Original Article

An investigation of the influence of consumer value on service elements' contributions to satisfaction

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ABSTRACT The purpose of this study is to increase the understanding of how service elements contribute to consumer satisfaction by examining customer psychological segmentation. The author conducted an empirical investigation using a sample of 184 customers in the health and fitness industry, and applied the tetra-class model developed by Llosa (1996) in order to identify the contribution service elements make to satisfaction and to confirm the relevance of the logic of the four contributions. It then compared the service elements' contributions by applying and extending the framework of Poubanne *et al.* A comparative analysis showed that the nature and intensity of consumption value strongly influence the role of service elements, which reinforces the necessity to consider consumers' satisfaction and consumption value simultaneously.

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INTRODUCTION

This study aims to increase the understanding of the amount different service elements contribute to consumer satisfaction. This is justified by managers' increasing concerns about the continuity and development of their organisations, as consumer satisfaction is generally a principal goal for service organisations, for which it represents a trigger for positive organisational outcomes.

The academic literature dealing with the service industry in general highlights such positive consequences of consumer satisfaction as positive behavioural intentions, repurchasing behaviour, positive word of mouth, higher frequentation and customer loyalty.[1–4] However, although consumer satisfaction appears to be a main objective for service organisations, the precise role that service attributes or elements play in it is still misunderstood. Specifically, service managers face the problem of determining the exact impact on consumer satisfaction of each attribute of their service, such as their facilities' cleanliness, staff competence and price.

The tetra-class model developed by Llosa[5] is an accurate tool for classifying service elements according to their impact on consumer satisfaction, and has been used by numerous researchers and applied to numerous service industries. However, according to Moutte[6] and Poubanne *et al*,[7] service-element categorisation

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based on the elements' contributions to consumer satisfaction presents limited outcomes when an overall population is investigated. Therefore, because managerial concerns are often complex as a result of the heterogeneity of service consumers, it appears necessary to categorise the elements' contributions to satisfaction in regard to different consumer-market segments. From this perspective, it seems that a particularly accurate way to segment service consumers would be to do it based on the nature and intensity of the value that the consumption experience represents for them, because this may affect the elements' contributions to satisfaction.

Following the seminal work of Holbrook and Hirschman,[8] the concept of consumer value has been increasingly studied, particularly for the cultural and leisure industries. This study has chosen the sport service industry because all the variables investigated appeared to be extremely relevant and to correspond to both managerial and academic stakes.[9]

From a general perspective, this study follows those frameworks that aim to understand consumer behaviour in service-based industries better through a deeper understanding of the role played by service offerings' different elements. Theoretically, it aims to extend the use of segmentation analysis in relation to the tetra-class model and to highlight the importance of consumer value when analysing customer satisfaction. From a managerial perspective, it aims to help sport service managers who are facing increasing turnover and dangerous reductions in the number of their members, and who see customer satisfaction as a key element of their new relational marketing approach.

THEORETICAL BACKGROUND

Definition and conceptualisation of consumer satisfaction

Evrard[10] found that consumer satisfaction is a psychological and relative state that follows consumption because it relies on a comparison between a lived subjective experience and an initial basis of reference from before consumption. Satisfaction mainly results from a cognitive process integrating affective elements.[11,12]

Anderson *et al*[13] identified two types of satisfaction. From a relationship perspective, Bitner and Hubbert[14] defined overall satisfaction as a cumulative evaluation of all encounters and experiences between a customer and a supplying organisation. Transaction-specific satisfaction refers to specific service encounters, and Olsen and Johnson[15] found that transaction-specific satisfaction may be determined mainly by focusing on consumers' emotional reactions to specific service attributes or service encounters, and suggested that firms link the performance of precise service elements or variations to specific psychological responses. However, overall satisfaction seems to be a better predictor of customer intentions and behaviours.[15] According to Johnson,[16] these perspectives seem to be more complementary than competitive, and should therefore be investigated simultaneously, as they do not respond to the same managerial objective-based behaviour.

The classical definition of the consumer-satisfaction formative process relies on the work of Oliver[11,12] and the expectations disconfirmation paradigm. This conception holds that individuals compare their expectations of an offer and the performance as they actually perceive it; the comparison between consumers' standards and their perceptions of service providers' performances then form their condition of being satisfied or dissatisfied.

Rust and Zahorik[17] noted that numerous researchers have also held that satisfaction judgments in regard to specific attributes of a service should be considered when consumer satisfaction and switching behaviours are at stake. Indeed, consumers perceive some service elements to be more important than others in determining both their overall satisfaction and their intentions towards whether to repurchase.[18] Furthermore, from the standpoint of both loyalty and attracting new customers, managers have to be able to focus their efforts or investments on those service elements or dimensions that carry the most weight in consumers' minds.

The identification of service elements' contributions to satisfaction

Ray and Gotteland[19] noted that one of the major criticisms of the disconfirmation paradigm involves the supposed symmetry of the contributions of individual service attributes to satisfaction and dissatisfaction. This criticism is based on the bi-factorial theory developed by Herzberg *et al*,[20] which holds that the factors that form satisfaction at work are independent and different from those that form dissatisfaction. These psychological states can therefore not be strictly opposed. The opposite of satisfaction is not dissatisfaction, but rather the absence of satisfaction or non-satisfaction. Ray and Gotteland[19] noted that numerous authors like Japanese researchers Kano *et al*[21] then further developed Herzberg *et al*'s theory.

As service elements do not all have the same impact on consumer satisfaction or dissatisfaction, Bartikowski and Llosa[22] identified two possible scenarios. In the first, service attributes steadily influence satisfaction to the same degree, which the authors called *invariant contribution weight*. Llosa[5] called service attributes that always have a strong impact on consumer satisfaction *critical* or *key* attributes, and those that always have a slight impact on consumer satisfaction *neutral* or *secondary* ones.

In addition, some attributes' contributions to consumer satisfaction are performance-related, making their influence on satisfaction variable, which Bartikowski and Llosa[22] called the *variant contribution weight* scenario. Some attributes, called *satisfiers* or *plus* attributes, contribute strongly to satisfaction only when their performance is positively evaluated, and contribute only slightly to dissatisfaction when they are negatively evaluated. Conversely, some attributes, called *dissatisfiers* or *basic* attributes, contribute strongly when they are evaluated negatively, and contribute only slightly to satisfaction when they are evaluated positively.

Bartikowski and Llosa[22] identified several methods for the identification of specific service attributes' contributions to satisfaction. After listing the advantages and shortcomings of each method, they estimated that a method developed by Llosa[5] is the most accurate, as it respects the particularities and nature of the satisfaction concept by asking consumers about services they have actually experienced, and by taking into consideration the performance of attributes in comparison with each other. The main shortcoming of this method is that it evaluates the contributions at the aggregate level of the entire sample and does not provide for the individual classification of the service attributes' contributions.[23] Nonetheless, Ray and Gotteland[19] found that Llosa's method presents such advantages as the ability to use ordinal variables, a robust classification mode, an ability to take into consideration interactions between individuals, and easiness of reading results. Nevertheless, Ray and Gotteland recognised that the method presents a limited convergent validity, which is also a feature of the other methods they evaluated.

Llosa's[5,22,24] method is called the *tetra-class model*. It categorises service attributes' contributions to overall satisfaction based on correspondence analysis. It applies a factorial analysis of correspondence to a contingency table that gathers an overall satisfaction measure's two modalities of satisfaction and dissatisfaction and a service attribute's performance's two modalities of positive and negative. The technique allows 'figuring both consumer satisfaction and the two modalities of attribute performance on a single factorial axis', which explains 100 per cent of variance[22] (p. 73).

The more that service attributes are positioned on the extremity of this satisfaction axis, the more they contribute either positively or negatively to overall satisfaction; a folding of the axis then allows the categorisation of the service attributes into the four categories of key, secondary, basic and plus by the positioning of their points on the map.[5,22,24]

Such studies as those by Bartikowski and Llosa,[22] Bodet,[25] Clerfeuille and Poubanne,[26] Lichtlé *et al*,[27] Poubanne *et al*,[7] Ray and Gotteland[19] and Sabadie *et al*[28] have used this method and confirmed the existence of its four types of service-attribute contributions in such different sectors as catering services, medical and

veterinary services, insurance services, energy-provision services, bank services, sport services and food retail stores.

Service experience and consumption value

Cronin *et al*,[2] who were interested in the development of favourable behavioural intentions for organisations, found it necessary to focus on consumer satisfaction in relation to the value the consumption represents for consumers, as satisfaction from low-value consumption is unlikely to produce positive organisational outcomes. Woodruff[29] similarly estimated that an accurate knowledge of consumer value constitutes a required condition for a better understanding of consumer behaviour.

Numerous studies have agreed on the importance of consumer value in analysing the relationship between consumers and consumption objects, whereas some are more interested in the link between the two major concepts of consumer satisfaction and value. Although some consider satisfaction to be an antecedent of consumer value, the majority have found consumer value to be an antecedent of consumer satisfaction, either for consumer exchange value[2,30,31] or for consumer relational value.[32–34]

Aurier *et al*[35] identified two types of consumer value. The first focuses on a service's global value from an exchange perspective, whereas the second focuses on consumption value, which addresses the field of consumption or possession experiences. From this second perspective, Holbrook and Corfman[36] defined relational value as an interactive relativistic preference experience that characterises a subject's experience of interacting with an object.

Evrard and Aurier[37] identified seven components of consumer value: hedonism, stimulation, social practice, sign, social link, information search and subjective expertise. They defined hedonism as the ability of the consumption experience to provide pleasure or to generate interest; stimulation as the ability of the consumption experience to be extraordinary or attractive; social practice as the social context of consumption that 'corresponds to preferences for solitary versus convivial experience' (p. 129); sign as the consumption's ability to provide consumers with a particular image or a symbolic status; social link as the consumption's ability to encourage inter-individual relationships; information search as the instrumental function of the consumption; and subjective expertise as a need for knowledge and structuring of the environment. They developed this conceptualisation of consumer value for such forms of leisure consumption as going to the cinema, and inspired several studies involving cultural and leisure contexts.[35,38,39]

Following on from this work, this study aims to determine whether the nature and intensity of consumption-experience value influence service elements' contributions to overall satisfaction.

METHODOLOGY

Industry selection

This study opted for the sport-service industry because, despite a huge amount of heterogeneity among the different sport-service organisations in terms of legal status, economic and organisation goals, services offered, resources and number of consumers, it is experiencing intense mutations in consumer demand that represent perilous threats for sport-industry organisations. More precisely, customers of sport services, as in numerous economic sectors, have became changeable, complex, plural and channel-zapping, and seem to be unsatisfied with the basic services and consumption patterns offered up until now.

Managerial strategies in the industry, which traditionally have essentially focused on attracting new customers, have tended to be replaced by a new relational approach oriented toward consumer loyalty and satisfaction, at least in those organisations benefiting from stronger managerial cultures. Moreover, the concept of consumer value appears particularly relevant in our context because of the plurality of sought and lived recreational sport experiences. Indeed, contemporary participants/consumers look to experience through sport consumption, either exclusively or extraordinarily, hedonic, fun, authentic, self-determined, stimulating, social

and friendly experiences,[40–42] leading to the fitness industry's selection for this study. Even if the specific managerial outcomes are mainly embedded in the industry itself, the methodology used and the theoretical problems addressed aim to cover all service industries.

Data collection

In order to answer the research question, the author conducted a two-step data collection process combining both qualitative and quantitative steps, following Lichtlé *et al.*[27] Before starting the presentation of the different steps, it must be noted that the author conducted the scale validation procedure on an overall sample of 252 individuals, recruiting sport-service consumers from both for-profit commercial businesses and not-for-profit organisations. However, the analysis of the service elements' contributions is based on a sample composed of 184 consumers of only commercial organisations.

The author first conducted a qualitative step in order to generate and identify the different elements that compose the services offered by commercial fitness clubs and that influence consumer satisfaction. He then conducted 12 semistructured interviews of current consumers of such clubs. The semantic saturation criterion determined the number of interviews. The interview guide was then elaborated from Lichtlé *et al*'s[27] categories of the different elements of the service process, as defined by Langeard *et al.*[43] This step enabled the construction of a list of 44 items composing the commercial fitness offer.

A questionnaire was then developed to gather measurements of overall satisfaction, of each service element's performance, and of consumption value, in addition to questions addressing behavioural and socio-demographic characteristics. Next, the scale for overall satisfaction developed by Oliver[11] was selected. Overall satisfaction with a relationship depends on all past experiences and interactions with the organisation, taking into account that the most recent encounter is fresh in the consumer's mind.

The participants rated all five items on a seven-point Likert-type scale. The questionnaire expressed the perceived performance of each of the 44 items issued from the qualitative step in a favourable manner, as Lichtlé *et al*[27] advocated, and invited the consumer respondents to rate their degree of agreement with each statement.

A scale measuring consumption value from a relational perspective developed by Evrard and Aurier[37] in the context of cinema consumption was selected, as both the cinema and sport-service industries belong to the overall cultural and leisure industry category. Although these authors empirically validated six out of seven dimensions, the initial scale was used because the deleted dimension, social practice, appeared to be particularly relevant in the context of this study. The respondents evaluated all consumption-value dimensions on a seven-point Likert-type scale.

Sample profile

The commercial fitness clubs selected for this study were located in or near a French city of approximately 300 000 inhabitants. Eleven clubs were registered in the area and six of them agreed to participate in the survey. The final sample appeared to be exhaustive and representative, as it included all the club profiles in the French commercial fitness market, as described by Bessy.[44] These are a club franchised to a national chain, an upmarket club, three intermediary centres and a local club. Club staff members, who were coached and briefed, distributed and collected the questionnaires, as several managers required this procedure. They distributed the questionnaires to their members when they were signing themselves in and explicitly told them to fill them in at the end of their session. In the end, 184 questionnaires were usable.

The sample's demographic characteristics were in line with such studies conducted on the French market as those of Bessy[44] and Tribou,[45] which found that the typical exercise-industry consumer is a young, urban, single middle or upper class woman.

DATA ANALYSIS

The construction of the tetra-class model requires a contingency table upon which a factorial analysis of correspondences is applied. In order to

build the contingency table, both the overall and service-elements measures of satisfaction must be available.

Then, in order to create the two modalities of overall satisfaction, satisfied and dissatisfied, the psychometric quality of the overall satisfaction scale was first tested for unidimensionality using an exploratory factor analysis and the minimum average partial (MAP)[46] and parallel analysis (PA) tests.[47] According to Zwick and Velicer,[48] Kayser's[49] eigenvalues-greater-than one rule often overestimates and sometimes underestimates the number of factors. Therefore, O'Connor[50,51] suggested applying the MAP and PA tests complementarily.

The PA test consists of generating a series of random data matrices (1000 in this study) and then comparing the eigenvalues obtained for both generated and original data.[52] Although Horn[47] used the mean eigenvalues as the comparison baseline, O'Connor[50] estimated that a consensus had been found around the use of the 95th percentile of the distribution of random-data eigenvalues. Factors may then be retained as long as the eigenvalues from the original data are greater than the value corresponding to the 95th percentile of the random data.[50]

In regard to the overall satisfaction scale, the MAP and PA tests confirmed the scale's unidimensionality. Two items were then removed from the initial five because they contributed insufficiently to the main component. The two deleted items were the reversed ones, corroborating the findings of Herche and Engelland,[53] who found that reversed items often spoil scales' unidimensionality. A unique factor then retained 82.9 per cent of the initial variance with a 0.88 alpha Cronbach value.

The two modalities of overall satisfaction required for the contingency table were built on the mean score for overall satisfaction (mean = 6.250, SD = 0.909), used as a cutting point. All values superior to the mean corresponded to satisfaction and vice versa, although Llosa[5,24] used the Automatic Interaction Detection (AID) method developed by Morgan and Sonquist.[54] This segmentation criterion was selected because it takes into account the normative dimension of the market, which represents an essential element when satisfaction levels are analysed.[55] In regard to the elements' perceived performance, a rating from 1 to 3 was considered to be a negative, neutral or both negative and neutral performance, and ratings of 4 and 5 as corresponding to a positive performance. Lichtlé *et al*[27] and Llosa[24] used this method previously.

A factorial analysis of correspondences was then applied on the contingency table, which allowed the categorisation of the key, secondary, basic and plus modes of the service elements' contributions to overall satisfaction. Each service attribute was then represented by a point on a map. The x-coordinate, a point attribute, represented the contribution to dissatisfaction and the y-coordinate represented the contribution to satisfaction. The vertical and horizontal lines passing through zero defined the borders of each category.[5]

Consumer-value segmentation

Before segmenting the sample into different consumer-value groups and applying the tetra-class model to each of them, the measure of consumer value was first validated. Evrard and Aurier's[37] original scale gathered seven dimensions, with 1 out of 21 items not empirically validated. The MAP and PA tests previously used for the overall satisfaction measure and an exploratory factor analysis did not validate the seven dimensions, and only three factors constituted 65.1 per cent of the initial variance.

Among the seven initial dimensions, the social-practice dimension, which Evrard and Aurier[37] did not originally validate, failed to present a sufficient internal consistency to be maintained (<0.6). The subjective-expertise dimension was discarded in this study for the same reason. The author only validated two measurement items for this dimension, but he found that the low internal consistency might have resulted from the research context. The hedonism dimension was also discarded, because even though the items had a satisfying internal consistency, they were spread over several dimensions.

The final validated scale retained 10 items corresponding to three dimensions. The sign and stimulation dimensions were clearly remaining, although the items of the social-link component and the information-search dimension defined the third dimension. Aurier *et al*[35] found a strong correlation between these two dimensions. In the context of this study, it seems as if speaking with other participant consumers about sport practice refers to both a will to share and a desire to improve knowledge.

A confirmatory factorial analysis (CFA) based on structural equation modelling and using the maximum likelihood method of the SEPATH module of Statistica software was then conducted. A minimum ratio of 15 observations per estimated parameter was satisfied and a bootstrap procedure over 500 replications was conducted. The CFA confirmed the relevance of the purified scale of consumer values, presenting satisfying goodness-of-fit indexes and significant factorial contributions with a 5 per cent risk of error (t>1.96) (Tables 1, 2).

In regard to the validity of the scale, all internal consistency indicators were satisfying because all the Jöreskog's indicators were superior to 0.7. Convergent validity indicators were calculated based on the formula provided by Hair *et al*.[56] A convergent validity indicator describes the share of variance captured by each construct and has to be superior to 0.5 in order to be superior to the variance explained by the measurement error.[56] The convergent validity indicators were superior to 0.5 for the stimulation and sign dimensions, although only approximately 0.43 for the social-link dimension. Although this result failed to match the expectations, it is acceptable for Fornell and Larcker's[57] (p. 46) as the Jöreskog's indicator was good because the convergent validity indicator is a more conservative measure. In regard to the discriminant validity, the convergent validity indexes were all superior to the correlations square for the three constructs, which means that all the dimensions were statistically distinct. The consumer-value measure was then used to segment the sample (Table 3).

In order to satisfy managerial concerns as much as possible, a typological analysis was conducted on the sample in order to construct homogeneous segments for individuals and heterogeneous segments between groups. Additionally, two methods were combined in order to validate the typology created: an ascendant hierarchical analysis and the K-means method.

Table 1: Consumer value scale goodness-of-fit indexes

χ^2	*GFI*	*AGFI*	*Γ1*	*Γ2*	*RMSEA*	*NFI*	*TLI*	*CFI*	*Normalized* χ^2 (χ^2/dl)
77.673	0.942	0.901	0.966	0.942	0.074	0.900	0.912	0.938	2.427
P<0.000	>0.9	>0.9	>0.9	>0.9	<0.08	>0.9	>0.9	>0.9	<5

Table 2: Consumer value factorial structure, internal consistency and convergent validity

Dimensions	*Items*	*Coefficients*	*t*	ρ *j*	ρ *vc*
Stimulation	STIMU1	0.779	18.953	0.813	0.524
	STIMU2	0.773	14.996		
	STIMU3	0.601	8.949		
	STIMU4	0.729	12.397		
Sign	SIGN1	0.560	9.44	0.738	0.600
	SIGN2	0.941	22.729		
Social link	SOLIN1	0.746	15.376	0.747	0.427
	SOLIN2	0.678	12.421		
	INFOR1	0.584	9.519		
	INFOR2	0.592	10.821		

Table 3: Consumer value-scale discriminant validity (correlations squares and indexes of convergent validity in bold)

	Stimulation	*Sign*	*Social link*
Stimulation	**0.524**		
Sign	0.117	**0.600**	
Social link	0.315	0.248	**0.427**

Table 4: Average consumer value scores per segments

Dimensions	*Group 1*	*Group 2*	*Group 3*	*Group 4*
Stimulation	3.28	6.04	5.79	5.86
Sign	2.00	5.00	2.65	2.11
Social link	3.70	5.87	3.56	5.52

Ascendant hierarchical analysis relies on Ward's procedure, which is based on the square of Euclidian distance. Because the decision-making criterion for determining the number of relevant groups with ascendant hierarchical analysis is flexible, the K-means method needed to be utilised. The specification of the number of groups was based on the results of the ascendant hierarchical classification. Four groups were finally identified. These consisted of groups that gather consumers (a) with a low value on each dimension, (b) with a high value on all the dimensions, (c) with a high stimulation-exclusively value and (d) with high social-link and stimulation consumption values and a low sign value. According to this classification, consumers present high social-link and sign values exclusively (Table 4).

The first segment, termed *low value*, included 30 consumers; the second segment, termed *high-value*, included 62; the third segment, termed *stimulation only*, included 39; and the fourth segment, termed *stimulation and social link*, included 50 consumers. The tetra-class model was then applied to determine each element's contribution to each of the four created segments.

Only one change of contribution for one attribute is required in order to validate the research proposal that consumer value influences service attributes' contributions to satisfaction. The first step consisted of analysing the categorical variability by identifying the number of attributes per mode of contribution and determining which attributes make a steady contribution to the different segments and which ones do not. However, because the unique observations of the changes overemphasise inter-category changes, the analysis was completed by taking into account the intra-category variations susceptible to providing a more accurate understanding of the differentiation tendencies or dynamics.

The Euclidian distance[58] between the positions of the same attribute on two different maps that corresponded to two different segments was therefore calculated. This indicator highlights the largest modifications independent of a change of category. The average Euclidian distance calculated between two maps was also considered, which provided an index of proximity between them and then between two segments. The higher the average distance between the points of two distinct maps, the more dissimilar the patterns of service-element contributions to overall satisfaction.

The significance of the categorical changes was then estimated using the indicators developed by Poubanne *et al*.[7] From the crossed tables representing the repartition of each service attribute according to the type of categorisation, the χ^2 independence test showed the degree of association between the different consumer value segments. Indeed, as Poubanne *et al*[7] noted, if the tetra-class categorisation is so unstable as to validate the independence of the segments, the use of the model can no longer be justified. The Phi coefficient, whereby the closer to one the index is the stronger the association is, and the adjusted deviation statistic also completed the analysis of transfer significance. As Poubanne *et al*[7] noted, superior absolute values of two standard deviations show a significant change.

RESULTS

Over the four segments created, groups one (low value) and three (stimulation exclusively) failed to show the four types of contribution defined by Llosa,[5] because no *plus* attributes were found. Table 5 shows the repartition of segments and categories, and Table 6 shows all the

categorisations of segments and service attributes (see Appendixes A, B, C and D for each group's classification).

Table 5: Service elements' distribution per category and per group

Categories	*Group 1*	*Group 2*	*Group 3*	*Group 4*
Basic	16	14	15	8
Key	8	10	4	7
Plus	0	1	0	8
Secondary	20	23	25	21

The hypothesis of the independence of the segments' one and two categories is rejected with a χ^2 of 16.22 and a risk inferior to 5 per cent. It can be observed that 26 service attributes out of 44 (59 per cent) did not switch between segments one and two, and that the Phi coefficient is 0.61. However, three basic attributes for segment one became secondary for segment two, which constitutes a significant change with an adjusted deviation superior to two standard deviations. Regarding the positioning of the service elements, staff

Table 6: Service element categorisation and stability

Service elements	*Group 1*	*Group 2*	*Group 3*	*Group 4*
Individual monitoring	SEC	KEY	SEC	KEY
Odors	SEC	PLU	SEC	PLU
Outside of the club	SEC	KEY	SEC	PLU
Access	SEC	SEC	SEC	SEC
Outdoor activities	SEC	SEC	SEC	SEC
Outdoor sport activities	SEC	SEC	SEC	SEC
Consumer physical abilities	SEC	SEC	SEC	SEC
Queuing moments	KEY	SEC	SEC	SEC
Swimming and water spa equipments	SEC	SEC	SEC	SEC
Equipments' choice	SEC	SEC	SEC	SEC
Equipments' availability	KEY	SEC	SEC	SEC
Equipments' layout	SEC	KEY	SEC	SEC
Showers	BAS	SEC	SEC	SEC
Equipment information	BAS	KEY	SEC	SEC
Loyalty rewards	KEY	SEC	SEC	SEC
Number of present consumers	SEC	SEC	BAS	SEC
Opening hours	SEC	BAS	BAS	SEC
Quality of collective courses	SEC	SEC	SEC	BAS
Recall of membership ending	SEC	SEC	SEC	SEC
Service recovery	SEC	SEC	SEC	PLU
Renewing of collective courses	SEC	SEC	SEC	PLU
Food supply	SEC	SEC	SEC	SEC
Changing rooms	BAS	SEC	BAS	PLU
Number of instructors	BAS	KEY	BAS	PLU
Fees	KEY	KEY	KEY	KEY
Quality/price ratio	KEY	KEY	KEY	PLU
Cleanliness	BAS	BAS	KEY	KEY
Temperature	KEY	BAS	KEY	KEY
Club standing/reputation	KEY	KEY	BAS	BAS
Staff friendliness	SEC	BAS	SEC	BAS
Club design	BAS	BAS	BAS	BAS
Choice of activities	BAS	BAS	BAS	SEC
Instructors advices	BAS	BAS	BAS	SEC
Staff availability	BAS	KEY	BAS	KEY
Lightning	BAS	BAS	BAS	SEC
Club image	BAS	BAS	BAS	BAS
Service–image consistency	BAS	BAS	BAS	BAS
Consumer involvement	BAS	BAS	SEC	BAS
Music	KEY	KEY	SEC	PLU
Staff helpfulness	SEC	BAS	SEC	BAS
Material quality	BAS	BAS	SEC	KEY
Relationships between members	BAS	SEC	BAS	SEC
Manager's personality	BAS	BAS	BAS	KEY
Club size	KEY	SEC	BAS	SEC

Shading denotes steady contributions.

helpfulness, friendliness and access varied the most between the maps of segments one and two, with a Euclidian distance superior to 1.5. Among these three elements, only the access attribute did not change category. The average Euclidian distance between the positions of the attributes is about 0.79, with a standard deviation of 0.65.

With a χ^2 value of 17.68, the hypothesis of independence between the categories of segments one and three is rejected with a risk inferior to 1 per cent. A total of 30 service attributes out of 44 (68.1 per cent) did not change category, and the Phi index between these two classifications is approximately 0.63. Four basic attributes for group one were secondary for group three. Conversely, two secondary attributes became basic.

These changes appear significant, with an adjusted deviation superior to three standard deviations. The positional differences between groups one and three show that staff helpfulness, opening hours, music and access varied the most, with a Euclidian distance superior to 1.5. Among these elements, staff helpfulness and access did not switch category. The average Euclidian distance between the attributes' positions is approximately 0.65 (SD = 0.57).

With a χ^2 value of 3.1, the hypothesis of the independence of the categories of groups one and four is validated. Sixteen attributes (36.4 per cent) retained the same degree of contribution between the two groups, and the Phi index of association is approximately 0.26. In regard to the position of the attributes, staff helpfulness and collective course quality are the elements that varied the most between categories one and four, and actually changed categories. The average distance between the positions of the attributes was approximately 0.81 (SD = 0.35).

With a χ^2 value of 11.1 ($P = 0.08$), the hypothesis of the independence of categories two and three is rejected. Twenty-three attributes (52.3 per cent) showed a common type of contribution between these two groups. The Phi coefficient is approximately 0.52. Four service attributes categorised as basic for group two are secondary for group three; this represents a significant transfer with an adjusted deviation superior to 2.5 standard deviations. In regard to the attributes' positions, the most important difference involves the contributions of staff helpfulness, friendliness, music and equipment layout, with a Euclidian distance superior to 1.5. All these elements changed category. The average Euclidian distance between the positions of the elements of groups two and three is approximately 0.84, with a standard deviation of 0.89.

The hypothesis of independence is rejected, with a risk inferior to 1 per cent between segments two and four (χ^2 of 28.7). Twenty-five attributes (56.8 per cent) with the same contribution can be observed between the segments, and the Phi indicator is approximately 0.81. However, it can be noted that four attributes categorised as *key* for segment two are categorised as *plus* for segment four. Moreover, two elements categorised as *key* in segment two are *secondary* for segment four. They both represent significant transfers, with an adjusted deviation superior to two standard deviations. In regard to the position of the attributes, the greatest distances involve the elements of consumer involvement, staff friendliness and instructors' advice. Among these, only the last changed category. The average distance between their positions on the two maps was approximately 0.68 (SD = 0.54).

Finally, with a χ^2 value of 13.8, the independence hypothesis is rejected with a risk inferior to 5 per cent between segments three and four. Twenty-one (47.7 per cent) elements did not change category, and the Phi coefficient of association was approximately 0.56. The attributes that varied the most between the maps of groups three and four were staff helpfulness, consumer involvement, opening hours and music, which changed category. The average distance between their positions on the two maps was approximately 0.84 (SD = 0.71).

These results show that service elements contribute differently to consumer overall satisfaction when the nature and degree of consumer value are analysed. Therefore, this study's research proposal is validated.

DISCUSSION

Several variations of service-element contributions emerged in regard to the different segments' consumption values. Segment one, which was composed of consumers with low consumption value, was the smallest. Because these individuals did not consider their consumption to have a high value in terms of stimulation, social link and sign, they must have regarded it as having a high utilitarian value. If the concept of utilitarian value is obvious when dealing with classical services, it is more complex in the field of sport and recreational-service consumption because, by definition, recreation is the consumption's utility. Nevertheless, in some sport practices, and in the health and fitness industry in general, different types of utility can be involved. Indeed, some sport participants join clubs in order to complete a physical fitness programme, while for others the utility may be related to medical purposes or, more generally, to the desire to lose weight, keep fit or both.[42] Finally, as Crossley[42] noted, some consumers go to some gym sessions in order to 'see specific others whose services or skills (for example, as a mechanic, joiner or financial adviser) they might require' (p. 37). However, it is hard to imagine that this would constitute a long-term motivation for joining or continuing to go to a club.

In regard to the service-element contributions for segment one, the key attributes are composed of price-related elements, image and such functional or facilitating peripheral services as queuing time, material availability, club size and consumer loyalty rewards. The observation of the basic attributes confirmed this tendency, with such elements involving the club image as coherence image and image, such functional elements as cleanliness, lighting and showers, and such elements related to the staff as staff availability, number of instructors and the personality of the manager.

Numerous attributes appeared secondary for segment one, and those that the survey obtained correspond to such differentiating peripheral services as outdoor activities, food supply and swimming and water-spa equipment, and to such contact-staff attributes as friendliness, helpfulness and personal monitoring. These results tend to reinforce the idea that the consumers in this segment mainly considered their consumption to have a high utilitarian value as a result of the importance of the contributions of those elements linked to the use of the basic service. These consumers also seemed to be sensitive to loyalty rewards, a key attribute, which is not the case for the other segments.

In comparison with the other segments, a decreasing contribution can be observed among those in segment one for such contact-staff attributes as the number of instructors and staff helpfulness and friendliness. The individuals who constitute segment one were, on average, those who had the least fitness-consumption experience (see Appendix E for all descriptive characteristics). For more than half of them their current club was their first one, and the length of their relationships with the organisations was the weakest of the four segments. A direct link can therefore be made between a consumption experience and the value it represents in consumers' minds. These consumers also had, on average, shorter memberships than those in the other segments. The proportion of men was also the highest of the four groups, and almost half were economically inactive. Economic status and the length of the consumption experience could therefore potentially constitute an explanation for the decreasing role of contact-staff attributes in their satisfaction.

Segment two, which was composed of individuals whose consumption showed that they highly valued all three dimensions of stimulation, social link and sign, had the highest number of elements that contribute strongly to dissatisfaction when they are negatively evaluated, particularly with an important number of key elements. Therefore, the more that individuals consider their consumption to have a high value, the more demanding they are likely to be in terms of element performance.

In addition to the attributes related to image and staff, as the contribution of the three elements involved are clearly distinguishable from the others, the consumers in segment two gave particular importance to facilitating peripheral

services.[43] Indeed, they responded significantly to the role played by such physical-support elements as outside-of-the-club and equipment layout, such environmental or comfort factors as music and cleanliness, and the opening-hours element, which can be explained by their high frequentation rates, as 49.9 per cent of them reported attending the club more than three times a week. In comparison with segment one's low reported value for every component, such attributes related to the contact staff as staff friendliness and helpfulness and instructors' advice, and to such physical-support attributes as access, club size and outside-of-the-club layout were the most distant elements, which corroborates the previous analysis.

Segment three, which was composed of the individuals whose consumption showed high stimulation values, was the third largest among the segments, being composed of 39 individuals. This group presented the highest number of basic (15) and secondary (25) attributes, as well as the lowest number of key (4) and plus (0) elements. Therefore, only the fee amounts, quality/price ratio, cleanliness and temperature elements contributed strongly to their satisfaction.

Segment three's average relationship length with the club was, at 5.25 years, the highest of the four segments, and those in this segment who had previously belonged to another fitness club had belonged to the highest number of them, an average of 2.32 clubs. A link could then be established between the low number of key attributes and knowledge of the industry standards implied by the length of their relationship and the number of clubs previously frequented. The consumption pattern of these consumers appeared to be mainly solitary, as such attributes related to contact staff as individual monitoring and staff helpfulness and friendliness became secondary, while the number of consumers present in the club became a basic attribute. Furthermore, as the opening-hours element was a basic element for this segment, and its proportion of economically active individuals was the highest of the four segments, segment three was likely to have been composed mainly of consumers who attended their clubs after work, which is the busiest time of the day, with the cathartic purpose of relieving tension.

Segment four, which was composed of individuals whose consumption showed high stimulation and social-link values, seemed to be the most balanced category in terms of attribute contribution. Indeed, they identified with fewer basic and more key attributes than the others. Their relationships with contact staff still appeared important, but with a particular emphasis on the managers' personalities, a key attribute, as well as service recovery, a plus attribute.

Because this segment was composed of consumers who valued social links highly, these results corroborate the importance of consumer–staff relationships identified by Adelman *et al*[59] and Guenzi and Pelloni,[60] at all levels of the organisational hierarchy. The contribution of the personal-involvement element is distinct from the others in the basic category, which could be interpreted as emphasising the collective-consumption dimension for the members of this group.

Segment four shared group two's focus on high value, the average distance between the attribute positions for segment four on the maps being relatively low. This tends to mean that the differences in the attributes' contributions to creating satisfaction were mainly a result of the elements that are geographically close to the borders of the categories. Finally, the analysis of segments two and four shows a correlation between a salient social-link dimension of consumer values and frequent attendance at a club.

CONCLUSION

In line with the interest expressed by both researchers and practitioners in satisfaction with services in general, and sport and leisure services in particular, this study actively participates in bettering our understanding of the psychological mechanisms underlying the formation of consumer satisfaction. First, it confirms the importance of the contribution of service elements, experiential elements, or both to satisfaction, and consequently belongs to the same stream of frameworks as those of Llosa,[5,24]

Lichtlé *et al*[27] Clerfeuille and Poubanne[26] and Poubanne *et al.*[7]

If the managerial relevance of such an analysis does not need to be justified, this framework theoretically highlights the need to investigate service attributes' contributions to specific segments, as initiated by Poubanne *et al*,[7] and provides some methodological extension to their work. Therefore, the nature and intensity of consumption values appear to be key variables in the analysis of various attributes' contributions to satisfaction in service industries.

It seems as if it would be strongly relevant to service managers who want to maximise their consumers' satisfaction to be able to segment them according to the nature and intensity of their consumption values in order to adapt their offerings to their markets' principal motivations. They can then either develop or extend those service attributes that contribute the most to consumer satisfaction or reduce those that make limited or insignificant contributions to satisfaction or dissatisfaction. From a managerial point of view, therefore, establishing service-attribute categories and their hierarchies constitutes a first step for sport-services managers who have already identified the consumption values of their current members.

However, it must be noted that the size of the sample and the aggregated nature of the analysis, using collective rather than individual categories, constitute shortcomings to the generalisability of this study's results, and it would be relevant to pursue the same kind of analysis with larger samples, from the same suppliers, or both. Indeed, some segments have included a relatively small number of individuals, such as segment one's 30 members, which can induce higher sensitivity in the results, representing a limitation to the generalisability of the results.

It therefore seems that the dichotomisation methods of satisfaction indexes should be revisited, as some are based on the median, some on the average, some, such as Poubanne *et al*,[7] on a segmentation analysis, and some on a simple asymmetric dichotomisation, such as one to three being negative and four and five being positive.

Similarly, the justification for using different methods in the same survey, such as this study's use of simple asymmetric dichotomisation and averages, could be further developed. As Bartikowski and Llosa[22] noted, a solution could be to replace psychometric scales with ordinal scales that directly measure negative and positive modalities. As Moutte[6] noted, assembling service attributes by dimensions, as proposed by Chang and Chelladurai,[61] could also be a research method that would be likely to allow better identification of the differentiation dynamics between segments.

Finally, it could be argued that the consumer-value concept could be difficult to use in practice, and the challenge of using psychological segmentation has to be acknowledged; yet this type of segmentation corresponds better than others to the reality that managers face. Moreover, it often corresponds to the practical knowledge and perception of managers, who, as a result of their experience, are able to recognise the group to which a consumer is likely to belong. If they are not able to do so intuitively, the use of a basic questionnaire during a new member's registration would be a straightforward way to do it. However, further developments are probably needed in the measurement of consumer value to fit with different service industries.

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APPENDIX A

SERVICE ELEMENT CATEGORISATION OF GROUP 1 'LOW VALUE'

See Table A1 and Figure A1

Table A1: Service elements' contribution to satisfaction for Group 1 'low value'

Plus elements	*Key elements (8)*
	Queuing moments
	Loyalty rewards
	Equipments' availability
	Music
	Quality/price ratio
	Club standing/reputation
	Club size
	Fees
Secondary elements (20)	*Basic elements (16)*
Access	Club design
Number of present consumers	Choice of activities
Staff friendliness	Service-image consistency
Outdoor activities	Instructors advices
Outdoor sport activities	Staff availability
Consumer physical abilities	Showers
Swimming and water spa equipments	Lightning
	Club image
Equipments' choice	Equipment information
Equipments' layout	Consumer involvement
Outside of the club	Number of instructors
Opening hours	Cleanliness
Odors	Material quality
Quality of collective courses	Relationships between members
Recall of membership ending	
Service recovery	Manager's personality
Renewing of collective courses	Changing-rooms
Food supply	
Staff helpfulness	
Individual monitoring	
Temperature	

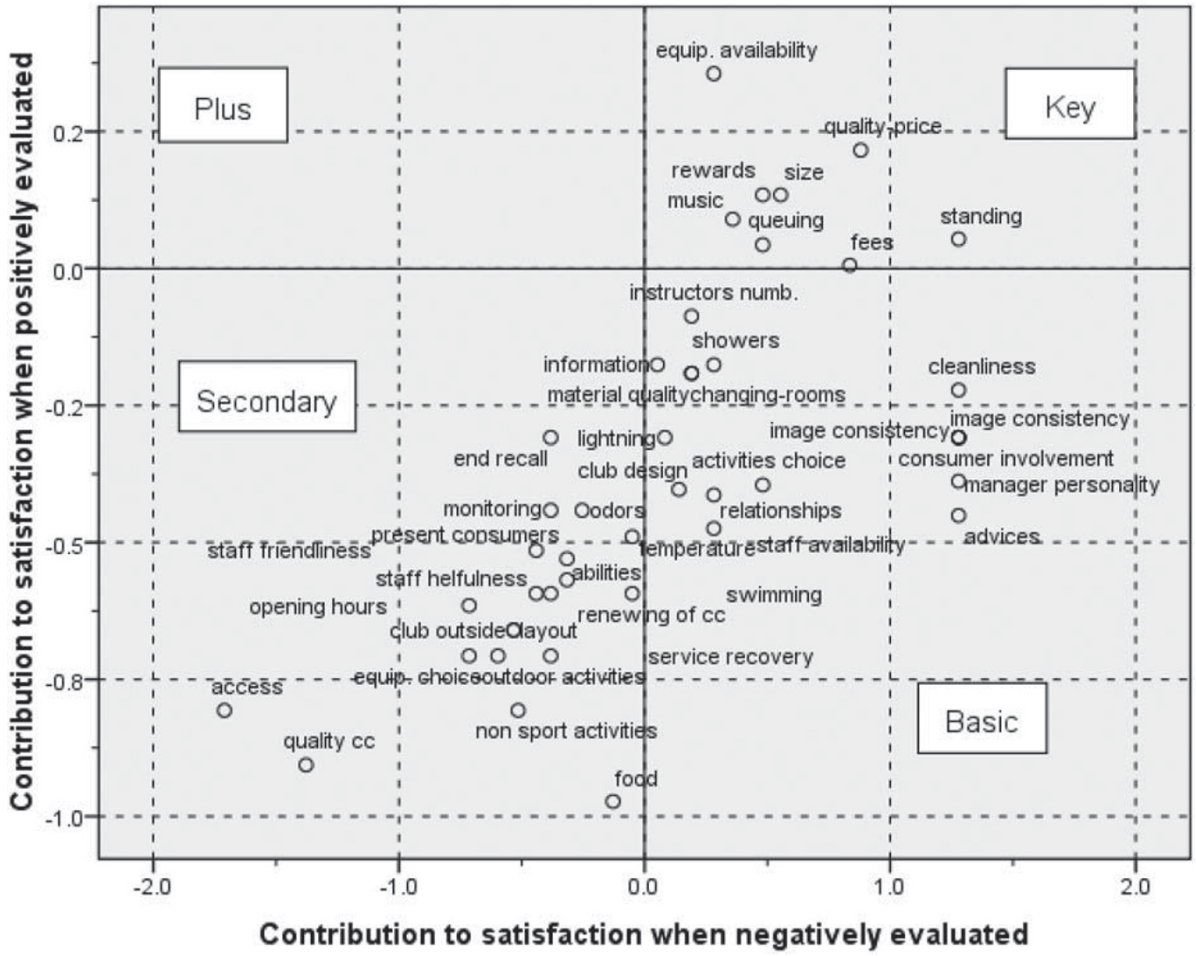

Figure A1: Tetra-class model for Group 1 'low value'.

APPENDIX B

SERVICE ELEMENT CATEGORISATION OF GROUP 2 'HIGH VALUE'

See Table B1 and Figure B1

Table B1: Service elements' contribution to satisfaction for Group 2 'high value'

Plus elements (1)	*Key elements (10)*
Odours	Equipments' layout
	Staff availability
	Outside of the club
	Fees
	Quality/price ratio
	Equipment information
	Music
	Number of instructors
	Club standing/reputation
	Individual monitoring
Secondary elements (19)	*Basic elements (14)*
Access	Staff friendliness
Outdoor activities	Club design
Outdoor sport activities	Choice of activities
Queuing moments	Instructors advices
Consumer physical abilities	Lightning
Equipments' choice	Club image
Swimming and water spa equipments	Service-image consistency
	Consumer involvement
Equipments' layout	Opening hours
Showers	Staff helpfulness
Loyalty rewards	Cleanliness
Number present consumers	Material quality
Quality of collective courses	Manager's personality
Relationships between members	Temperature
Recall of membership ending	
Service recovery	
Renewing of collective courses	
Food supply	
Club size	
Changing-rooms	

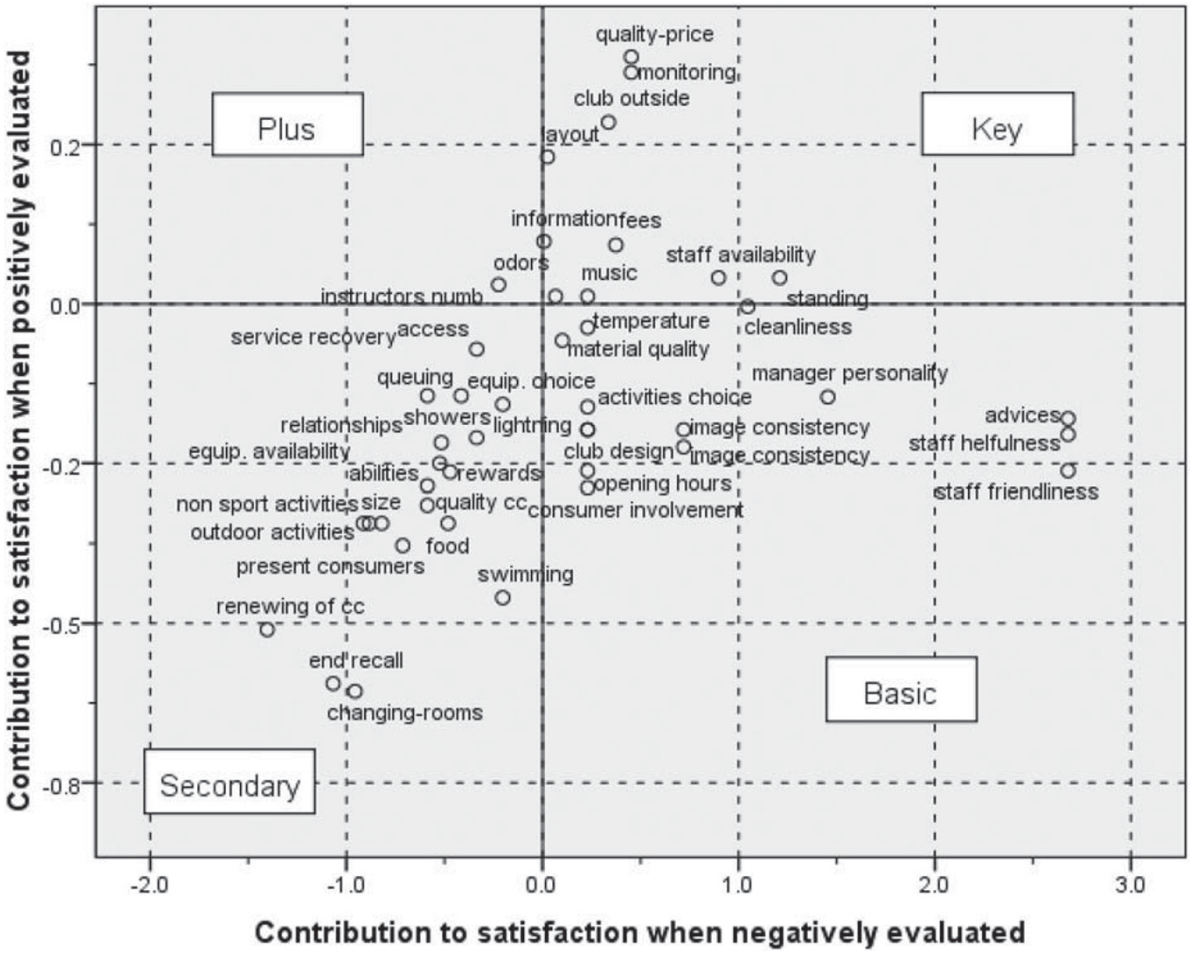

Figure B1: Tetra-class model for Group 2 'high value'.

APPENDIX C

SERVICE ELEMENT CATEGORISATION OF GROUP 3 'STIMULATION ONLY'

See Table C1 and Figure C1

Table C1: Service elements contribution to satisfaction for group 3 'stimulation value'

Plus elements (0)	*Key elements (4)*
	Fees
	Quality/price ratio
	Cleanliness
	Temperature
Secondary elements (25)	*Basic elements (15)*
Access	Club design
Staff friendliness	Choice of activities
Outdoor activities	Instructors advices
Outdoor sport activities	Staff availability
Consumer physical abilities	Lightning
Queuing moments	Club image
Swimming and water spa equipments	Service-image consistency
	Number of present consumers
Equipments' choice	Number of instructors
Equipments' availability	Opening hours
Equipments' layout	Relationships between members
Showers	Manager's personality
Outside of the club	Club standing/reputation
Equipment information	Club size
Consumer involvement	Changing-rooms
Loyalty rewards	
Music	
Odors	
Staff helpfulness	
Material quality	
Quality of collective courses	
Recall of membership ending	
Service recovery	
Renewing of collective courses	
Food supply	
Individual monitoring	

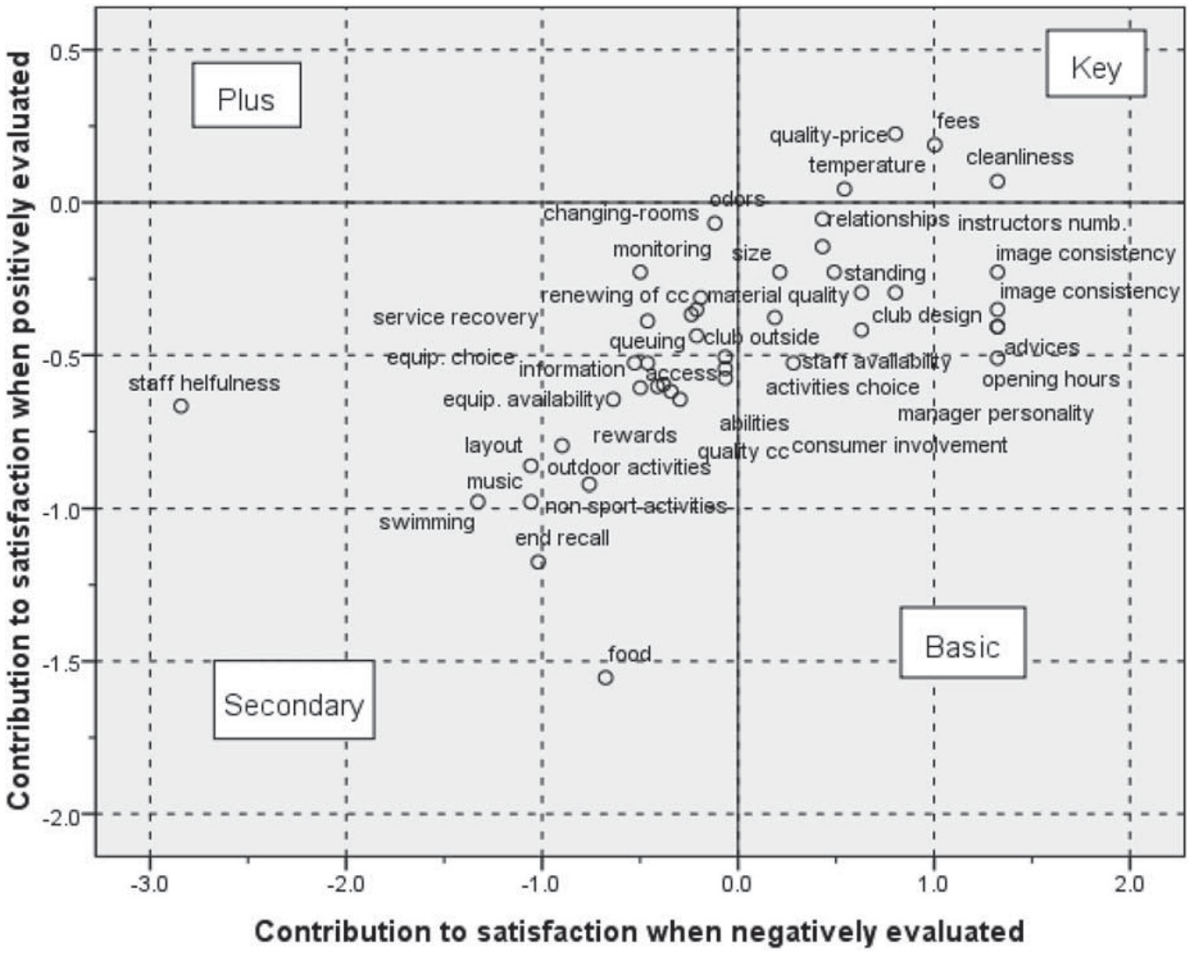

Figure C1: Tetra-class model for Group 3 'stimulation only'.

APPENDIX D

SERVICE ELEMENT CATEGORISATION OF GROUP 4 'STIMULATION AND SOCIAL LINK'

See Table D1 and Figure D1

Table D1: Service elements contribution to satisfaction for Group 4 'stimulation and social link'

Plus elements (8)	*Key elements (7)*
Outside of the club	Staff availability
Music	Fees
Number of instructors	Cleanliness
Odors	Material quality
Quality/price ratio	Manager's personality
Service recovery	Individual monitoring
Renewing of collective courses	Temperature
Changing-rooms	
Secondary elements (21)	*Basic elements (8)*
Access	Staff friendliness
Outdoor activities	Club design
Outdoor sport activities	Club image
Consumer physical abilities	Service-image consistency
Queuing moments	Consumer involvement
Swimming and water spa equipments	Staff helpfulness
Equipments' choice	Quality of collective courses
Choice of activities	Club standing/reputation
Instructors advices	
Equipments' availability	
Equipments' layout	
Showers	
Lightning	
Equipment information	
Loyalty rewards	
Number of present consumers	
Opening hours	
Relationships between members	
Recall of membership ending	
Food supply	
Club size	

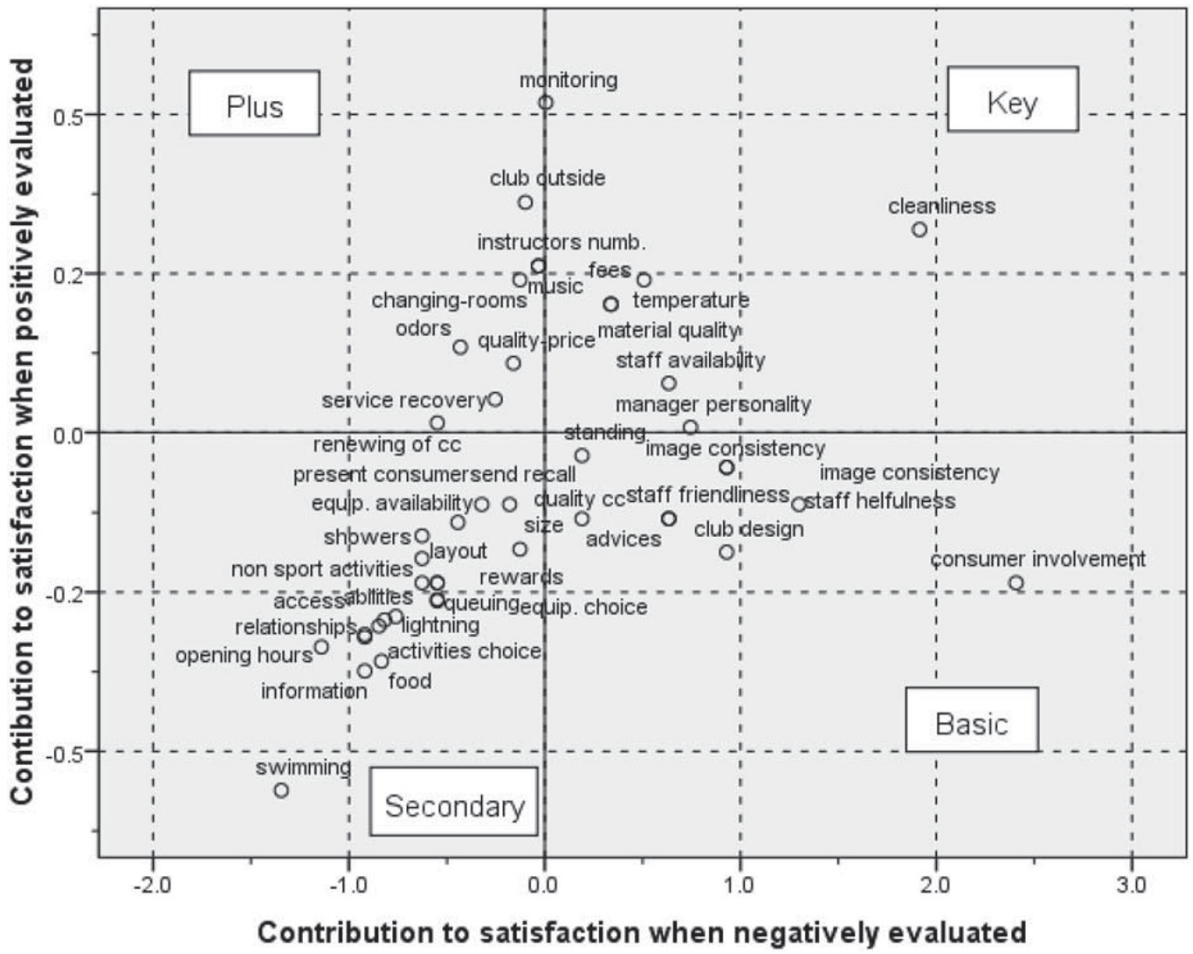

Figure D1: Tetra-class model for Group 4 'stimulation and social link'.

APPENDIX E

CONSUMER VALUE GROUPS' DESCRIPTIVE STATISTICS

See Tables E1 and E2

Table E1: Segments descriptive statistics

	Family size	*Length of relationship*	*Number of previous clubs*
Group 1 descriptive statistics			
Mean	2.52	2.15	1.83
SD	1.35	2.48	1.46
Group 2 descriptive statistics			
Mean	2.45	4.89	1.82
SD	1.25	6.20	1.26
Group 3 descriptive statistics			
Mean	2.18	5.25	2.32
SD	1.11	6.07	1.41
Group 4 descriptive statistics			
Mean	2.62	3.63	1.67
SD	1.46	3.89	1.06

Table E2: Segments' frequency tables

Gender	%	*Working groups*	%	*Education level*	%	*Age*	%	*Service experience*	%	*Weekly frequentation*	%	*Membership length in months*	%
Group 1 frequency table													
Women	62.1	Middle class	39.3	Secondary	13.8	<21	3.6	Yes	46.4	1	10.3	3	7.1
Men	37.9	Upper class	17.9	Superior	86.2	21–30	35.7	No	53.6	2	31.1	6	7.1
		Inactive	42.8			31–40	14.3			3	41.4	9	14.3
						41–50	21.4			4	3.4	12	53.6
						51–60	10.7			5	13.8	24	7.1
						>60	14.3					Other	10.8
Group 2 frequency table													
Women	75.8	Lower class	3.2	Primary	3.3	<21	6.5	Yes	59.0	1	1.8	1	4.9
Men	24.2	Middle class	51.7	Secondary	30.0	21–30	37.1	No	41.0	2	17.7	3	11.5
		Upper class	14.5	Superior	66.7	31–40	12.9			3	30.6	6	11.5
		Inactive	29			41–50	11.3			4	17.7	12	45.9
		Other	1.6			51–60	25.8			5	16.1	24	19.7
						>60	6.4			6	14.5	Other	6.5
										>6	1.6		
Group 3 frequency table													
Women	83.8	Middle class	55.6	Primary	2.7	<21	2.7	Yes	55.6	1	2.7	1	2.8
Men	16.2	Lower class	2.8	Secondary	13.5	21–30	29.7	No	44.4	2	45.9	3	8.3
		Upper class	19.4	Superior	81.1	31–40	29.7			3	24.3	6	8.3
		Inactive	19.4	Other	2.7	41–50	21.6			4	10.8	9	2.8
		Other	2.8			51–60	10.8			5	8.2	12	47.2
						>60	5.5			6	5.4	24	25.0
										>6	2.7	Other	5.6
Group 4 frequency table													
Women	72.0	Lower class	4.1	Primary	2.0	<21	4.0	Yes	66.0	1	2.0	1	4.0
Men	28.0	Middle class	61.2	Secondary	32.6	21–30	22.0	No	34.0	2	24.0	3	6.0
		Upper class	8.2	Superior	61.2	31–40	24.0			3	36.0	6	8.0
		Inactive	26.5	Other	4.2	41–50	30.0			4	16.0	9	2.0
						51–60	14.0			5	16.0	12	40.0
						>60	6.0			6	4.0	24	26.0
										>6	2.0	Other	14.0

