Loyalty* is based on being confident in company service ("the company is like a friend for me", "the bank personnel are filled with professionalism and dedication"). Finally *Commitment Loyalty* regards the deepest involvement of client in the relationship with the provider caused by cognition, conation, trust and affect so that the client feels himself deeply identified with service company ("I am very committed to this bank", "my continued associations with this bank is important to me").

THE MODEL

Constructs of the Model

According to some authors (Chaudhuri and Holbrook, 2001; Bandyopahyay and Martell, 2007), we have focused on two dimensions (constructs) of loyalty:

- Behavioural Loyalty (BL)
- Attitudinal Loyalty (AL)

We define the Behavioural Loyalty as the client's willingness to continue the relationship with the provider in the short period. It doesn't imply a commitment to the provider, but simply expresses the degree of loyalty in the immediate future. It can be seen as a weak form of loyalty.

For Attitudinal Loyalty we mean the predisposition towards the provider deriving from a psychological process (Jacoby and Chestnut, 1978; Rundle and Thiele, 2005). This dimension is more complex and expresses the degree of client's commitment. It should imply a loyalty over the short period. Both the loyalties are analysed in relation to three main factors (constructs):

- Trust (T)
- Convenience (C)
- Satisfaction (S)

Trust identifies how the client relies on the provider reliability. It concerns the provider ability, perceived by the client, to assure a reliable service according to the contractual rules. It is based on the client's belief that he will not have problem with the provider. Some authors (Sudhahar et al., 2006) state Trust as a dimension of loyalty, others view it as an affecting factor of loyalty. We prefer this point of view. *Convenience* identifies how much the client considers convenient the provider service. This construct concerns either the rates of the service or its quality compared to competitors. It identifies the opportunity to continue the relationship in economic sense.

Satisfaction identifies how the client is overall satisfied of the provider service. It reflects the perceived quality of the service and it can be viewed as the result of all relevant aspects of the services for the client. The role of the satisfaction in client loyalty has been discussed by several authors (Bloemer et al., 1995, 1999). Satisfaction doesn't imply necessarily loyalty, but generally affects it. Behavioural Loyalty can be due to inertial factors too (Bloemer et al., 1995; Oliver, 1999). These factors can be external (too high costs/long times for switch...) or internal (aversion to switch...). So, we have considered another construct concerning these inertial factors; we call it *Inertia* (I).

In this type of markets we believe these factors play a main role in client's decisions. Indeed high rates and dissatisfaction about the quality of the service are the main causes of switch. Nevertheless, dissatisfaction determines a switch if and only if it goes beyond a personal threshold of tolerance due to inertial factors (Zeithaml et al., 1996).

Measurement Modelling

According to their definitions, Behavioural and Attitudinal Loyalty as well as their factors (Trust, Convenience...) are complex constructs and, generally, they can't be directly observed and measured. Nevertheless we can identify a block of indicators (manifest variables) for each construct, which inform altogether about the construct by means of a measurement model. Conceptually there are two possible ways for measurement modelling:

- reflective measurement;
- formative measurement.

In reflective measurement each construct is reflected by its indicators as a factorial model:

$$X_{ij} = \alpha_{ij}Y_i + \varepsilon_{ij} \quad (1)$$

where X_{ij} is the j -th indicator for the Y_i construct; α_{ij} identifies the coefficient to be estimated; ε_{ij} identifies a measurement error. E.g. some possible indicators for Trust are: “(I have confidence) the service will be supplied as established by contract rules” or “(I have confidence) any problems will be quickly resolved”. In this case each indicator is an observable, particular consequence of its construct. If the block of indicators is well identified, indicators are obviously correlated (three tools are available to check the unidimensionality of a block: principal component analysis, Cronbach’s α and Dillon–Goldstein’s ρ). Indicators like the proposed ones for Trust are well measured by means of a Likert Scale: ranks 1, 2, ... identify the concordance degree (of client) about indicators.

In formative measurement each construct is viewed as generated by its own indicators:

$$Y_i = \sum_j \alpha_{ij} X_{ij} + \varepsilon_{ij} \quad (2)$$

With regard to loyalty constructs, formative measurement tries to model the psychological process that generates the constructs. In this case some possible indicators for Trust are: “The service is supplied as established by contract rules” or “Problems are quickly resolved”. Unlike reflective measurement, formative one relies on the past and present experience. The indicators can be low correlated. A formative measurement model allows to identify which factors (indicators) are the most important for its construct. Identifying which factor is the most important for Trust or Convenience is obviously a strength for loyalty strategies. Unlikely formative measurement is not always easy to apply. A well identification of the causes of construct is required *a priori*: indicators should be lowly correlated and, obviously, generating small ε errors. So, in some cases a mixed measurement (formative measurement for some constructs and reflective measurement for the others) is adopted (Tenenhaus et al., 2005).

Structural Equation Model

The relations among the constructs are analyzed by means of the following Path Model:

$$\begin{aligned} S &= \beta_1 C + \beta_2 T + \delta_1 \\ AL &= \beta_3 C + \beta_4 T + \beta_5 S + \delta_2 \\ BL &= \beta_6 C + \beta_7 T + \beta_8 S + \beta_9 AL + \beta_{10} I + \delta_3 \end{aligned} \quad (3)$$

The δ s identify independent errors in the structural equations. In the first relation we suppose the client satisfaction (S) depends on how convenient (C) and how reliable (T) the service is perceived by the client. The second and the third relations define a theory about loyalty in the present class of services. Attitudinal Loyalty, the more real form of loyalty, is viewed as affected by convenience (C), trust (T) and satisfaction (S). We have already said this assumption is consistent with theories of several authors. Instead Behavioural Loyalty is a weak form of loyalty and affected by situational factors too, that we have named Inertia. Attitudinal Loyalty might cause Behavioural Loyalty, but not vice versa. A commitment to the provider determines a loyalty in fact, but not always this reflects a predisposition toward the provider.

The measurement model (1 or 2) and the equations (3) compose a *Structural Equations Model with latent variables* (SEM-LV) (Bollen, 1989). There are two different approaches to define and estimate such a model:

- Maximum Likelihood/Hard Modelling

- Partial Least Squares/Soft Modelling

Hard Modelling involves distributional assumptions about constructs and manifest variables as well as Maximum Likelihood estimation method (ML). It is focused on estimating the correlations among the constructs and the factor loading of each manifest variables (it is based on reflective measurement). This approach is usually named LISREL (Linear Structural Relation) (Jöreskog and Sörbom, 1996), from the name of the software created by Jöreskog to define and estimate SEM-LVs with (ML). Another software for hard modelling is AMOS.

Differently Soft Modelling is based on Partial Least Square (PLS) method which is a free distribution estimation method (Wold H., 1985). We are used to name SEM-LV based on PLS as PLS-Path Modelling (PLS-PM). The original estimation algorithm for PLS-PM is due to Wold and contemplates reflective and formative measurement as well. Applicative software has been created by Lomöller (LVPLS, 1987 last version) and Chin (PLS-Graph, 2001). A freeware software for ordinal data, PLS-VB, is due to Boari and Cantaluppi (2004).

PLS-PM has been largely used in Customer Satisfaction analysis because it allows, besides the estimation of correlations among the constructs, the estimation of the constructs scores. So an average degree of Client Satisfaction can be estimated for every brand or services provider. Moreover reflective (and mixed) measurement allows to point out important information for marketing strategies. For the same reason we suggest the use of PLS-PM to define the loyalty Model. More specifically we suggest PLS-PM with mixed measurement (MIMIC: multiple effect indicators for multiple causes). In this way we can define blocks of formative indicators for the exogenous constructs *Trust*, *Convenience* and *Inertia* which can't be explained by other constructs, but can be valued by means of formative indicators. For the remaining endogenous constructs reflective measurement is easier.

APPLICATION

The data source is a survey based on a questionnaire completed by a sample of 90 students of Political Science at University of Torino, attending to different courses of Statistics. The aim of the survey was the evaluating of attitude of students toward the purchase of some brands of mobile phone and towards utilization of telephone service providers. The questionnaire was submitted on January 2009.

Data was analysed by means of the Path-Model described in the last section. The results are shown in the following figures¹:

Here *Figure1: Path diagram of constructs and results.*

For each link the β -coefficient of corresponding regression equation in (3) and its *p-value* are shown (if the *p-value* is less than 0.05, the corresponding β -coefficient should be considered significant).

We can note that Trust is the most important construct for generating "Satisfaction" as well as for generating "Attitudinal Loyalty". Convenience has a role in "Satisfaction", but not directly in Attitudinal Loyalty, that depends directly only on Trust and Satisfaction. Different is the case of Behavioural Loyalty. This kind of Loyalty seems to depend principally on Convenience and on Inertia, but not significantly on Trust and Attitudinal Loyalty. The last result seems to be paradoxical, because a really loyal client is expected to be loyal in practise. Actually Convenience and Inertia affect so strongly the Behavioural Loyalty of the sample that the role of Attitudinal Loyalty is not significant in practise. Probably it is not the same in all cases.

Generally the model seems to fit well enough the data (*Absolute GoF*=0.655, *Relative GoF*=0.919).

¹ The XLSTAT-PLSPM® software was used.

FINAL CONSIDERATIONS

We have introduced a base model for Client Loyalty in those services supplied until the client shows a clear disloyal behaviour (switching to another provider or not using the service). Two principal constructs of loyalty (Behavioural and Attitudinal) are analysed in relation to four constructs: Trust, Convenience, Satisfaction and Inertia. The aim is pointing out how some factors “that we hold remarkable” influence Behavioural Loyalty and Attitudinal Loyalty. The model should show if a bond exists between Behavioural Loyalty and Attitudinal Loyalty as well (Bandyopadhyay and Martell, 2007).

All the constructs are latent variables measured by means of observed indicators. PLS-Path Modelling is the methodological model form. This methodology is a soft technique and requires neither particular assumptions about variables nor a large number of observations. Nevertheless PLS-Path Modelling normally assumes homogeneity across the entire population, but a unique model for all clients may hide differences in their behaviours. There are clients that give mostly importance (for their loyalty) to Trust or Convenience, others that are more sensitive to Inertia. A traditional way to manage non-homogeneity consists in estimating separate models in different segments, defined through other variables. That means further items in questionnaire. Unlikely this way is not always easy (which variables discriminate behaviours?) or practicable (too complex questionnaire). In the last years some interesting model-based approaches, that don't require other variables, have been proposed (REBUS-PLS by Esposito Vinzi et al., 2008).

The model involves satisfaction, but it hasn't been thought as a satisfaction model. It indicates how satisfaction affects loyalty, but it can't be viewed as a model for client satisfaction management. The model involves only Trust and Convenience as constructs for satisfaction, because these ones affect directly loyalty too. When other factors are relevant in client satisfaction (i.e. courtesy for bank clients), two ways are possible:

- adopting a formative measurement for Satisfaction, that involves these factors
- adding a separate satisfaction model

The application seems to confirm the goodness of the model even if Attitudinal Loyalty seems to not affect Behavioural loyalty, but this result might be not true for all cases. According to their definitions, Behavioural loyalty results to be more affected by practical factors like Convenience and Inertia, instead Attitudinal Loyalty is more affected by “emotional” factors like Trust and Satisfaction.

REFERENCES

- Bandyopadhyay, S. and M. Martell, 2007. Does attitudinal loyalty influence behavioural loyalty? A theoretical and empirical study. *J. Retailing Consumer Services*, 14: 35-44.
- Bloemer, J. and J.D.P. Casper, 1995. The complex relationship between consumer satisfaction and brand loyalty. *J. Econ. Psychol.*, 16: 311-29.
- Bloemer, J., K. de Ruyter K. and M. Wetzels, 1999. Linking perceived service quality and service loyalty: a multi-dimensional perspective. *Eur. J. Marketing*, 33, 11/12: 1082-1106.
- Boari, G. and G. Cantaluppi, 2004. PLS-VB programme for path modelling with latent variables. In: *Atti della XLII Riunione Scientifica della Società Italiana di Statistica*, Bari, 9-11 giugno 2004. Cleup Padova, 747-750
- Bollen, K.A., 1989. *Structural Equations with Latent Variables*, New York, John Wiley & Sons.
- Bowen, J.T., and S-L. Chen, 2001. The relationship between customer loyalty and customer satisfaction. *Int. J. Contemporary Hospitality Management*, 13 (5): 213-217.

- Butcher, K., B. Sparks, F. O'Callaghan, 2001. Evaluative and relational influences on service loyalty. *Int. J. Serv. Marketing*, 12 (4): 310-27.
- Chaudhuri, A. and M.B. Holbrook, 2001. The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty. *J. Marketing*, 65 (2): 81-93.
- Delgado-Ballester, E. and J. L. Munuera-Aleman, 2001. Brand trust in the context of consumer loyalty. *Eur. J. Marketing*, 35: 1238–1258.
- Dick, A.S. and K. Basu, 1994. Customer loyalty: toward an integrated conceptual framework. *J. Acad. Market. Sci.*, 22 (2): 99-113.
- Dubois, B. and G. Laurent, 1999. A situational approach to brand loyalty. *Adv. Consum. Res.* 26: 657-663.
- Esposito Vinzi, V., L. Trinchera, S. Squillacciotti and M. Tenenhaus, 2008. REBUS-PLS: a response-based procedure for detecting unit segments in PLS path modelling. *Applied Stochastic Model in Business and Industry*, 24: 439-458.
- Ganesh, J., M.J. Arnold and K.E. Reynolds, 2000. Understanding the Customer Base of Service Providers: An examination of the difference between switchers and stayers. *J. Marketing*, 64: 65-87.
- Jacoby, J. and R.W. Chestnut, 1978. *Brand Loyalty: Measurement and Management*. New York, John Wiley & Sons.
- Jöreskog, K.G. and D. Sörbom, 1996. *LISREL 8: User's Reference Guide*. Sciences of Software International
- Martin, C.L., 1998. Relationship marketing: a high-involvement product attribute approach. *J. Product and Brand Manag.*, 7: 6–26.
- Oliver, R.L., 1999. Whence Consumer Loyalty?, *J. Marketing*, 63: 33-44.
- Pritchard, M.P., M.E. Havitz and D.R. Howard, 1999. Analysing the commitment–loyalty link in service contexts. *J. Acad. Market. Sci.*, 27: 333–348.
- Raju, P., 1980. Optimum stimulation level: its relationship to personality, demographics and exploratory behaviour. *J. Consum. Res.*, 7 (3): 272-282.
- Robertson, N.L., L. Bove and S.J. Pervan, 2003. In: J.E. Lewin and U. Boston College Editors, *World Marketing Congress vol. XI*, Perth, Western Australia, 2003, *Acad. Market. Sci.*, 335–340.
- Rundle-Thiele, S., 2005. Elaborating customer loyalty: exploring loyalty to wine retailers. *J. Retailing and Consumer Services*, 12: 333-344.
- Sudhahar, J.C., D. Israel, A.P. Britto and M. Selvam, 2006. Service Loyalty Measurement Scale: A Reliability Assessment. *Am. J. App. Sci.*, 3: 1814-1818.
- Tenenhaus, M., V. Esposito Vinzi, Y.M Chatelin, and C. Lauro, 2005. PLS Path Modeling, *Computational Statistics & Data Analysis*, 48: 159 – 205.
- Wold, H., 1985. Partial Least Squares. In *Encyclopaedia of Statistical Science*, Wiley, 6, 581-591.
- Yu, Y.T. and A. Dean, 2001. The contribution of emotional satisfaction to consumer loyalty, *International Journal of Service Industry Management*, 12 (3): 234-250.
- Zeithaml, V.A., L.L. Berry and A. Parasuraman 1996. The behavioural consequences of service quality, *J. Marketing*, 60: 31-46.

FIGURES

Figure1: Path Diagram of constructs and results.

