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Changes in attribute importance provoked by a financial crisis: a dynamic analysis of the Uruguayan case

Abstract: Our study tests two research questions (1) how a shock in the external context can affect the weight of service quality attributes, and (2) the persistence of this changes over the time. The shock considered was the collapse of the financial system of Uruguay in June 2002. The Uruguayan banking system became insolvent with banking holidays resulting in an important financial system confidence crisis.

Data for this study were generated utilising a two-period, mixed methodology approach. The results of the Correspondence analysis of square asymmetric matrices performed suggest that in Uruguay, the financial crisis provokes changes in the relative importance of the main attributes.

Key words: Attribute importance, attribute determinacy, correspondence analysis, and financial shock.

INTRODUCTION

The different stresses or weights on the attributes of a product or a brand are a relevant issue for the most fundamental streams of research in marketing. These include customer satisfaction, attitudinal models, market segmentation and service quality perception literature, for example (Beckwith and Lehmann, 1973; Bass and Wilkie, 1973; Calantone and Sawyer, 1978; Miller and Ginter, 1979, Oliver, 1993; Mittal, Kumar and Tsiros, 1999.)

Financial services are inherently intangible and high on credence qualities. For these reasons, service quality perception is a critical issue for financial services providers' (Gerrard and Cunningham, 2001; Beckett, 2000). They need to communicate and promote their image and reputation and their financial services effectively. In order to do this, banks must first identify the principal dimensions as used by potential clients in the assessment of the service quality level of an institution. They also need to evaluate their relative importance for various potential clients.

How the costumers react during a crisis is an important yet scantily researched issue. (Zurawicki and Braidot, 2005). This paper evaluates the changes in the perceived importance of the bank quality attributes as determinated by a severe shock in the situational context. The specific event considered here was the collapse of the financial system in Uruguay in June 2002. In this case, the Uruguayan banking system became insolvent with banking holidays resulting in a significant financial system confidence crisis.

Data for this study were generated utilising a two-period and mixed methodological approach. The results of the Correspondence analysis of square asymmetric matrices (Greenacre, 2000) performed suggest that in Uruguay, this financial crisis provoked changes in the relative importance of the main attributes that attract customer to financial entities. For period 1, two weeks after the financial crisis, the main shift is that for people who before the crisis focused on high profitability sought instead to rank security and trust as the most important attribute. Another asymmetry, but one of lesser importance, appears between the other set of attributes; service and care of the customer, versus security and trust. This secondary segment -characterized for priming, before the crisis, the banks that offered a good level of service and relationship with their customers- shifted after the event to emphases security and trust.

If such results were the expected ones, we were more interested to see if these attitudinal changes (in terms of the relative importance of the attributes considered when evaluating a financial entity) were something short-lived and exaggerated or indeed such views were maintained over time. For this purpose, we repeat the analysis one year later. The results were interesting since, not only they were stable; but also, the skew symmetric part takes a greater weight in the second analysis.

LITERATURE REVIEW

A controversial issue in the marketing literature has been the extent to which "importance weights" improve the predictive power of multi-attribute attitude models (see Bass and Wilkie, 1973, Beckwith and Lehmann, 1973). These authors identified slight benefits introducing differential weights, in a multi-attribute model of consumer attitude. To the contrary, the paper of Bass and Wilkie compares different models and methods concluding that consideration of the importance weights of attributes offers benefits in diagnosis of brand preference. It is now generally accepted in marketing that multi-attribute attitude models with differential weights, provide useful predictions of brand preference and choice. These models are typically based on "expectancy" theories, this use of "importance" ratings for each attribute by each individual to allow for differential stresses. In a seminal work, Miller and Ginter (1979) found empirical evidence supporting the hypothesis that the importance of attributes varies differentially across situations. They adopt the definition of situation suggested by Belk (1974) who defines situation as "all those factors particular to a time and place of observations which do not follow from a knowledge of personal (intra-individual) and stimulus (choice alternative) attributes, and which have a demonstrable and systematic effect on current behaviour." This definition distinguishes between the impact of the individual, the situation, and the object of stimulus (the brand) on consumer behaviour. More specifically, Miller and Ginter (1979) have tested the impact on attribute importance of different specific situational contexts; considered in terms of different occasions of consumption.

Kahn and Meyer (1991) explore the case in which the consumer is uncertain about how to weight a specific attribute relative to other attributes. They propose and test a theory about multi-attribute judgment under conditions of weight uncertainty. This theory posits the independence of the effects of uncertainty in weight of an attribute and its subjective value.

In costumer satisfaction literature, a multi-attribute approach to the antecedents of satisfaction is a recent contribution (e. g. Oliver, 1993, Gustafsson and Johnson, 2004). In an attribute-level conceptualization the overall satisfaction with a product or a brand is a function of attribute level evaluations of performance and/or disconformation and the level of attribute importance. These attribute level evaluations allow higher specificity, diagnostic and actionability and, generally, capture a significant part of the variations of global satisfaction evaluation. However, most of the research studies focused on attribute importance have been designed on a cross-sectional basis.

The work that most closely parallels the research presented here, is that examining how attribute weights which determine overall satisfaction shift over time, according to the consumption experience (Mittal, Kumar and Tsiros, 1999). This study examined how attribute weights are temporally labile in influencing overall satisfaction by adopting a consumption-system approach. Different explanations are offered by Mittal, Kumar and Tsiros (1999) in understand changes in attribute weights. One approach takes into account the degree to which attribute performance relates to consumption goals. As these consumption goals evolve during the consumption experience, so might the weights' of attributes. For an automobile, for example, colour and style are two important attributes in the purchasing decision and these have a major impact in satisfaction judgement during the initial consumption period; but their weight decrease over time. On the other hand, reliability and engine performance increase their contribution to satisfaction during later periods of the car consumption cycle (Mittal et al, 1999, p. 91). Other explanations relate the weights' of attribute to the frequency with which a consumer is exposed to the attribute and the extremeness of the perceived performance during each exposure. Changes over time in an attribute's salience could be determined by the perceived variability in the performance of this attribute.

The recent marketing literature conceptualizes service quality evaluation as the result of a comparison between consumer's expectations about the service to be delivered, on the one hand, and the consumer's experience resulting from the service received, on the other.. Zeithaml (1987, p.88) explains: "Service quality is the consumer's judgment about an entity's overall excellence or superiority. It is a form of attitude, and results from a comparison of expectations to perceptions of performance received.". Such a comparison is theoretically supported by the disconfirmation paradigm. The services literature emphasizes the relevance of attribute weighting for measuring the determinant attributes of service quality evaluation (Carvalho and Leite, 1999) and special attention

is dedicated to the different methods of its measurement. Moreover, Parasuraman, Berry and Zeithaml (1991) claim that there must be an inverse association between the importance of a quality attribute and the width of the tolerance zone; as defined through service expectations. The tolerance zone for the expectations is defined as the interval between the desired service level and the adequate service level.

Several studies investigate service quality of the banking industry adopting the SERVQUAL instrument (Parasuraman et al. 1985, 1988) or SERVPERF (Cronin and Taylor, 1992; 1994), considering the following dimensions: tangibility, reliability, responsiveness, assurance and empathy (Paswan, Spears, Hasty and Ganesh, 2004, Duncan and Elliot, 2002, Yavas, Bilgin and Shemwell, 1997, Carvalho and Leite, 1999). Other studies, more focused on the financial services specificities, have highlighted a large number of service attributes that are supposedly considered by clients in evaluating and selecting banks. For example, attributes identified are: location and convenience; bank service charges; assurance; trust; the bank's reputation; friendly personnel; security; and confidentiality (Kaynak and Harcar, 2005, Howcoft, Hewer and Hamilton, 2003, Gerrard and Cunningham, 2001). Lewis, (1991) grouped under four dimensions the attributes of bank service quality: physical features and facilities; reliability; staff you come into contact with; and the responsiveness to one's needs. While Bahia and Nantel (2000) identified six dimensions: effectiveness and assurance; access; price; tangibles; services portfolio; and reliability.

This research focuses on the issue of managerial relevance for the financial service industry in that the significant changes of attribute importance, as provoked by a shock in the context. We claim that quality dimensions, are likely to vary in importance over the time. Moreover, a notable shock in the situational context can provoke an earthquake in the importance or weights of attributes. In addition, we examine the persistence of the changes over a period of one year.

STUDY

Our study sought to empirically test two research questions (1) how a shock in the external context can affect the weight of service quality attributes, and (2) the persistence of the impact of these changes over the time. The Uruguayan financial crisis was considered a suitable setting for the study because of it impact as a major shock which affected Uruguayan banking clients.

The Uruguayan crisis

Uruguay, with its relatively small population of 3.4 million in the context of the Latin America, has a middle-income status and is among the region's highest income countries. Uruguay was viewed as a key banking and financial centre among the Mercosur countries; enjoying banking secrecy laws and historically relatively secures and politically stable context.

For a long time prior to the financial system confidence crisis in June 2002, Uruguayan banks were considered to be very sound, with an acceptable level of confidence. Montevideo, the capital of Uruguay is a popular banking centre for wealthy Brazilians and Argentineans. Studies have failed to find empirical evidence of the existence of a financial contagion between Brazil and Uruguay countries, which resulted form the most recent Argentine crisis (Boschi, 2005) (See Zurawicki and Braidot (2005) for an interesting analysis of the responses of the Argentineans consumers to this economic crisis). The crisis was caused by a massive contraction in the economy and by an economic over-dependence on neighbouring Argentina. In 2002, warnings manifested themselves in Uruguay's banking system as Argentina melted down economically; coupled with allegations of bank fraud against a main shareholder of one of Uruguay's largest banks at the time. The Argentine currency collapsed in late 2001 and the banking system there became insolvent with “banking holidays”. One of the consequences of the freeze of deposits in Argentina was that those Argentineans with “safe haven” bank accounts in Uruguay began to access their undeclared funds. By June 2002, Argentineans started a run on Uruguayan banks as those Brazilians with Uruguayan bank accounts joined in. During a 6 months time frame, Uruguay lost 50 percent of its deposits and 80 percent of its foreign reserves; the Uruguayan peso could not longer be defended by reserves and the government accordingly floated in June 2002. This resulted in a currency crash for the Uruguayan peso. This series of events, accelerated by external factors, almost brought Uruguay to the edge of bankruptcy. The government had to close four domestic banks, froze time deposits and declare a four-day “bank holiday” in order to prevent depositors from emptying the banks (IMF, 2005).

The year 2002 will be recorded as one of the most financially difficult for Uruguay. It consisted of a triple crisis-economic, political, and social- characterized by social unrest, banking failures and economic chaos (Zibechi, 2002).

Data

Data for this study were generated utilising a two-stage, mixed methodology and two-period approach. Stage 1 of the data generation consisted of focus groups and expert interviews so as to identify pertinent variables and to assist in the questionnaire design.

In Stage 2, the research data were collected by means of a two-wave telephone survey. The first wave data was colleted two weeks after the end of the "bank holiday" (Data 2002). The follow-up survey (2^{nd} wave) was completed thirteen months later (Data 2003). The survey questions used in this phase of the research were based on the service quality literature as discussed in the background section of this paper, and on the qualitative research results. Wherever possible, the language and phrases used by focus group informants were used in the questionnaire.

The questionnaire was administered to a randomly selected stratified sample of Uruguayan bank customers. The survey was conducted in the metropolitan area of Montevideo. The sample size was 601 respondents for the first wave survey (43% men and 57 % women) and 501 respondents for the second one (41% men and 59% women). Two different samples were used in order to avoid learning effects.

These data form the basis of a whole research, of which this paper is one part. Only the selected sections of the survey data will be used in the present paper. In both surveys, (Data 2002 and Data 2003), respondents were asked to rank the importance of bank attributes both before and after the bank crisis. According to the chosen methodological research approach the quantitative data were analysed using statistical methods by the SPSS- and XLSTAT programs.

Methodology

The methodology used to describe changes in preferences is correspondence analysis (CA). Correspondence analysis provides a low-dimensional explanation for the lack of homogeneity in the row profiles (row frequencies related to the row total) or, equivalently, for the interaction or dependence between the rows and columns of the contingency table (Greenacre & Hastie, 1987). The main benefit that this technique offers is that it is a visual technique, which allows one to visualize the results, and then, to interpret them in a manageable way. However, it should be mentioned that CA is an exploratory technique and that statistical significance of change in preferences should not be assumed (Greenacre, 1984).

Originally, CA was developed to analyze frequencies (non-negative data) (Benzécri, 1973) yet this technique has been adapted so as to be able to analyze data of different nature (i.e. like rank order, paired comparison, ratings (Nishisato, 1994; Torres & Greenacre, 2001) between others).

There is another "variation" in this technique; this is named correspondence analysis of square asymmetric matrices (Constantine & Gower, 1978; Greenacre, 2000). This permits the description of tables, where the rows and columns refer to the same set of objects. Mobility tables, migration tables and transition tables are all examples of square tables that are encountered in practice. We use this variation in order to describe the changes in preferences on the most important attribute people consider in choosing a particular bank, after a financial crisis occurs (see Table 1 and Table 2). Changes, in the relevance of the attributes, are measured as asymmetric movements of flows of people, between any couple of attributes. In other words, if we find that the amount of subjects that change their preferences from attribute A to attribute B is the same than the number of subjects who consider B to be better than A after the shock, then, it is considered that no change in the preferences between both attributes has occurred. The size of the segments is stable.

See Table 1 and 2. In both, the rows describe the most relevant attributes people consider in selecting a particular bank before the financial crisis. While the columns describe (for Table 1) the most important attributes people seek in a financial entity two weeks after the end of the bank holiday, and (for Table 2) thirteen months later.

Table 1: Change of preferences after the financial crisis. Data 2002.

t 1 t+1	A1: trust	A2: take care of their customers	A3: profitability	A4: security	A5: good service	A6: others
a1: trust	216	4	4	20	3	3
a2: take care of their customers	11	20	1	6	2	0
a3: profitability	35	2	16	33	2	2
a4: security	21	1	0	112	4	2
a5: good service	9	2	1	14	30	1
a6: others & missing data	7	0	0	2	0	15

The total frequencies (size of market segment) for these attributes are the following: Rows (time t): a1: 250, a2: 40, a3: 90, a4: 140, a5: 57, a6: 24. Columns (t+1): A1: 299, A2: 29, A3: 22, A4: 187, A5: 41, A6: 23.

Table 2: Change of preferences after the financial crisis. Data 2003.

t 1 t+1	A1: competent personal	A2: to be honest	A3: profitability	A4: security & trust	A5: good service & take care customers	A6: other services & missing data
a1: competent personal	24	6	1	10	5	1
a2: to be honest	2	55	1	6	1	0
a3: profitability	7	33	15	57	10	2
a4: security & trust	5	5	3	115	5	2
a5: good service & take care customers	3	14	0	17	61	0
a6: other services & missing data	1	4	0	10	5	5

The total frequencies (size of market segment) for these attributes are the following: Rows (time t): a1:47, a2: 65, a3: 124, a4: 135, a5: 95, a6: 25. Columns (t+1): A1: 42, A2: 117, A3: 20, A4: 215, A5: 87, A6: 10.

We have to read the table in the following way. For example, for Table 1, 250 persons, out of a total of 601 interviewed regarded "trust" as the most important attribute that a financial entity has to offer before the crisis. Once the financial crisis occurs, 216 hold this viewpoint, but, for example, 4 of these 250 do not see "trust" to be the most important attribute any more. Instead "to take care of their customers" becomes the most important bank section criteria. Furthermore, 4 change from the attribute of "trust" to "profitability"; 20, change to "security"; 3to "good service" and finally, 3 subjects answer "other services & missing values".

Correspondence analysis

We are not going to give a detailed description of correspondence analysis since it is not the aim of this paper. Instead we offer the main concepts required in order to interpret the results. From the original data matrix of frequencies **N**, we obtain the

correspondence analysis matrix $\mathbf{P} = \mathbf{N}/n$, where n is the big total. The correspondence analysis matrix has row and column sums of **P**, named by **r** and **c**, respectively, from which, we construct diagonal matrices, denominated by $\mathbf{D_r}$ and $\mathbf{D_c}$. Then, CA can be defined as the reduced rank matrix approximation of **P** by weighted least squares, minimizing the sum of squared standardized terms. Equivalently we can obtain this solution by applying the singular value decomposition (SVD) (Eckart & Young, 1939) of the matrix **P,** once it is centred and standardized in the following way:

$$\mathbf{D_r^{-1/2}(P - rc^T)D_c^{-1/2}} = \mathbf{UD_\lambda V} \quad ,$$

such that $\mathbf{U^T U = V^T V = I}$ where $\mathbf{D_\lambda}$ is a diagonal matrix with the square root of the principal inertias in the main diagonal and **U** and **V** are the row and column eigenvectors. The next step is to recover the coordinates used to visualize the points in the maps: as well as the contribution and correlation values for each point to be able to interpret the maps (Greenacre, 1984). The contribution values will highlight the points that have more influence in determining the direction and then the meaning of the principal axes. The correlation values will inform about the points, which are more correlated and then, well explained by that particular principal axis. The points with contributions closer to 1 will be the points that give a "name" to the axis. The correlations take a maximum value of 1, for each item. The points with higher values will be better explained by that particular axis.

Correspondence analysis of square asymmetric matrices

From the data in Table 1, we can infer that, if we apply the CA algorithm directly to this data, the results will be dominated by the "symmetric" part in other words, these bigger values in the main diagonal corresponding to the people who do not change their preferences as a result of the financial crisis. Greenacre (2000) gives emphasis to this problem and he calls on Constantine & Gower (1978), to solve this issue. These authors understand this type of table as being a decomposition of two independent processes. In one hand, the symmetric part of the tables, and on the other hand, the deviations from symmetry or the skew symmetric part. Greenacre's work has significantly simplified this method, demonstrating a particular way of coding the data. This allows to recover, with the standard application of any correspondence analysis software, the output related to both sources of information, the symmetric and the skew symmetric.

Then, according to Constantine & Gower (1978), the original matrix **P** can be deconstructed into two different components, the symmetric and the skew symmetric matrix in the following way:

$$\mathbf{P} = \mathbf{S} + \mathbf{T} \quad ,$$

where **S** denotes the symmetric part and **T** collects the skew symmetric information. For our particular application, the values are the following:

n**S**:

$$\begin{pmatrix} 216 & 7{,}5 & 19{,}5 & 20{,}5 & 6 & 5 \\ 7{,}5 & 20 & 1{,}5 & 3{,}5 & 2 & 0 \\ 19{,}5 & 1{,}5 & 16 & 16{,}5 & 1{,}5 & 1 \\ 20{,}5 & 3{,}5 & 16{,}5 & 112 & 9 & 2 \\ 6 & 2 & 1{,}5 & 9 & 30 & 0{,}5 \\ 5 & 0 & 1 & 2 & 0{,}5 & 15 \end{pmatrix}$$

n**T**:

$$\begin{pmatrix} 0 & -3{,}5 & -15{,}5 & -0{,}5 & -3 & -2 \\ 3{,}5 & 0 & -0{,}5 & 2{,}5 & 0 & 0 \\ 15{,}5 & 0{,}5 & 0 & 16{,}5 & 0{,}5 & 1 \\ 0{,}5 & -2{,}5 & -16{,}5 & 0 & -5 & 0 \\ 3 & 0 & -0{,}5 & 5 & 0 & 0{,}5 \\ 2 & 0 & -1 & 0 & -0{,}5 & 0 \end{pmatrix}$$

For example, $n^* s_{12} = 7{,}5$ is obtained from the following computation: $n^*(p_{12} + p_{21})/2$ and the general expression of the skew symmetric components, $n^* t_{ij}$ is equal to: $(n * p_{ij})-(n^* s_{ij})$. If $((n * p_{ij})-(n * s_{ij})) > 0$, there is a positive deviation from the "mean flow" $(n * s_{ij})$ of both categories, which means that, after the crisis, more people leave the category *i* to consider the j as being the most important attribute, rather than the opposite movement. Then, a positive value is associated with to "leave the category". On the other hand, if $((n^* p_{ij} - n^* s_{ij})) < 0$, it is translated as a higher movement of people from category j to category *i*, in other words, movements "onto this category".

The two components of the original data matrix, **P**, which are, **S** as the symmetric information and **T**, as the skew symmetric one, have some special properties, which have to be considered since they move away from the direct application of the correspondence analysis algorithm. In one hand, **T** is already centred, in the sense that all its elements sum to zero, $\sum_i \sum_j t_{ij} = 0$. On the other hand, **S** has the same margins for rows and columns, which are equal to 1/2 (**r+c**), which are the row and column sums of **P.**

Greenacre (2000) proposes the use of 1/2 (**r+c**) not only as centroid (mean) and metric for the standardization of the symmetric table, **S**, but also as the metric for the already centred table **T**, corresponding to the skew symmetric information. Further more, instead of running two separated analyses, he shows a particular way of coding the data, which allows it to recover with a single analysis the same results.. The block format is the following:

$$\overline{\mathbf{N}} = \begin{pmatrix} \mathbf{N} & \mathbf{N}^{\mathbf{T}} \\ \mathbf{N}^{\mathbf{T}} & \mathbf{N} \end{pmatrix}$$

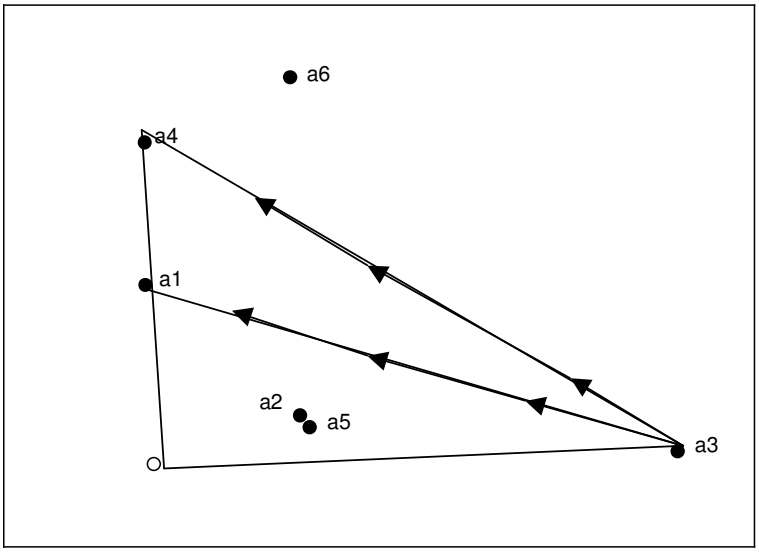
where $\mathbf{N}$ is the original data matrix of frequencies. We realize that the metric of this table is exactly the same than the one used in the two separated analyses. The principal inertias belonging to the skew symmetric table appear mixed with the ones related to the symmetric information. We can identify them because they are grouped, 2 by 2, taking the same value.

ANALYSIS

In our particular application, our main interest remains in the skew symmetric part; in other words, in the information coming from the matrix **T**. It collects the sources of asymmetries or asymmetric flows between attributes in terms of preferences before and after the financial crisis.

The two dimensions related with the asymmetric part are the 4th and 5th.

Figure 1: CA of skew symmetric component T. Symmetric map.



Principal axis 4 total inertia: 0,053, Principal axis 5 total inertia: 0,053
They represent almost 99,9% of the total inertia of asymmetry.

Where: a1: trust, a2: to take care of the customers, a3: high profitability, a4: security, a5: good service and a6: other services & missing values (supplementary point).

The category a6: other services, was dominating the first dimension of the symmetric analysis, hiding the information related to the other categories. We need to include this category, to keep the value of the masses equal to the total number of subjects considering as the first option one attribute, before (row masses) or after (column masses) the crisis, but avoiding the previous problem. For this reason, we decide to include it in the analysis as a supplementary point (Greenacre, 1984), in other words, as a point that appears displayed on the map but, since its mass is considered as zero, it does not contribute to the construction or to the meaning of the principal axes.

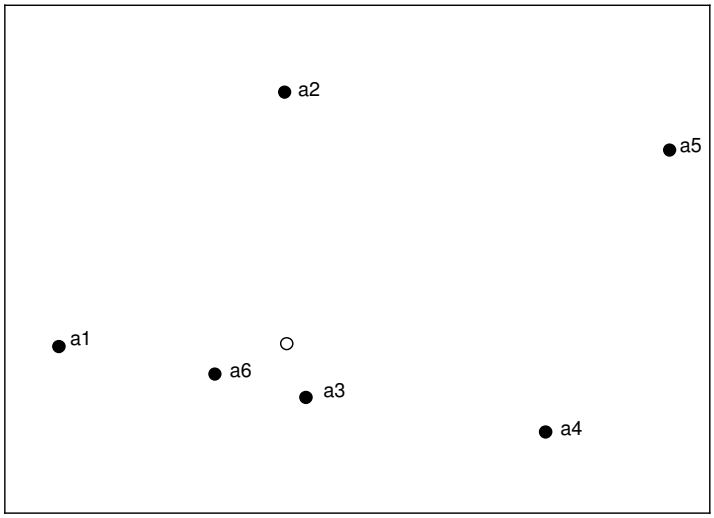
The direction of positive flows can be deduced from the relative orientations of the points. Flows are interpreted in a counter clockwise direction. The interpretation has to be made in terms of triangles formed by each pair of points and the origin, as illustrated in the Figure 1. The area is larger as the deviation from symmetry is greater (for a more in-depth explanation go to Constantine & Gower, 1978). In this application, the biggest triangles correspond to the ones formed by the points a3: profitability, a4: security and the centroid, followed by the one built by a3: profitability and a1: trust. The largest

difference comes from people who before the crisis consider profitability as the most important attribute and, after the crisis, they seek security. The same type of explanation works for trust. The map is accompanied by the contribution and correlation values. The contribution value for a3: profitability with respect to the first principal axis of the symmetric analysis is: 0,443 and its correlation value is: 0,504. On the other hand, a1: trust and a4: security display higher contribution and correlation values for the second principal axis of the skew symmetric analysis. While a1: trust has a contribution of 0,328, a4: security gets a value equal to 0,169. The correlations are not really high.

On the other hand, the attributes, a1: trust, and a4: security are located in the same line through the origin. There is no area between them, so no asymmetries in flows occur.

At this point, we introduce the map displaying the symmetric part, **S**, to interpret the dimensions. They appear to be dominated by the main diagonals of the matrix, in other words, by those attributes considered as the most important before and after the crisis, for the highest proportion.

Figure 2: CA of the symmetric component S. Symmetric map.



Principal axis 1 total inertia:0, 451 (40,6% total inertia of the symmetric part), Principal axis 2 total inertia: 0,333(30% of the total inertia of the symmetric part).
They represent 70,6% of the total inertia of symmetric component.

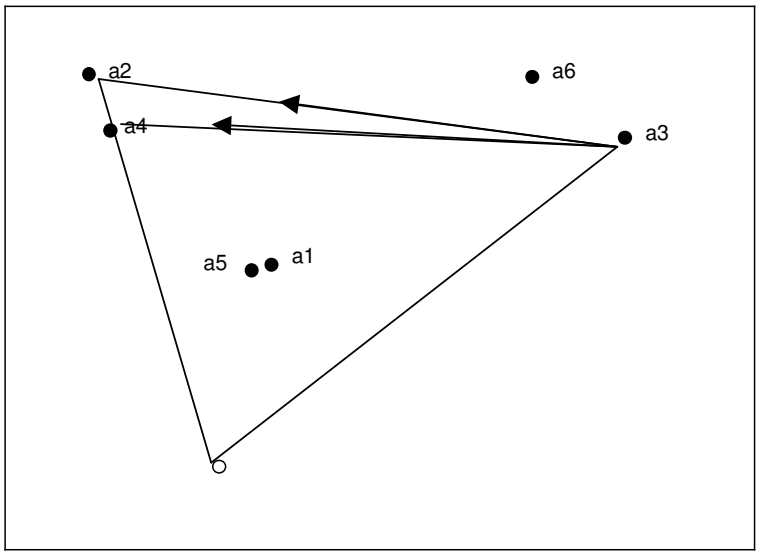
The first dimension is mainly related with attributes a1: trust and a4: security and the second dimension is mainly related with attributes a2: take care of their customers and

a5: good service. In both cases, they are located one opposite to the other along the fictitious line connecting both attributes. The first dimension can be called "security & trust" while the second is more related with "service to the customer". The contribution and correlation values corroborate the results. In this case, for attributes a1: trust and a4: security, we find high correlation values. While a1: trust displays a correlation value of 0,854, with respect to the first principal axis of the symmetric part, a4: security displays a correlation value of 0,537, with respect to the same axes. On the other hand, a2: take care of their customers and a5: good service, also display high values of correlation with respect to the second principal axis of the symmetric analysis. For a2: take care of their customers, the value is equal to 0,461 and for a5: good service, it takes a value of 0,3511.

To obtain as first dimension "security & trust" goes in agreement with the results of Hofstede (2004). He establishes a rank of countries, with respect to their level of aversion to the risk or uncertainty (here treated as equivalent), where Uruguay appears as one of the countries with higher levels of risk avoidance. This can provoke the relevance of trust and security for citizens.

Period 2 (Data 2003): We use the results of the symmetric and skew symmetric analyses made in 2002, to group variables related to the same dimension, since they belong to the same construct and the flows between them are symmetric (i.e., security and trust). Then, we use the following list of attributes: "profitability", "security & trust" and "good service & care of the customer". Further more, from a qualitative analysis, we found interesting to add two new attributes, which are "to have competent personal" and "to be honest". We repeat the analysis to a sample composed by 501 subjects. The resultant skew symmetric map is the following:

Figure 3: CA of t he skew symmetric component T. Symmetric map.



Principal axis 4 total inertia: 0,117, Principal axis 5 total inertia: 0,117
They represent 99,2% or the total inertia of asymmetry.

where a1: competent personal, a2: to be honest, a3: profitability, a4: security & trust, a5: good service & take care of their customers, a6: other services and missing data.

The display is very similar to the one obtained for the first period. The two added attributes are reinforcing the previously described dimensions. a1: competent personal is reinforcing the dimension of "service & care of the customers" while, "to be honest" reinforce the construct related to "security and trust". Once more, there is an asymmetry in flows from "profitability" to "to be honest" and "security & trust".

To complement our analysis, we turn our attention to others aspects of the public response to the financial crisis as the perception levels of security and service quality of the banks and the effectiveness of advertising campaigns.

In the both surveys, the respondents evaluated the security level and de service quality perception of eight commercial banks operating in Uruguay using a 1-5 scale. The means of security ranged from 1 to 5, the overall mean score for the first survey was 3.11 and for the second one was 3.29, the standard deviation was 0,80 and 0.89 respectively. The dispersions on the evaluation of the security levels of the banks, in both surveys, demonstrate that, in a financial crisis situation, security is not only an

important but also a differentiating attribute. We found similar results concerning service quality perception.

Facing the financial crisis, banks have reacted by launching advertising campaign. The results related to the efficacy of this tactic are thought provoking. The rates of spontaneous awareness of the bank's advertising are very poor; they ranged from 16% to 2%. Moreover, 29% of the respondents could not remember any of the adverting piece and for almost 50% of them any of the adverting campaign success in transmitting tranquility. However, the mean of security scores of almost all the banks were improved in 2003 and independent samples *t* tests showed that the differences were significant.

Descriptive Statistics

year		N	Minimum	Maximum	Mean	Std. Deviation
2002,00	Meansec	532	1,00	5,00	3,1194	1,00897
	SDsec	522	,00	2,83	,7966	,49451
	SDservq	407	,00	2,83	,7749	,56223
	Meanservq	438	1,00	5,00	3,3688	,99738
	Valid N (listwise)	405				
2003,00	Meansec	465	1,00	5,00	3,2925	,91433
	SDsec	439	,00	2,83	,8859	,50696
	SDservq	305	,00	2,83	,8225	,54823
	Meanservq	392	1,00	5,00	3,6027	,96071
	Valid N (listwise)	304				

CONCLUSIONS

In Uruguay, the financial crisis provoked changes in the relative importance of the main attributes that people seek in the financial entities. Unsurprising, for period 1 the main change relies for that people who, before the financial crisis, were focused in asking a high profitability but, once the financial crisis occurs, they prefer to have their money in banks offering security and trust. Another asymmetry, but of lesser importance, appears between the other set of attributes, "service and care of the customers" versus "security and trust". This secondary segment is characterized for priming, before the crisis, that banks that offer good service and relationship with their customers but changing after the crisis to emphases security and trust.

Another aspect we were interested in was to describe if the changes in attitudes -in terms of the relative importance of attributes of a financial entity which emerged from interviews undertaken just a few weeks after the crisis- where something short-lived and

exaggerated or if they were maintained over time. For this purpose, we repeat the analysis one year later. The results were interesting since, not only they were stable; but moreover, the skew symmetric part takes a higher weight in the second analysis (higher percentages of the total inertia of the analysis). We cannot go any further in the comparisons of both analyses since the tables are constructed from different samples. Once more, there is an important flow of people who before the crisis perceive profitability as being the most important attribute and, after the crisis, they attach comparatively more importance to the bank attributes security, trust and honesty. As a first consequence of the bank crisis, we found that the order of prioritisation for these two attributes has been reversed. Two years before the bank crisis security, the saliency of trust and honesty continue to be the higher.

In a normal financial environment, customers tend to take security for granted and assume that all banks provide almost the same level of security. In that case, security is an important but not a determinant attribute (Anderson and Cox, 1977). In our case, security is seen as an important attribute being possessed in different degree by the competing banks, in both samples. Therefore, security became an important and determinant attribute.

Actually, the Uruguayan banks have perceived the determinacy of this factor and launched institutional advertising campaigns emphasizing security, stability, endorsement, seriousness, ethics, etc in an attempt to recover the public confidence. There is no clear evidence of the effectiveness of theses marketing tactics. While the security scores show shy signs of improvement in 2003 for almost all the banks, the results of the surveys suggest that, in general, the advertising campaigns do not have a significant impact in awareness. The 29% of the respondents could not remember any of these adverting piece and 50% of the respondents state that any of the adverting campaign success in transmitting tranquillity to them. Is difficult to establish the contribution of the advertising campaign in the incipient recuperation of confidence in the banking institutions detected in the second research.

According to Pennings, Wansink and Meulenberg (2002) the way marketers react to a crisis should take into account the risk attitude of the consumers. If consumers' behaviour in a crisis situation is driven primarily by risk attitudes, such an extreme risk aversion (as is the case of Uruguay, (see Hofstede index, 1991)), the only effective

effort will lie in eliminating the risk and in this case communication efforts will not be effective. This may provide an explanation for the results.

If profitability contributed the most in the skew symmetric analysis, in both periods, then service, the second most important dimension of the symmetric analysis, does not. Furthermore, if we return to the original tables (i.e. Table 1) we realize that the segment of those who consider profitability to be the most important attribute was higher than the segment priming good service. Instead, once the financial crisis happened, the service-oriented segment becomes bigger than the profitability-oriented segment ("a3: profitability" goes from 90 to 22 persons; "a5: good service" goes from 57 to 41 and "a2: take care of their customers" goes from 40 to 29). With these results we realize that, service is more important than profitability after the crisis. It seems that people are able to renounce profitability in order to ensure security. However, they will not act similarly with regard to service.

The confidence crisis affected the entire banking system. We can expect, that once confidence has been restored, trust will no longer be a differentiating attribute (Anderson and Cox, 1977), at least inside the three types of banks, which remain operating in Uruguay (International banks, Cooperative banks and the State Bank system). At this point, costumer service emerges as the determinant attribute. Relational marketing is becoming more important vis à vis the traditional marketing, based on price (profitability) or advertising.

REFERENCES

Anderson T. and Cox, E. (1977) "Determinance versus Importance in Bank Selection Criteria", Journal of Marketing,, vol. 40 (January9, 85-87.

Allred, A. and Lon, A. (2000) "Service quality at banks and credit unions: what do their customers say?" The International Journal of Bank Marketing, Vol. 18, Iss. 4, 200-207.

Bahia, K. and Nantel, J. (2000) "A reliable and valid measurement scale for the perceived service quality of banks", International Journal of Bank Marketing, Vol. 18, No. 2, 84-91.

Bass, F. and Wilkie, W. (1973) "A Comparative Analysis of Attitudinal Predictions of Brand Preference", Journal of Marketing Research, Vol. X (August), 262-269.

Beckett, A. (2000) "Strategic and Marketing Implications of Consumer Behavior in Financial services" The Service Industry Journal, 20, 3, 191-208.

Beckwith, N. and Lehmann, D. (1973), The Importance of Differential Weights in Multiple Arrtibute Models of Consumer Attitude, Journal of Marketing Research, 10, 2, 141-145.

Belk, R. (1974) "An exploratory Assessment of Situational Effects in Buyer Behavior" Journal of Marketing Research, 11, (May), 156-163.

Benzécri J.-P et al. (1973), L'Analyse des Données. Tome (Vol.) 1: La Taxinomie. Tome 2 : L'Analyse des Correspondences. Dunod, Paris.

Boschi, M. (2005) "International financial contagion: evidence from the Argentine crisis of 2001-2002", Applied Financial Economics, 15, 3, 153-164.

Calantone, R. J. and Sawyer A. (1981) "The Stability of Benefit Segments," Journal of Marketing Research, 1978, 15 (August), 395-404..

Carvalho and Leite (1999) "Attribute Importance in Service Quality: An Empirical test of PBZ conjecture in Brazil", International Journal of Service Industry Management, 10, 5, 487-504.

Constantine and Gower (1978), Graphical Representation of Asymmetric Matrices, Applied Statistics, 27 (3), 297-304.

Cronin, J. and Taylor, S (1992) "Measuring Service Quality: A Reexamination and extension"Journal of Marketing, 56 (July), 55-68.

Cronin, J. and Taylor, S. (1994) `SERVPERF versus SERVQUAL: Reconciling performance based and perceptions minus expectations measurement of service quality', Journal of Marketing, Vol. 58 (January), 125-131.

Duncan, E. and Greg Elliot (2002) "Customer service quality and financial performance among Australian retail financial institutions" Journal of Financial Services Marketing, Vol. 7, 1, 25-41.

Eckart, C. and Young, G. (1939), The approximation of one matrix by another of lower rank, Psychometrika, 1, 211-218.

Gerrard, P and Bart Cunningham (2001) "Bank service quality: A comparison between a publicly quoted bank and government bank in Singapore" Journal of Financial Services Marketing ,Vol. 6, Iss. 1, p. 50-66.

Greenacre and Hastie (1987), The Geometric Interpretation of Correspondence Analysis, Journal of the American Statistical Association, 82 (398), 437-447.

Greenacre (1984), Theory and Applications of Correspondence Analysis. London: Academic Press.

Greenacre, M.J. (2000), Correspondence analysis of square asymmetric matrices, Applied Statistics, 49 (3), 297-310.

Greencre and Blasius (1994), Correspondence Analysis in the Social Science. London: Academic Press.

Gustafsson A, and Johnson MD "Determining attribute importance in a service satisfaction model, Journal of Service Research, 7, 2, 124-141.

Hofstede, G. (1991). Cultures and Organizations. Paston Press. London.

IMF (2005) International Monetary Fund, Uruguay, Country Report 05/202.

Kahn and Meyer (1991) "Consumer Multiattribute Judgments under Attribute-Weight Uncertainty" Journal of Consumer Research, 17, 4, 508-520.

Lewis, B. (1991) `Service quality: An international comparison of bank customers' expectations and perceptions', Journal of Marketing Management, Vol. 7, pp. 47-62.

Miller, K and Ginter, J. (1979) "An investigation of situational variation in brand choice behaviour and attitude" Journal of Marketing Research, vol XVI, 111-23.

Mittal, V., Kumar, P. and Tsiros, M. (1999) "Attribute-level Performance, Satisfaction, and Behavioral Intentions over Time: A Consumption-System Approach" Journal of Marketing, 63 (April), 88-191.

Nishisato S. (1994). Elements of Dual Scaling. Hillsdale: New Jersey.

Oliver, R. (1993) "Cognitive, Affective and Attribiute Bases of the Satisfaction Response" Journal of Consumer Research, 20 (December), 418-30.

Parasuraman, A., Zeithaml, V. and Berry, L. (1985), "A conceptual model of service quality and its implications for future research", Journal of Marketing, Vol. 49, Fall, pp. 41-50.

Parasuraman, A., Zeithaml, V. and Berry, L. (1988), "SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality", Journal of Retailing, Vol. 64, Spring, pp. 12-40.

Paswan, Audhesh K, Paswan, Nancy Spears, Ron Hasty (2004) "Search quality in the financial services industry: a contingency perspective" The Journal of Services Marketing, Vol. 18, Iss. 4/5, p. 324-338.

Pennings J., Wansink, B. and Meulenberg, M. (2002) "A note on modeling consumer reactions to a crisis: The case of the mad cow disease" International Journal of Research in Marketing, 19, 91-100.

Torres, A. and Greenacre, M. (2001), Dual scaling and correspondence analysis of preferences, paired comparisons and ratings, International Journal of Research in Marketing, 19, 401-405.

Yavas, U., Bilgin, Z. and Shemwell, DJ. (1997) `Service quality in the banking sector in an emerging economy: A consumer survey', International Journal of Bank Marketing, Vol. 15, No. 6, pp. 217-223.

Zeithaml, V. (1987), "Defining and relating price, perceived quality, and perceived value", Report No. 87-101, Marketing Science Institute, Cambridge, MA.

Zibechi , R. (2002) "The crisis in Uruguay: The long view" NACLA Report on the Americas New York:Sep/Oct, Vol. 36, Iss. 2, p. 2, 6.

Zurawicki, Leon and Braidot, Nestor (2005) "Consumers during crisis: responses from the middle class in Argentina", Journal of Business Research, 58, 8, 1100-1109.