THE RELATIONS BETWEEN FRIT, GLAZE AND CERAMIC COLOUR COMPANIES AND CERAMIC TILE MANUFACTURING COMPANIES: DO WE REALLY KNOW WHAT IS VALUED?

Luis J. Callarisa Fiol

Department of Business Administration and Marketing
Universitat Jaume I of Castellón. Spain

ABSTRACT

The present paper is part of a much more extensive study framed within a doctoral thesis, whose objective was to explore the relations between ceramic companies that supply glazes frits and ceramic colours, and ceramic floor and wall tile manufacturing companies. The study is based on the concept of perceived value, which has been the focus of considerable attention in the literature on relations marketing since the beginning of the 1990s. Initially setting out from a rational or cognitive perspective based essentially on functional aspects, studies have subsequently also focused on more intangible elements, which are more difficult to perceive and to explain, but which clearly participate in the decision-making processes, such as elements of an emotional and social character. This evolution is a consequence of the limitation of the initial approaches, which attempted to explain reality based on rational facts, and then being faced with events and situations, difficult to understand and to transmit.

Although perceived value in consumer markets is a widely treated concept in the most recent literature, few studies are available on industrial markets. From this perspective, the value perceived by an industrial buyer raises interesting questions for research, such as, whether the present industrial structure will hold, or whether the emotional or social dimensions are relevant. In order to analyse these perspective a specific, novel questionnaire was designed on the industrial markets and 101 valid responses were received from floor and wall tile, and ceramic trim manufacturing companies, which evaluated their suppliers of frits, glazes and ceramic colours. The fieldwork was conducted between July and October 2002. They capture the different assessments that the client companies have performed on their suppliers from a rational, emotional and social perspective.

1. INTRODUCTION

The Spanish ceramic sector is immersed in a situation of uncertainty with regard to the commercialisation of its products. In this sense, the sector's latest results may be analysed, which have appeared in publications by ASCER, as well as by different media sources. In recent years, the good results obtained have led the Spanish ceramic tile manufacturing companies to make important investments in improving production processes and in generating products that feature new technological applications. These improvements have led to an increase in production capacities, leading to a greater supply in the market. Internally, the companies have increased their product portfolios as a result of these improvements in the production processes, which have originated greater product diversity in stoneware tile, porcelain tile, and red or white body wall tile. Although new product applications have appeared (ventilated curtain walls, increased cladding of exhibition surfaces, etc.), associated with a building construction sector in Spain that was booming and ensuing high growth in the domestic market, the resulting increases in sales have not matched the increases in company production capacities. This has raised stocks in the factories, a fact that has been worsened by the unwillingness of retailers in the sector to store their orders.

The companies that manufacture frits, glazes and ceramic colours, on the other hand, have also witnessed considerable growth on their balance sheets, both in sales to the Spanish industries and to other tile manufacturing companies on a global level. Italy, Brazil, Turkey and, above all, China have made their products using frits, glazes and ceramic colours produced by Spanish companies. This has enabled this sector to become the world's top producer and seller of frits, glazes and ceramic colours. Yet, how does this situation affect the relation between these suppliers and their Spanish ceramic tile manufacturing clients? This is a question that has led us, at University Jaime I of Castellón, to analyse the relation between these two types of companies. In the research conducted, aspects have been analysed that tie in with relations marketing, such as perceived value, approached from a multidimensional perspective, matching the new tendencies in marketing. From this perspective, aspects related to functional values have been analysed, such as product quality, the quality of the services offered by the companies and their employees, the different sacrifices that are involved in this relation and the importance of each of these factors from the buyer's perspective. However, in addition, two new analysis perspectives have been incorporated that enable studying the most relevant emotional and social aspects from the standpoint mentioned before. Thus, analysis variables of an emotional character have been incorporated, such as experience, interpersonal relations, and customised treatment, which provide the purchasing companies with a better understanding of the most significant features in their relations with the frit, glaze and ceramic colour suppliers. In addition, new types of variables have been included, according to the new social tendencies applicable to all production sectors in the industrialised countries. The social value analyses aspects such as corporate social reputation and social image as elements that affect these types of relations. The present paper sets out the most noteworthy results from this interesting research, which received responses from over 100 manufacturers of floor tiles, wall tiles and trims.

2. OBJECTIVES

In this work it is sought to demonstrate through an empirical study, how the perceived value of the exchange relations between companies in an industrial sector are not only conditioned by features of a rational or functional character, but also by features of an emotional and social character. For this a fundamental objective of the study has been to develop and validate a measurement scale of the value perceived by an industrial buyer. More concretely, the relations are analysed between the manufacturers of floor and wall tiles, and trims and specific frit, glaze and ceramic colour suppliers.

PERCEIVED VALUE IN INDUSTRIAL MARKETS

In industrial markets, dimensionality studies of perceived value are scarce. The literature survey has turned up some studies by Anderson, Jain and Chintagunta, (1993), Lapierre (2000), Eggert and Ulaga (2002) Ulaga and Eggert (2003), where value dimensionality is present, but not in a single form. However, there seems to be, just as in consumer markets, an underlying dimensionality based on two factors, tangibles and intangibles which encompass the content of the perceived value. Thus, in this work, the line of research initiated by Sheth, Newman, and Gross (1991) and set forth by Sweeney and Soutar (2001) and Eggert and Ulaga has been followed (2002), in which the functional or cognitive dimensions are distinguished from the emotional or personal [10] and social dimensions (Lapierre, 2000), with wholly intangible components.

From the perspective of the approach adopted in this study, perceived value is considered a second-order construct, which means that each dimension is composed, in turn, of several sub-dimensions. The functional dimension of the value is that relative to the usefulness deriving from certain features of the products and services. The industrial client obtains value from features such as product quality, quality of the services, or price [27]. An economic and rational comparative analysis of the benefits and sacrifices is involved. This perspective identifies, as positive values or benefits relating to the quality of the products and services, the quality offered by the company in its definition of the services provided and that of the services provided by its employees, its identification with them and their implementation, as well as negative values or sacrifices such as price and other non-monetary sacrifices, such as convenience. Therefore, the functional dimension would almost be equivalent to an evaluation of the quality/price relation, with perhaps a broader concept of quality than the traditional one, in which the work of the employees is included, in addition to the inclusion of a component of non-monetary sacrifice.

The emotional dimension of perceived value is that deriving from the feelings and emotions that the product or service generates in the buyer. This dimension, together with the social one, helps explain why both individuals and organisations do not always make decisions based on a rational or functional evaluation [2]. The individuals that take decisions in organisations allow themselves to be influenced by their emotions and affective states as well as by their social environment (Lapierre, 2000). The emotional dimension has received little attention which is why the identification of its dimensions is in an exploratory phase, since there is no unanimity regarding its components. From this standpoint, and from some

studies, three factors can be identified: experience, customised treatment and interpersonal relations. In the first place, cumulative experience is a consequence of the exchange of sensorial stimuli, information and emotions between companies and clients [21,28], replacing traditional stimuli, both in consumer markets and in industrial markets[7]. Customised treatment and interpersonal relations derive from the literature that analyses the psychological [13] and social benefits that comprise the benefits that are obtained in establishing a relation, both on an individual level and at enterprise level. Thus, customised treatment is part of the elements that are valued positively and continuously by clients in the relations with companies, as they help reduce the feeling of anxiety, and help generate a situation of comfort as a result of the knowledge clients have regarding what to expect in their dealings with the supplier company. The approach to the client by the contact people from the supplier company serves partly to anticipate the content of the relation in its initial phase. Finally, interpersonal relations appear to be closely tied to both the previous factors, experience and customised treatment, and also help generating pleasant feelings in the relation with the supplier company [13]. The degree of interpersonal knowledge that is obtained through this process helps remove feelings of distrust or anxiety in this context, and to make the relations more fluid and lasting in the time.

Finally, the social dimension of the perceived value, which has to do with the consequences that the purchase and consumption of a product or service have in different target publics. In consumer and in industrial markets, there is growing concern for the own social projection [28, 30]. In industrial markets, where personal marketing tools are fundamental, the image or the reputation of a company is a key element in decision-making. Nguyen and Leblanc (2001) and Lapierre (2000) consider that the social value is the image based on reputation and credibility, and its social repercussions. Therefore, the social image transmitted and reputation are both identified as underlying factors of the social dimension [22, 11].

3. METHODOLOGY

The fundamental objective of the research has been to identify the dimensions of the perceived value of the relations between companies in the industrial market, developing a measurement scale of the construct. For this we have taken into account both the rational component of the perceived value and its emotional and social components. The Spanish industrial sector of ceramic tile manufacturers has been chosen. The reason for choosing this sector is that it has certain own traits, since it is a sector in which there is constant investment in the improvement of processing and product technology, with the development of a clear exporting component in the last 20 years, and an increasing interest in ongoing improvement, no longer solely in technology and products, but also in the relations with clients. With this aim the purchasing managers, and in their absence the managers, have been interviewed regarding the relation of the manufacturing company with its main supplier of frits, glazes and ceramic colours. This supplier featured the desired characteristics of reliability and customisation for the offered products and services, characteristics that are considered important for B2B [16]. The justification of this selection is grounded in the fact that among the existing variety of companies, possibly the regularity of the deliveries , and the technical knowledge of the product required a greater number and quality of the contacts. The characteristics themselves of the offered product, with a certain level of complexity, require

chemical knowledge in order to accept the type of material being supplied. This requires the collaboration and a certain level of contact intensity between the supplier and the manufacturer, which made this type of relation appropriate for the purposes of the study.

In order to design the measurement scales of the questionnaire, material from two sources of information was used so that the questionnaire could meet, as far as possible, the internal validity requirement. On the one hand, secondary sources of information were consulted, surveying the existing literature on the subject. In addition, for its elaboration, primary information sources were also consulted, for instance by in-depth interviews with five purchasing managers. Given the shortage of studies focusing on perceived value in industrial markets, the scales have had to be designed specifically for the objectives of the study, in some cases adapting them from the literature reviewed.

The questionnaire has been structured in five large sections, which follow the scheme: functional value technical quality of the product, functional value quality of the service, functional quality sacrifices, social value and emotional value (table 1).

Variable	Number of items in the scale	References
Functional value technical quality of the product	*Lasting quality:* 3 items *Technical quality:* 3 items	Lapierre (2000), Ulaga and Chacour (2001), Díaz et al. (2000)
Functional value quality of company service	*Tangibility and technical competence:* 7 items *Reliability:* 5 items *Safety:* 3 items	Codogan and Foster (1999), Cronin et al. (2000), Lapierre (1997, 2000).
Functional value used quality of employee service	*Employees:* 4 items	Lapierre (2000) (Cronin et al. 2000).
Functional value Sacrifices	*Price:* 4 items *Convenience:* 4 items *Replacement costs:* 2 items	Lapierre (1997 and 2000), Sweeney and Soutar (2001), Lusch and Brown (1996), Jones et al. (2000), Bennet and Gabriel (2001), Sanzo and Vazquez (2000)
Social value	*Social image:* 4 items *Reputation:* 3 items	Nguyen and Leblanc (2001), Sweeney and Soutar (2001).
Emotional value	*Experience:* 5 items *Customised treatment:* 2 items *Interpersonal relations:* 5 items	Sweeney and Soutar (2001), Robinette (2001), Jones et al. (2000), Lapierre (2000)

Table 1. Measurement scales of the dimensions of industrial perceived value

In accordance with the objectives of the research, the method of collecting the chosen information has been the interview, focusing on persons in charge of company purchases or, in their absence, on the manager of the tile manufacturing company. This has materialised according to three successive phases: in the first phase a mail dispatch was made, together with a letter presenting the study and its reasons. In order to reinforce this, a telephone follow-up took place of the reception of the questionnaire and of the receiver's willingness to answer it; this allowed a second dispatch, in this case by e-mail. However, as few responses were obtained in both cases, a third phase became necessary, involving the performance of personal interviews at those companies that had not responded in the previous phases. This

last phase was favoured by the geographic concentration of the companies, in their majority in Castellón province.

The reference universe corresponds to the total company population in the Spanish ceramic sector (265 companies manufacturing of floor and wall tiles, and trims).

The sample obtained comprised 101 observations which, for a level of confidence of 95.5% (z=2), and for a proportions estimation of (p=q= 0.5), involves a sampling error of ±7.84%.

4. DATA ANALYSIS

Data analysis began with a study of the dimensionality, reliability and validity of the scales used, by means of confirmatory factorial analysis. A second-order confirmatory factorial analysis was then conducted to determine the importance of each dimension. Annex 1 sets out the table with all the items used for elaborating the measurement scale.

In relation to the analyses performed in this section, all were appropriate since the probability associated with chi square exceeds 0.05, the GFI and AGFI statistics are close to unity; and the RMSEA is close to zero. [14]

In addition, the scales used are all reliable, since the composite reliability coefficient is always greater then 0.63, and reaches values exceeding 0.95 [3]. The convergent validity of the scales was also confirmed, as the factorial loads always exceeded 0.5; and because each item contributed to form a single factor [3, 4]. With regard to the divergent validity of the scales, this was confirmed because unity did not include the range of confidence of the correlation between the obtained dimensions [3] (Steemkamp and Trijp, 1991). These results are set out in tables 2-8.

4.1. FUNCTIONAL VALUE

The functional value comprised the components of sacrifices and benefits. The literature survey has enabled identifying three dimensions related to quality in the positive component (product quality, quality of company service and quality of employee service), whereas in the negative component three dimensions have been identified (price, replacement costs and convenience).

4.1.1. Functional Value Product Quality

As already mentioned, a confirmatory factorial analysis has been carried out to determine the dimensionality, reliability and validity of the measurement scale of the functional value product quality (table 2). This analysis shows the existence of two dimensions: lasting quality and technical quality. In the case of product lasting quality the highest factorial load is associated with the item related to the fact that the reliability of the purchased products increases over the years (0.77). And for product technical quality, the highest factorial loads are associated with the suitability of the supplier's technical product specifications, and the fact that the supplier company offers the best products; both factorial loads receive the value 0.64.

LASTING QUALITY OF THE PRODUCT	FACTORIAL LOADS
The reliability of the purchased products increases over the years	0.77
The quality of the products acquired from the supplier increases over the years	0.74
The efficiency obtained in time with the acquired products is a determining factor for its acquisition	0.60
TECHNICAL QUALITY OF THE PRODUCT	**FACTORIAL LOADS**
The technical specifications of the products by the supplier are appropriate for the products we are offered	0.64
The supplier company offers me the best products	0.64
The products acquired from the supplier are easy to use	0.62
FIT OF THE MODEL: Chi-Square = 21.72; gl = 14; value-P = 0.08458; RMSEA = 0.074; GFI = 0.93; AGFI = 0.90	
COMPOSITE RELIABILITY: Composite reliability of the quality associated with the passage of time = 0.7480; Composite reliability of the technical quality = 0.6638; Overall composite reliability = 0.8287	
DISCRIMINANT VALIDITY (correlation between the factors and in parenthesis the range of confidence of the correlation): 0.84 (0.70-0.97)	

Table 2. Confirmatory factorial analysis of the functional value product quality

4.1.2. Functional value quality of company service

Table 3 shows the individual analyses of the quality dimension of company service. It consists of three dimensions. On the one hand, the tangibility-technical competence, whose items with the greatest factorial load are assigned 0.83 and, in this case, they correspond to creativity and innovation in products and services; expertise; and the application of new technologies by the main supplier to solve problems. The second detected dimension is reliability. In this case several items also appear with the same previous factorial load (0.83), which refer to rapidity and agility; compliance with promised dates and services; and in doing things well right from the start. Finally, the factors detected in the dimension safety, accuracy of the information, compliance with promises and technical consulting display smaller factorial loads than the previous ones.

4.1.3. Functional value quality of employee service

In the analysis of reliability and validity of the scale used to measure the quality of employee service (table 4) it can be observed that the two items with the greatest factorial load (both with 0.92) are those that refer to reliability and consistency; and competence and professionalism of the employees, respectively.

TANGIBILITY-TECHNICAL COMPETENCE	FACTORIAL LOADS
Our main supplier is very creative and innovative in the products and services offered	0.83
Our main supplier stands out for its special expertise in its activity in the sector	0.83
Our main supplier stands out for the way it uses new technology to generate solutions	0.83
Our main supplier stands out for its capacity to provide systematic solutions in response to our problems	0.77
Our main supplier stands out for its capacity to demonstrate broad knowledge of the processes in our business	0.74
Generally speaking, the appearance of the our supplier's physical installations and employees is pleasant and clean	0.64
Generally speaking, our main supplier company concerns itself in understanding and addressing our needs	0.64
RELIABILITY	**FACTORIAL LOADS**
The main supplier company provides us with fast and agile service	0.83
Our main supplier stands out for its ability to do things well right from the start	0.83
Our main supplier company scrupulously meets the dates for order deliveries or for the performance of agreed services	0.83
Our main supplier's invoices are exact and clear	0.61
The main supplier company knows how to treat our claims.	0.58
SAFETY	**FACTORIAL LOADS**
For our company the accuracy of our supplier's information is very important	0.77
For our company it is very important that the supplier keeps the promises made	0.77
For our company the technical consulting provided by the supplier for the management of our business is very important	0.74
FIT OF THE MODEL: Chi-Square = 124.18; gl = 100; value-P = 0.05101; RMSEA = 0.049; GFI = 0.86; AGFI = 0.83	
COMPOSITE RELIABILITY: Composite reliability of the tangibility-techn. comp. = 0.9037; Composite reliability of reliability = 0.8581; Composite reliability of safety = 0.8037; Reliability of overall quality of the service = 0.9512	
DISCRIMINANT VALIDITY (correlation between the factors and in parenthesis the range of confidence of the correlation):	
Tangib.-techn. comp. técnica_Reliability: 0.74 (0.57-0.93)	
Tangib.-techn. comp._Safety: 0.54 (0.40-0.68)	
Reliability_Safety: 0.35 (0.21-0.49)	

Table 3. Confirmatory factorial analysis of the functional value quality of company service

QUALITY OF THE SERVICE BY EMPLOYEES	FACTORIAL LOADS
Generally speaking, the employees of our main supplier company provide me with reliable and consistent service	0.92
Generally speaking, the employees of our main supplier company are competent and professional	0.92
Generally speaking, the employees of our main supplier company are accessible and is easy to contact	0.71
Generally speaking, the employees of our main supplier company behave politely and respectfully	0.65
FIT OF THE MODEL: Chi-Square=12.35; gl=7; value-P=0.08958; RMSEA=0.087; GFI=0.94; AGFI=0.91	
COMPOSITE RELIABILITY: 0.8828	

Table 4. Confirmatory factorial analysis of the employees

4.1.4. Functional value sacrifices

From the factorial analysis performed for the total sacrifices three dimensions are obtained (table 5): the first refers to the monetary sacrifices, the second to non-monetary sacrifice convenience and the third to the non-monetary sacrifice replacement costs. In the first dimension the highest factorial loads are related to the items, perception of a reasonable price; and provision of the best discounts and payment terms; in both cases the factorial load is 0.80.

In the case of the convenience dimension, the highest factorial load is related to the importance of the number of visits made (0.65). As far as replacement costs are concerned, the two items that comprise this dimension have similar factorial loads (0.69 and 0.68, respectively), and are items referring to the effort and time that would be needed to replace the supplier and to the importance of continuing the relation with the same supplier.

MONETARY SACRIFICE	**FACTORIAL LOADS**
Our main supplier has a reasonable price	0.80
The main supplier company offers us the best discounts and payment terms	0.80
It has a good quality-price relation	0.55
The price it offers is influenced by market competition	0.55
NON-MONETARY SACRIFICE-CONVENIENCE (time, effort, energy)	**FACTORIAL LOADS**
The number of visits or encounters that our employees have with employees of the main supplier is important for the good development of the relations between both parties	0.65
The negotiation effort with the supplier's employees to reach an agreement is appropriate	0.60
The time and effort invested in training of a part or all of our employees in the products and services of the main supplier company are appropriate	0.60
The main supplier is able to provide us with the required services or desired products whenever we need them	0.60
NON-MONETARY SACRIFICE-REPLACEMENT COSTS	**FACTORIAL LOADS**
Replacing the main supplier would involve important effort and time for our company for the necessary adaptation in products and services	0.69
For our company it is very important to continue the relation with this supplier	0.68
FIT OF THE MODEL: Chi-Square= 58.62; gl = 44; value-P = 0.06909; RMSEA = 0.058; GFI = 0.90; AGFI = 0.88	
COMPOSITE RELIABILITY: Composite reliability of price = 0.7780; Composite reliability of convenience = 0.7060; Composite reliability of replacement costs = 0.6391; Overall composite reliability of the sacrifices = 0.8829	
DISCRIMINANT VALIDITY (correlation between the factors and in parenthesis the range of confidence of the correlation):	
Price _ Convenience: 0.54 (0.44-0.64)	
Price _ Replacement costs: 0.26 (0.12-0.40)	
Convenience _ Replacement costs: 0.68 (0.58-0.78)	

Table 5. Confirmatory factorial analysis of the total sacrifices

4.2. SOCIAL VALUE

In relation to the dimensionality of the social value (table 6), there are two dimensions, the social image and reputation. In the social image dimension, the two

items with the greatest factorial load are the external recognition of its social behaviour (0.83) and the internal ethical behaviour (0.81). For the social reputation of the supplier company, the item with greatest factorial load (0.92) refers to the supplier's credibility and its positive effect on the company's social image.

SOCIAL IMAGE	FACTORIAL LOADS
Our main supplier company has a reputation for good social behaviour	0.83
I consider that our main supplier company behaves ethically with its clients and employees	0.81
I generally pay attention and read all the information that our main supplier sends me	0.56
Our supplier company participates actively in social events	0.55
REPUTATION	**FACTORIAL LOADS**
The general credibility of our main supplier helps improve our company image	0.92
The general reputation of our main supplier matches the company image that we wish to offer	0.79
The relation with our main supplier company improves the social perception held of our company	0.77
FIT OF THE MODEL: Chi-Square = 19.74; gl = 14; value-P = 0.13867; RMSEA = 0.064; GFI = 0.95; AGFI=0.89	
COMPOSITE RELIABILITY: Composite reliability of factor 1 = 0.8103; Composite reliability of factor 2 = 0.8674; Total composite reliability = 0.9017	
DISCRIMINANT VALIDITY (correlation between the factors and in parenthesis the range of confidence of the correlation): 0.59 (0.41-077)	

Table 6. Confirmatory factorial analysis of total social value

4.3. EMOTIONAL VALUE

With respect to emotional value three possible dimensions have been detected: experience, affective relations, and relations or customised treatment. The joint confirmatory factorial analysis of their components (table 7) shows that for the experience dimension the items with the greatest factorial load are the ease of use of the products/services (0.72) and the perception of the supplier as an expert (0.70). Customised treatment, physical recognition and having one's name known have the same factorial load (0.70). Finally, in interpersonal relations the item with the greatest factorial load refers to the pleasantness in dealing with employees of the supplier company (0.74), followed by the pleasantness in general in dealings with the supplier (0,70) and the development of ties of friendship between workers of both companies (0.70).

EXPERIENCE	FACTORIAL LOADS
The ease of use of the our main supplier's products/services encourages the desire to use them	0.72
The experience with the supplier seems to us a determining factor in the relation with the supplier	0.61
Generally speaking, our supplier knows in advance what we need EXPERIENCE	0.51
Our main supplier's experience enables it to offer the best advice	0.61
That supplier is an expert in its field	0.70

CUSTOMISED TREATMENT	
Our supplier's employees recognise me when I have dealings with them	0.70
At the supplier company they know my name	0.70
INTERPERSONAL RELATIONS	
The relations with our main supplier are pleasant	0.70
Ties of friendship have developed between the employees of the main supplier company and ours when they have visited us or we needed to visit them	0.70
The relations and dealings with our main supplier company's employees are pleasant	0.74
Generally speaking, dealing with the main supplier company produces positive feelings in us, which I believe we would not have if we did not have contact with it	0.62
The evolution of the relation with our supplier seems positive to us	0.70
FIT OF THE MODEL: Chi-Square = 86.26; gl = 68; value-P=0.06674; RMSEA=0.052; GFI=0.87; AGFI = 0.86	
COMPOSITE RELIABILITY: Composite reliability of experience = 0.7521; Composite reliability of customised treatment = 0.6577; Composite reliability of interpersonal relations = 0.8238; Overall composite reliability of total emotional value = 0.8684	
DISCRIMINANT VALIDITY (correlation between the factors and in parenthesis the range of confidence of the correlation):	
Experience _ Customised treatment: 0.27 (0.15-0.39)	
Experience _ Interpersonal relations: 0.39 (0.27-0.51)	
Customised treatment _ Interpersonal relations: 0.39 (0.27-0.51)	

Table 7. Confirmatory factorial analysis of the total emotional value

4.4. PERCEIVED TOTAL VALUE

After performing the previous confirmatory factorial analyses for each component of the value perceived by the company, a joint confirmatory factorial analysis of the components was conducted. This was done by using the weighed mean values obtained from the foregoing analyses. Table 8 shows that the results obtained in the previous analyses are corroborated, yielding a fitted model and a reliable scale, with convergent and divergent validity, according to the criteria indicated at the commencement of the data analysis.

It can be observed that the functional value comprises, in order of importance of the factorial loads: the quality of the overall service of the company (0.84); the quality of the service by the employees (0.76); the overall quality of the product (0.76); convenience (0.69); price (0.62); and replacement costs (0.54).

On the other hand, the emotional value is made up of: experience (0.89); interpersonal relations (0.80); and customised treatment (0.58).

Finally, the social value consists of: social image and reputation, both with the same explanatory factorial load (0.75).

In regard to the analysis of discriminant validity it may be noted that the three variables are correlated, which indicates the importance of all of these in the management of the value perceived in their relations with the industrial supplier [13, 28]. Particularly noteworthy among these is the correlation between the emotional value and the functional value, with a value of 0.69.

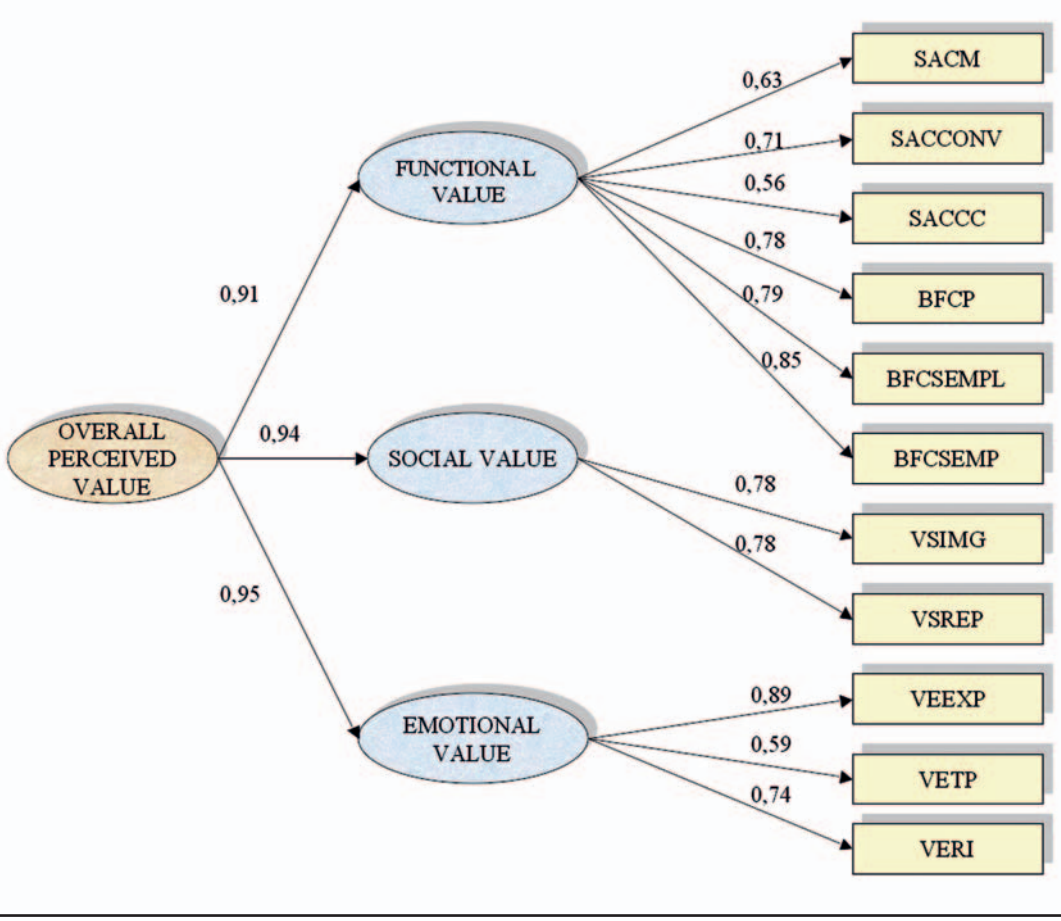
TOTAL PERCEIVED VALUE	FACTORIAL LOADS
FUNCTIONAL VALUE	
Price (SACM)	0.62
Convenience (SACONV)	0.69
Replacement costs (SACC)	0.54
Product quality (BFCP)	0.76
Quality of the employees (BFCPEMPL)	0.76
Quality of company service (BFCEMP)	0.84
SOCIAL VALUE	
Social image (VSIMG)	0.75
Reputation (VSREP)	0.75
EMOTIONAL VALUE	
Experience (VEEXP)	0.89
Customised treatment (VETP)	0.58
Interpersonal relations (VERI)	0.80
FIT OF THE MODEL: Chi-Square= 72.88; gl = 55; value-P = 0.05361; RMSEA = 0.057; GFI = 0.88; AGFI = 0.86	
COMPOSITE RELIABILITY: Composite reliability of the emotional value = 0.8556; Composite reliability of the social value = 0.7188; Composite reliability of the emotional value = 0.8086; Overall composite reliability of the perceived value = 0.9260	
DISCRIMINANT VALIDITY (correlation between the factors and in parenthesis the range of confidence of the correlation):	
Functional value _ Social value: 0.55 (0.35-0.75)	
Functional value _ Emotional value: 0.69 (0.47-0.91)	
Social value _ Emotional value: 0.55 (0.35-0.75)	

Table 8. Confirmatory factorial analysis of total perceived value

The overall analysis of the total perceived value was continued by performing a second-order factorial analysis, where weighted measurements were performed and a variable was calculated that captured the overall value that would be introduced in the general model. This analysis was made to obtain an overall latent variable for the total perceived value. The results of this second-order confirmatory factorial analysis are displayed in figure 1, which shows that three first-order factors are obtained that include the same items as the ones obtained in the previous analyse, establishing that for each one of these factors the factorial loads maintain similar weights to the ones considered previously in an individualised way.

In addition a second-order factor is obtained that captures the total perceived value. This factor comprises the functional value (0.91), the emotional value (0.95), and the social value (0.94). Note that, in the interpretation of the results, although the three have a high factorial load, the emotional value, albeit with little difference, is the one that has the greatest explanatory capacity in the formation of the overall perceived value by the client company. However, the great equality among these values makes it necessary to consider them jointly for an appropriate interpretation of the client's perceived value, as Sweeney and Soutar set out in their study (2001). That is, the perceived value emerges as a multidimensional construct in which the three dimensions interact and complement each other in a balanced form, helping to understand a complex construct that adopts different roles and can be interpreted in

different ways by clients, as authors like Sheth et al. (1991a) and Sweeney and Soutar (2001) have indicated.



FIT OF THE MODEL: Chi-square = 76.53. gl = 58. value-P = 0.05203. RMSEA = 0.057. GFI=0.86. AGFI=0. 84

COMPOSITE RELIABILITY: Composite reliability of factor 1 = 0.8683; Composite reliability of factor 2 = 0.7573; Composite reliability of factor 3 = 0.7900; Overall composite reliability = 0.9538

Figure 1. Second-order confirmatory factorial analysis of the total perceived value of the company

The resulting model is appropriate, since the probability associated with chi square exceeds 0.05 (0.052); the GFI (0.86) and AGFI (0.84) statistics are close to unity; and RMSEA (0.057) is close to zero [14]. In relation to reliability, this is high for the first-order factors and for the second-order factor, while the overall reliability of the total perceived value is 0.9538 [3]. It has convergent validity as all the factorial loads exceed 0.5; and also divergent validity for each dimension of the total perceived value, since the items that constitute each of these only form part of this dimension and do not contribute to forming any other factor. [3, 4]

In short, it has been empirically demonstrated that the perceived value by a client company of a relation is made up of a functional dimension, an emotional dimension and a social dimension, which confirms the affirmations made in this sense by Sweeney and Soutar (2001).

5. FINAL DISCUSSION AND CONCLUSIONS

The empirical study conducted in this work has enabled demonstrating the existence of three dimensions and their influence on the overall conception of the perceived value. Traditionally, the prevailing opinion has been that decision-making in industrial markets is basically related to connotations of a rational or functional character. However, the results of the empirical research have highlighted the importance of the emotional and social value in the formation of the perceived value of the relation by the client company. The obvious fact that companies are made up of people notably influences the existence of emotions, feelings and sensations that affect the final decisions of the people with the capacity to take decisions in companies. Furthermore, the notable increase in the importance of how the company is perceived socially and how this influences economic results have also provided the social value with more significant weight in the higher perceived value of the industrial buyer.

However, some small points may be noted regarding the obtained results. As far as the sacrifices are concerned, if we analyse price, client companies have put the value of product acquisition on a level with transaction value according to the views of Monroe (1990) and Grewal et al. (1998). The acquisition value is the relation between the benefits obtained and the sacrifices incurred for its obtainment. However the transaction value is defined as the psychological satisfaction that the client obtains when he perceives that he has made a good deal or agreement. Thus, aspects such as the perception by the client that he is being given a fair price in relation to the benefits deriving from the use of the product and the service provided by the supplier, together with the perception that he is being given the best payment terms, are the most important elements in the final formation of the monetary sacrifice price. The projection, at the moment of purchase, of the future benefits of the product together with the appropriateness and suitability of the payment terms prevails, as opposed to other more traditional factors such as the relation quality-price and the influence of the competition on the price finally applied. That is to say, the evaluation by the client incorporates future elements that go beyond quality and are more centred in the own relation with the supplier. The sensation of fair price or payment terms was foreseeable, since its incorporation into the questionnaire was suggested by the purchasing managers in the pre-test. With regard to the non-monetary sacrifices, the homogeneity in the analysed factorial loads of the items shows the importance for the tile manufacturing companies of their relation with the frit, glaze and ceramic colour supplier. The technological dependence often found in this relation, as a result of the greater innovative capacity of the frit, glaze and ceramic colour supplier, causes most of the innovations in ceramic products to come from the developments in the supplier's laboratories. However, this situation evidences a weakness in the tile manufacturing companies in regard to their suppliers, since they leave an important part of the research, development and innovation to the supplier, which causes their own design departments to relax and weaken. Thus, it is left up to the supplier of frits, glazes and ceramic colours to establish the product he wishes to sell as a function of the final design of the piece he is able to achieve.

The managers of the tile manufacturing companies should consider this fact, and foster their own design departments with the aim to differentiate themselves from the rest. They cannot disregard the fact that a supplier will provision several manufacturing companies, making the possibility of similar designs coexisting at the same time in the market a real threat. Ideas should arise in the companies as a witness to their creative capacity and personality, and as a sign of own identity. Their

adaptation to market tastes is but an example of the ability of companies to conjugate innovation with acceptance.

The analysis of product quality has enabled establishing that technical quality is as important as the perception of product usefulness over time. The evaluation performed by the client company at the present moment of the future benefits to be obtained with the use of the product is determinant in its purchasing decision. If, at the moment of purchase, product attributes and price are important, the perception of use and obtained results are no less so.

In the evaluation of the quality of the service provided by the employees, it may be noted that the factors with a more technical profile, such as reliability, competence and professionalism have the greatest explanatory load in this variable. Their factorial loads exceeded other behavioural factors such as accessibility and conduct. Therefore, although the human factor is important, in this study, the professional and technical profile of the supplier company's employees receives greater consideration than their actual conduct. Perhaps the type of sector analysed could influence this result and even, the type of supplier, with products having a highly developed technological capability. Thus, the professional profile of the employees prevails over the behavioural profile. This would possibly not happen in pure service companies, which work with intangibles, and in which employee conduct and attitude are as important as the service provided.

In regard to social value, the results of the study show that in their two considered dimensions, social image and reputation, the most valued factors by the client company are good social practices and credibility in general. In the face of this situation, appropriate information management becomes a key factor of business and social success. If the results of the research show that client companies are sensitive to the social behaviour of the supplier company, but that in turn their credibility is high, in this situation, it would be important for the company to know how to communicate internally and externally all the achievements reached in this sense. An appropriate presence in the media, together with a careful transmission of the information to clients would become key factors to company success. Recent studies show that company success is increasingly grounded on an appropriate coordination between a good provision of services and appropriate social repercussion of company activities.

The results obtained with the dimensionality analysis of the emotional value confirm affirmations by other authors like Gwinner, et al. (1998) on aspects such as familiarity, fraternisation, friendship and personal recognition between employee and client, which are some of the most valued factors in the creation of social benefits. Particularly in those situations where the interaction between client and employee is high, which is quite common in services and industrial markets. Together with the foregoing, considerations of experience are shown to be important. Experience allows the accumulation of information and knowledge which, managed suitably and applied correctly, provide credibility, another of the highly valued factors in the study.

Somehow, the presence of the emotional and social component in the perception of the value perceived by the client ties in with the conception of relations marketing as a humanised marketing. In this context, the commercial strategies based on intensive production processes, grounded in turn on the application of mass marketing, is making way for marketing with a more individualised application, based on research and the appropriate use of databases, whose application allows customised treatment:

i.e. supplying those products and services in the conditions required by the clients. And an attitude in the relation based on an analysis of human values as determinants of the consumer purchasing processes, both by their indirect influence on this process through the need to satisfy clients' desire for instrumentality, and by their direct influence through the satisfaction of clients' needs of expressiveness. Experience, from this perspective, again becomes an important asset for companies in their interrelation with the different publics they target.

However, there is in particular one important aspect to be noted: the relevance in the industrial supplier–client relations of the emotional value and the social value. Traditionally relations in industrial markets have been considered merely rational due to the complexity in the decision-making by the considerable magnitude, sometimes, of the purchase to be made. However, the results of the study reveal that emotional and social aspects have a notable weight in this decision-making, mainly owing to the necessary conjugation of the twofold objectives of companies, an objective of an economic and business character and of a human and personal character. The fact that companies are basically formed by people provides each company with traits and characteristics that differentiate them and, evidently, condition their final evaluation in the purchasing decisions with their suppliers. The ultimate loyalty of the client company is not going to be based solely on the technical supremacy of the product or on its better price conditions. Intangibles elements play and are going to play an important role in this.

Therefore, companies must be able to work in this triple sense. Employees who for their functions must interrelate with other companies must at least be equipped with training on this point. On the one hand technical training, in the products and services that the company offers. Technical characteristics, characteristics of use, installation and operation, among others, must be expected of them. On the other hand, they must be equipped with human training, understood as the ability to develop interpersonal relations, social sensitivity, respect for people and integration in a work group. And they also need to receive training in order to raise their awareness of environmental issues and business ethics. Of how they can affect, on an external level, the negative image of the company in those aspects and how to work to improve it constantly. And finally, specific training is required in their work specialty The training provided by studies and experience that the person contributes to a given position must be joined to ongoing training, in order to be able to incorporate and understand the new advances that occur continuously in each subject. Finally, good knowledge of enterprise, vision, mission, culture and values enables them, in short, to contextualise all this knowledge in the environment in which they must develop this knowledge.

REFERENCES

[1] Anderson, J.C.; Jain, D.C. and Chintagunta, P.K. (1993): "Customer Value Assessment in Business Markets: A State-of-Practice Study", Journal of Business to Business Marketing, vol. 1, nº 1, pp. 3-30.

[2] Baxtera, R. and Matear, S. (2004): "Measuring intangible value in business-to-business buyer–seller relationships: An intellectual capital perspective", Industrial Marketing Management vol. 33, nº 7, pp 491– 500.

[3] Bagozzi, R.P. and Yi, Y.(1988): "On the Evaluation of Structural Equation Models". Journal of the Academy of Marketing Science, vol. 16, nº 1, pp. 74-94.

[4] Bagozzi, R.P.; Yi, Y and Phillips, L.W. (1991): "Assessing construct validity in organizational research". Administrative Science Quarterly, 36, pp. 421-458.

[5] Bigné, J. E.; Moliner, M.A. and Callarisa, L. J. (1998): "El Concepto Valor y el Marketing Relacional", AEDEM, XII Congreso Nacional VIII Congreso Hispano-Francés, La creación de Valor en un Mercado Global, Proceedings, pp. 43-51.

[6] Bigné, J. E.; Moliner, M. A.; Callarisa, L. J. (2003): "El valor y la fidelización de clientes", Revista Europea de Dirección y Economía de la Empresa, vol. 9, nº 3, pp. 65-77.

[7] Brown, J.R.; Lusch, R.F. and Nicholson, C.Y. (1995): "Power and Relationship Commitment: Their Impact on Marketing Channel Member Performance", Journal of Retailing, vol. 74, nº 4, pp. 363-392.

[8] Butz, H.E. Jr and Goodstein, L.D. (1996): "Measuring Customer Value: Gaining the Strategic Advantage", Organizational Dynamics, vol. 24, winter, pp. 63-77.

[9] Camarero, M. C. and Gutiérrez, J. (2000): "Propuesta de un modelo explicativo de las relaciones a largo plazo entre empresas ", Revista Europea de Dirección y Economía de la Empresa, vol. 9, nº 3, pp. 89-111.

[10] Eggert, A and Ulaga, W. (2002): "Customer Perceived Value: A Substitute for Satisfaction in Business Makets?, Journal of Business and Industrial Marketing, vol. 17, n° 2/3, pp. 107-118.

[11] Ganesan, S. (1994): "Determinants of Long-Term Orientation in Buyer-Seller Orientation in Buyer-Seller Relationships", Journal of Marketing, vol. 58, April, pp. 1-19.

[12] Grewal D.; Monroe, K. and Krishnan, R. (1998):" The Effects of Price-Comparison Advertising on Buyers' Perceptions of Acquisition Value, Transaction Value, and Behavioral Intentions ", Journal of Marketing, vol. 62, nº 2, April, pp. 46-59.

[13] Gwinner, K.; Gremler, G. and Bitner, M.J. (1998): "Relational Benefits in Services Industries: The Consumer's Perspective", Journal of The Academy of Marketing Science, vol. 26, nº 2, pp. 101-114.

[14] Hair, J.F. Jr.; Anderson, R.E.; Tatham, R.L. and Black, W. C. (1999). Análisis multivariante. 5th edition. Madrid: Prentice Hall.

[15] Hinterhuber, A. (2004): "Towards value-based pricing. An integrative framework for decision making", Industrial Marketing Management vol. 33, nº 8, pp. 765– 778.

[16] Lam, S.Y.; Shankar, V.; Erramilli, M.K. and Murthy, B. (2004): "Customer Value, Satisfaction, Loyalty, and Switching Costs: An Illustration from a Business-to Business Service Context", Journal of Academy of Marketing Science, Vol. 32, nº 3, pp. 293-311.

[17] Monroe, K.B. (1990): Pricing: Making Profitable Decisions, Nueva York: McGraw-Hill.

[18] Nguyen, N. and LeBlanc, G. (2001): "Corporate Image and Corporate Reputation in Customers' Retention Decisions in Services", International Journal of Retailing and Consumer Service, vol. 8, nº 4 , pp. 227-236.

[19] Robinette, S.; Brand C. and Lenz, V. (2001): Emotion Marketing. The Hallmark Way of Winning Customer for Life, McGraw-Hill. Versión en español: Marketing Emocional. El método de Hallmark para ganar clientes para toda la vida, 2001, Barcelona, Ed. Gestion 2000.

[20] Price, L.; Arnauld, E. and Deibler, S.L. (1995): "Consumers' emotional Responses to Service Encounters. The influence of the Service Provider", International Journal of Service Industry Management, vol. 6, nº 3, pp. 34-63.

[21] Schmitt, B.H. (1999): Experiential Marketing, The Free Press. Versión en español: Experiential Marketing. Cómo conseguir que los clientes identifiquen en su marca: Sensaciones, sentimientos, pensamientos, actuaciones y relaciones, 2000, Ed. Deusto S.A., Bilbao.

[22] Sheth, J.N.; Newman, B.I. and Gross, B.L. (1991a): Consumption Values and Market Choice. Cincinnati, Ohio: South Western Publishing.

[23] Sheth, J.N.; Newman, B.I. and Gross, B.L. (1991b): "Why We Buy What We Buy: A Theory of Consumption Values", Journal of Business Research, vol. 22, March, pp. 159-170.

[24] Sheth, J.N. and Parvatiyar, A. (2002): "Evolving Relationship Marketing into a Discipline", Journal of Relationship Marketing, Vol. 1, n° 1, pp 3-16.

[25] Shipley, D.; Egan, C. and Edgett, S. (1991): "Meeting Source Selection Criteria: Direct Versus Distributor Channels", Industrial Marketing Management, vol. 20, pp. 297-303.

[26] Storbacka, K; Stranvick, T.; Grönroos, Ch. (1994): "Managing Customer Relationships for profit: The Dynamics of Relationship Quality", International Journal of Service Industry Management, vol 5, nº 5, pp. 21-38.

[27] Sweeney, J.C.; Soutar, G. and Johnson, L.W. (1999): "The Role of Perceived Risk in the Quality-Value Relationship: A Study in a Retail Environment", Journal of Retailing, vol. 75, nº 1, pp. 77-105.

[28] Sweeney, J.C. and Soutar, G. (2001): "Consumer Perceived Value: The Development of Multiple Item Scale", Journal of Retailing, vol. 77, nº 2, summer, pp. 203-220.

[29] Ulaga, W. and Eggert, A. (2003): "Developing a Estándar Scale of Relationship Value in Business Markets: Development of a Measurement Scale", 17th Annual IMP Conference Proceedings, e-publication, pp. 1-38.

[30] Villafañe, J.(2003a): The MERCO Survey of Top Companies in Spain, Los Grandes Bloques de la Reputación Corporativa y la Confianza Pública, Foro de Reputación Corporativa, A Eurpean Forum, Madrid, 6-7 March.

ANNEX 1. Model measurement scale
FUNCTIONAL VALUE
TECHNICAL QUALITY OF THE PRODUCT
LASTING QUALITY OF THE PRODUCT
The reliability of the purchased products increases over the years
The quality of the products acquired from the supplier increases over the years
The efficiency obtained in time with the acquired products is a determining factor for its acquisition
TECHNICAL QUALITY OF THE PRODUCT
The technical specifications of products by the supplier are appropriate for the products we are offered
The supplier company offers me the best products
The products acquired from the supplier are easy to use
QUALITY OF COMPANY SERVICE
TANGIBILITY-TECHNICAL COMPETENCE
Our main supplier is very creative and innovative in the products and services offered
Our main supplier stands out for its special expertise in its activity in the sector
Our main supplier stands out for the way it uses new technology to generate solutions
Our main supplier stands out for its capacity to provide systematic solutions in response to our problems
Our main supplier stands out for its capacity to demonstrate broad knowledge of the processes in our business
Generally speaking, the appearance of our supplier's physical installations and employees is pleasant and clean
Generally speaking, our main supplier company concerns itself in understanding and addressing our needs
RELIABILITY
The main supplier company provides us with fast and agile service
Our main supplier stands out for its ability to do things well right from the start
Our main supplier company scrupulously meets the dates of order deliveries or for the performance of agreed services
Our main supplier's invoices are exact and clear
The main supplier company knows how to treat our claims.
SAFETY
For our company the accuracy of our supplier's information is very important
For our company it is very important that the supplier keeps the promises made
For our company the technical consulting provided by the supplier for the management of our business is very important
QUALITY OF THE SERVICE BY EMPLOYEES
Generally speaking, the employees of our main supplier company provide me with reliable and consistent service
Generally speaking, the employees of our main supplier company are competent and professional
Generally speaking, the employees of our main supplier company are accessible and is easy to contact
Generally speaking, the employees of our main supplier company behave politely and respectfully
SACRIFICES
MONETARY SACRIFICE
Our main supplier has a reasonable price
The main supplier company offers us the best discounts and payment terms
It has a good quality-price relation
The price it offers is influenced by market competition

CONVENIENCE (time, effort, energy)
The number of visits or encounters that our employees have with the main supplier's employees is important for the good development of the relations between both parties
The negotiation effort with the supplier's employees to reach an agreement is appropriate
The time and effort invested in training of a part or of all our employees in the products and services of the main supplier company are appropriate
The main supplier is able to provide us with the required services or desired products whenever we need them
REPLACEMENT COSTS
Replacing the main supplier would involve important effort and time for our company for the necessary adaptation in products and services
For our company it is very important to continue the relation with this supplier
SOCIAL VALUE
SOCIAL IMAGE
Our main supplier company has a reputation for good social behaviour
I consider that our main supplier company behaves ethically with its clients and employees
I generally pay attention and read all the information that our main supplier sends me
Our supplier company participates actively in social events
REPUTATION
The general credibility of our main supplier helps improve our company image
The general reputation of our main supplier matches the company image we wish to offer
The relation with our main supplier company improves the social perception held of our company
EMOTIONAL VALUE
EXPERIENCE
The ease of use of our main supplier's products/services encourages the desire to use them
The experience with the supplier seems to us a determining factor in the relation with the supplier
Generally speaking, our supplier knows in advance what we need EXPERIENCE
Our main supplier's experience enables it to offer the best advice
That supplier is an expert in its field
CUSTOMISED TREATMENT
Our supplier's employees recognise to me when I have dealings with them
At the supplier company they know my name
INTERPERSONAL RELATIONS
The relations with our main supplier are pleasant
Ties of friendship have developed between the employees of the main supplier company and ours when they have visited us or we needed to visit them
The relations and the dealing with the our main supplier company's employees are pleasant
Generally speaking, dealing with the main supplier company produces positive feelings in us, which I believe we would not have if we did not have contact with it
The evolution of the relation with our supplier seems positive to us