

# **Final Revised Paper**

# **“Perceptual and Behavioural Dimensions: Measuring Brand Equity Consumer Based”**

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**Abstract:**

The subject of brand equity measurement has attracted the attention of academic and business community due to the strategic importance of brand management in companies. Brand equity could be measured by one of two distinct perspectives that are at the same time complementary: the consumer or the company. In this paper, brand equity is measured based on the consumer, is perspectives, the constructs and scales of its measurement. The is proposed a measurement model of brand equity using the methodology of Structural Equation (*SEM*). From the revision of literature these constructs are the relevant constructs to the problematic of brand equity measurement in consumer's minds were analysed. Brand awareness and quality perceived, brand associations (highlighting brand personality), brand loyalty and price premium. The originality of the model is the division of constructs in to perceptual constructs (*inputs*), that are explanatories, and of behaviour constructs (*outputs*) of brand equity. By doing this, the model tries to answer to two important aspects of entrepreneurial management: which are the explanatory variables of brand equity and, how could that be translated into an answer, for the consumer. Two samples were used, one for the estimation and another one for the validation of the proposed model, with 272 observations each. The sample is constituted by consumers of five denim clothing brands **when** have their own chain of stores in Portugal. Results show that the model is statistically valid and, that perceptual aspects should be separated from behaviour aspects in brand equity measurement based on consumers' mind.

**Key Words:** Brand Equity, Consumer Behaviour, Measuring, Structural Equations, Constructs and Scales.

## **Introduction:**

Although the process of measurement of brand equity is still under development, the need to find a way to a general measurement has, already to the strategic development of models of brand equity measurement.

In marketing, the research on brand value has been inserted in cognitive psychology and centred in the analysis of cognitive processes of consumer. In this field, two principal issues are considered for the analysis of brand value (Irmischer, 1993): The first one is that brand value is equivalent to the multidimensional construction of the knowledge of the brand (Keller, 1993) and, the second one, led by the works of Aaker (1991), consider brand value like a multidimensional construction integrated into a series of assets and liabilities that add value to the brand, for the company and for the consumer. With the conceptual distinction between brand equity and brand value, the problem of validity of content around brand equity, is not solved yet, given the diversity of operative descriptions that we can found about it (Aaker (1991), Keller (1993), Farquhar, (1989), Kamakura and Russel, (1993), Park and Srinivasan, (1994), Rangaswamy et. al., (1993), Lassar et. al., (1995), Kapferer (1997), Motameni and Shahrokhi (1998), Dawar and Pilluta (2000), Yoo et. al. (2000), Faircloth et. al. (2001), Vásquez et. al. (2002).

In this work, the main goal is to propose a brand equity measurement model in consumers mind, follows the perspective of considering the brand as an intangible asset that has associated a certain capital, which is the result of perceptions, attitudes and consumers behaviour, toward brands which give them a value.

## **Brand Equity:**

The meaning of brand equity has been the object of a large discussion from the part of several authors (Barwise 1993, Ambler and Styles 1996, Chaudhuri 1995, Feldwick 1996). According to Agarwall and Rao (1996) and Erdem and Swait (1998) and until now it was not reached one unanimous definition about brand equity. However, some agreement exists on what concerns the fact that, brand equity must be studied from

different perspectives, in a vision that emphasises complementarities, and not competition (Irmscher 1993, Ambler and Styles 1995, Czellar 1997, Erdem and Swait 1998).

Brand equity knowledge based in consumer has evolved from two paradigms: one from cognitive psychology and the other from the theory of signalling economic information (Czellar e Dennis, 2002). However, dominant research centralizes in cognitive psychology, focused more precisely in memory structure (Aaker 1991; Keller, 1993; Biel, 1993; Farquhar, 1989; Kapferer, 1997; Low and Lamb, 2000; Prasad and Dev, 2000; Yoo and Donthu, 2001; Crimmins, 2003). Based on cognitive psychology there are many definitions of the concept of brand equity and there are many methods proposed for its measurement. Nevertheless, for measuring brand equity it is necessary to start by defining the concept. There are numerous definitions of brand equity concept, proposed by different authors and presented in the next table.

**Table 1 – Definitions of Brand Equity**

<b>Authors</b>	<b>Definitions</b>
<b>Srinivasan (1979)</b>	“ the component of all preferences that aren’t explained by objective measures of the attributes of the products”
<b>Leuthesser (1988)</b>	“ the joint of associations and behaviours from the brand consumers side, the members of the channel and related corporations that allows the brand to reach large volume or large margins, that couldn't be possible without the brand name”
<b>Farquhar (1989)</b>	“ value added for the brand to a product”
<b>Srivastava e Shocker (1991)</b>	“ a joint of associations and behaviours from brand clients side, from distributors and from the company, that allows to the last one obtain a larger volume of sales or larger margins of what could de possible without brand name, such as, a stronger and sustained differential advantage”
<b>Aaker (1991)</b>	“it’s the joint of benefits of one brand and the its potentials linked to the brand, is the name, the symbol that adds a provided value by a product or a service, to a consumer”
<b>Simon e Sullivan (1993)</b>	“ increase cash-flows of the companies”
<b>Keller (1993)</b>	"differentiator effect that the brand knowledge has in the response of consumer to brand marketing"
<b>Lassar et. al. (1995)</b>	“ the value of the perceived utility and desire that the brand name confers to the product”
<b>Blackston (1995)</b>	“ it’s the value and the meaning of the brand, where the sense of the it implies the projection, the associations and the brand personality and where the brand value is the management yield of brand meaning”

<b>Authors</b>	<b>Definitions</b>
<b>Aaker (1996 a)</b>	“ the joint of assets and responsibilities linked to the brand-name or symbol- that adds or subtract value to the products of a company or to its consumers”
<b>Feldwick (1996)</b>	“ the total value of a brand in which is separable in assets- when it’s sold, or included in balance sheets”
<b>Calderón et. al. (1997)</b>	“it’s the value of marginal <i>cash-flows</i> , generated by a product from the fact that it could be identified through a brand”
<b>Motameni e Shahrokhi (1998)</b>	“ the joint of assets of the brand linked to the brand, name and symbol- that adds or subtract to the provided value for one product or service to a company and/or to the consumers of the company”
<b>Yoo e Donthu (2001)</b>	“ it’s the differential answer of consumers between one determined brand and one product without brand in which both have the same marketing incentives and the same attributes”
<b>Yoo et. al. (2002)</b>	“it’s known for create one blind preference of consumer for one brand opposite to its competitors, by increasing the value of the company affecting the margins and the decision processes in acquisition, by increasing responses in monetary market and allow the extensions of the brand name”
<b>Ailawadi et. al. (2003)</b>	" it's defined like the productivity resultant by marketing effects effectuated about one brand product when compared with the same effects effectuated about one product without brand”
<b>Amraoui e Morales (2006)</b>	“results of the joint of marketing activities of the company that are directed so that consumers associate good ideas and images and that develop perceptions, such as, positive attitudes concerning to its brand”

In this work, we assume that brand equity is understood as a multidimensional construction perceived by consumers, which adds capital to the product which has a brand and allows the company to have more loyal consumers and practice enhanced prices. This concept of brand equity makes a distinction between perceptual and behaviour aspects of the consumer.

In Marketing literature, the process of operationalise of brand equity based on the consumer, normally falls in two groups (for example, Cobb-Walgren et. al., 1995; Yoo and Donthu, 2001): perception of the consumer (brand awareness, brand association, quality perceived, among others) and the consumer behaviour (brand loyalty, predisposition to pay a higher price). It is based on in that a similar division may be made, between the dimensions that incorporate a model of brand equity measurement: perceptual and behaviour dimensions.

Biel (1993) recommends that researchers should focus in to perceptual components of brand equity (in particular in brand image) and in the way how this dimensions may be related to consumer's preferences. For this author, consumers build their perceptions about physical and psychological characteristics of the brand through several information sources. Those perceptions contribute to the value attributed to the brand by the consumer, that is, to brand capital. Brand equity, at the same time, influences the preferences and intentions of purchase of consumers and, therefore, influence the selection of the brand.

Lassar et. al. (1995), distinguish perceptual dimensions from behaviour dimensions saying that behaviour is the consequence of brand equity and not the brand name by itself. According with them, brand equity is based on the consumer perceptual dimensions, excluding behaviour dimensions, such as loyalty and intention to buy.

### **Measuring Brand Equity:**

The proposed model has three logic moments of analysis: the antecedents of brand equity, the brand equity in itself and it's consequences the ones considered as a final result, with an interest for the management of companies and brands.

**Figure 1 – Brand Equity Model Components**



In reference for the brand equity, this study proposes antecedents and consequences. On one hand, perceptual dimensions - that determine the brand equity in consumers' mind are considered, on the other hand, behaviour dimensions - that are the reaction of the capital attributed to the brand are considered.

Brand equity is a perceptual, multidimensional concept and is not susceptible of being observed directly. The consideration of its multidimensionality is established by several

authors, as referred before. The dimensions (latent variable, constructs) that are considered here for its explanation are the awareness of the brand, the perceived quality and brand personality.

Brand awareness is a perceptual construction in what refers to the impact of the brand in the consumer's mind. Consider that the brand is present in consumer's mind absorbing a part of the memory, that is to say that the consumer is be able to memorize the brand without aid or recognize it after assistance. One brand that is not recognized by consumer has no meaning to that person.

Perceived quality is also a perceptual construction that refers to the judgement the consumer does on the excellence or superiority of the product. To emphasize that we are talking about a perception and not a value determined by a technological and objective process – the interpretation and evaluation from the part of consumer is needed. It is certain that quality is often judged on the basis of tangible characteristics of the product (with brand), but it is still a subjective and individual evaluation, of the attributes and benefits that the consumer perceives in the brand.

Therefore, brand personality includes the two factors referred to above, and they are present in the construction of brand equity. This construct may be important, because it generates a greater involvement of consumer with the brand, as it may be related with personal identity. In this way, it aggregates a symbolic and intangible component of the brand present in consumers' minds, contributing for the creation of brand equity. Brand personality also includes associations linked to the brand image.

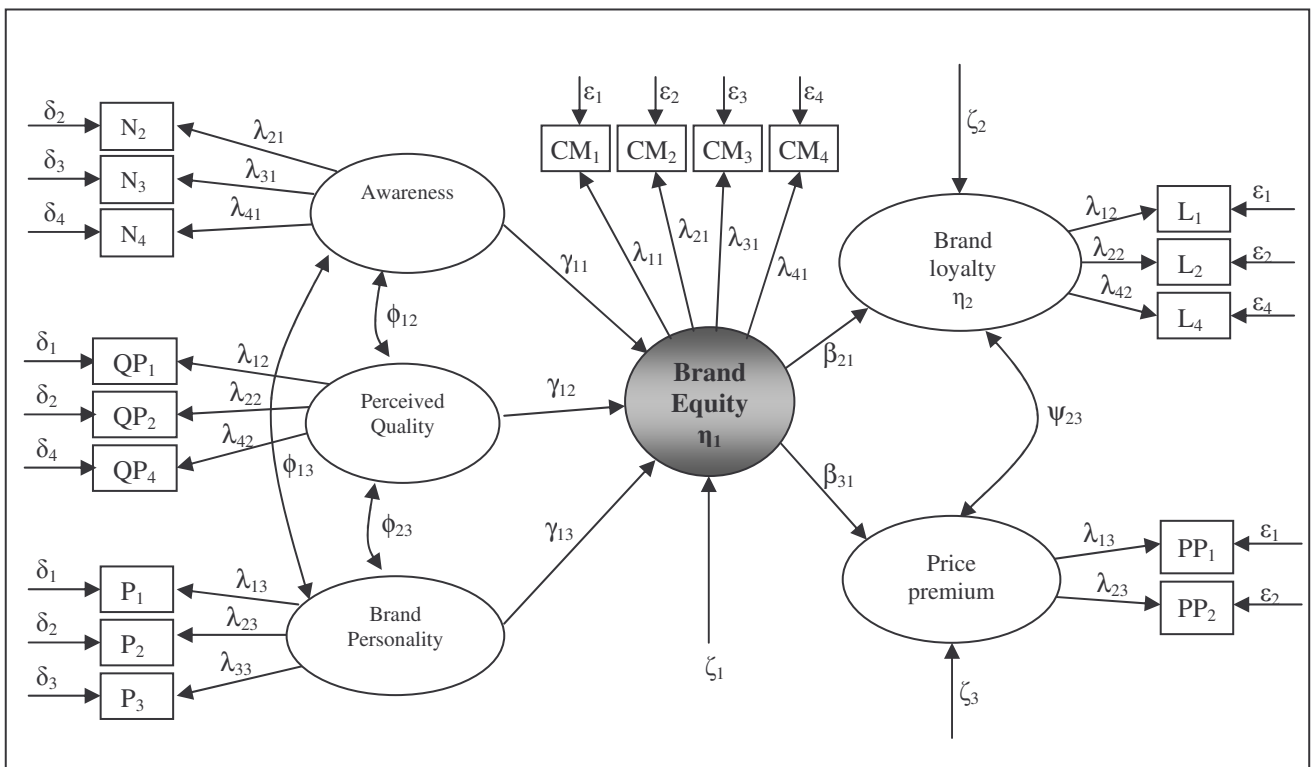
Brand equity is also a perceptual construction, a perception of consumers, which adds value to a branded product. In this variable all influences mix, positives and negatives, and this makes possible to award a certain value to the brand. The value attributed by the consumer to a brand reflects his awareness, and the opinion about the quality and personality of the brand.

On one hand, it could be considered that the consumer involved with a brand, would have a determined type of behaviour. In this way, the presented model sees as the final effect the component behaviour, where two variables (constructs) are admitted. These



variables (constructs) are the result of the importance of brand equity – loyalty to the brand and willingness to pay a higher price for it. In many literature models (Aaker, 1991; Yoo et. Al. 2000; Kim et. Al., 2003; Myers, 2003 and Netmeyer et. al., 2004, Pappu et. al., 2005) loyalty and price premium are incorporated in the measurement of the concept of brand equity. This model proposes exactly the opposite as we consider that these variables are consequences of brand equity. Brand loyalty is viewed as a favourable attitude that a consumer has in the presence of the brand and this is going to make him prefer the brand consistent by along the time. The price premium, translates the availability of the consumer to pay a higher price for a product with a certain brand.

**Figure 2 - Structural Model**



**Constructs and Investigation Hypothesis:**

The model of structural equations proposed contains latent variable (constructs), measured by a joint of scales (items). Data was collected through a questionnaire addressed to consumers of the brands under study. After, we analysed the concept of each of the latent variables, such as, relationships between them that could place them as research hypothesis.

Brand awareness refers to the capacity of the consumer to remind and recognise the brand (Aaker, 2004; Keller, 1993; Netemeyer et. al., 2004; Yoo et. al., 2000; Yoo and Donthu, 2001). Awareness affects the perceptions the consumer has about the brand, contributing to the perceptual evaluation that is expressed on brand equity. A brand with a large remembrance leads to an increase of perceptual brand equity in consumers' minds.

*H<sub>1</sub>: There is a positive relationship between awareness and brand equity from the point of view of the consumer.*

The latent variable of the perceived quality concerns the subjective evaluation of the quality of the product, in agreement to the classic definition of Zeithaml (1988) and Aaker (1991) also followed by Yoo et. al., 2000 and Yoo and Donthu, 2001. In the proposed model, perceived quality is seen as a subjective evaluation made by the consumer about the brand and, being so, it affects the formation of brand equity. A consumer who associates the brand with a certain quality is in conditions of attributing a higher value capital to the brand.

*H<sub>2</sub>: There is a positive relationship between perceived quality and brand equity from the point of view of the consumer.*

Brand personality is a explanatory variable of the perceptual evaluation of brand equity by the consumer. It assumes that the consumer chooses a brand in order to express his own image (self-extended). For that, he evaluates positively the brand that has a personality similar to his own personality (Aaker, 1997; Aaker et. al., 2004; Phau and Lau, 2001; Ang and Lim, 2006). In this way, the brand personality may be directly linked to the construction of brand equity.

*H<sub>3</sub>: There is a positive relationship between brand personality and brand equity from the point of view of the consumer.*

Besides analysing factors that contribute for the construction of brand equity from the part of the consumer, this hypothesis claims that brand equity may lead to a certain

consumer behaviour. Therefore, it is considered if may allow the analysis of how far brand equity influence consumer loyalty and his willingness to pay a higher price for a branded product.

Brand loyalty in the proposed model is a perceptual loyalty that is to say if, the result of the evaluation the consumer does when is selecting the brand, it is the result of a positive perceptual evaluation strong enough to lead him to a loyalty behaviour. A favourable evaluation of brand equity may lead to the preference and purchase of the branded products along time (Assael, 1992; Oliver, 1997, 1999; Chaudhuri and Holbrook, 2001; Back, 2005). Attitude constituents and behaviours are both present in this construct.

*H<sub>4</sub>: There is a positive relationship between brand equity and brand loyalty from the point of view of the consumer.*

The consumer is willing to pay a higher price for a certain brand if this brand has a high brand equity (Ailawadi, et. al., 2002; Chandon et. al., 2000; Netemeyer et. al., 2004). That will of paying a higher price results from the consumer understanding that the brand confers a set of superior benefits in relation to others. The proposed model takes this into account, considering that a direct relationship exist between brand equity and the willingness to pay a higher price.

*H<sub>5</sub>: There is a positive relationship between brand equity and the willingness to pay a price premium from the point of view of consumer.*

The proposed variables are constructs, that is to say, they are theoretical concepts that are not observed directly, and consequently the clarification of dimensions and scales used is needed. Therefore we make a review of the literature about scales used to measure several perceptual constructs and behaviours and relate them to the proposed model. We start with the review of the literature were some scales are used to measure theoretical constructs. This approach has the clear advantage of using constructions and scales already validated in the scientific literature, but some adaptation and analysis o reliability is needed.

Brand awareness is measured by the scales of Yoo and Donthu (2001) and Yoo et. al.(2000). These Authors have developed this scale based on Rossiter and Percy's (1987) and Srull's (1984) works, in which recognition elements and memories of the brand. The scale was chosen because it is coherent with the concept proposed in the model and because these Authors have validated empirically the scale.

The measurement of perceived quality in the proposed model is going to be operationalised as the subjective evaluation of the consumer about product quality, considering the difficulties mentioned above. The scales of Yoo et. al. (2000) and Yoo and Donthu (2001), are used for that, considering several items for the construct whose basis was the work made by Dodds et. al.(1991). This scale was chosen for similar reasons to the selection of the brand awareness scale, that is to say, because the concept being measured are identical to the proposed by Yoo et. al. (2000), and because the scale is already validated.

Brand personality is operationalised considering that the construct includes that it is coherent with consumer personality. The scale of Aaker (1997) with fifteen items is used for that. From the fifteen items: four are for sincerity, four for excitement, and three for competence and for sophistication and for energy we have two items.

Yoo et. al. (2000) developed one scale to measure total brand equity based in consumer's mind, with four items. This scale was maintained in the subsequent work of Yoo and Donthu (2001) and it is the scale used here.

Brand loyalty construct is seen as the result of a favourable evaluation of the brand equity that may lead to purchases of the brand consistent along time. In spite of the fit that this construct is the behaviour result of brand equity, it includes attitudes and behaviours related to brand loyalty. Thus, the measure of brand loyalty is going to be operationalised based on the work of Yoo et. al. (2000, 2001), Keller (2001), Villarejo-Ramos and Sánchez-Franco (2005).

Netemeyer et. al. (2004) considers a model in which the price premium is directly influenced by brand equity, having developed and validated a scale to measure it. In a similar way, the price premium of the brand is going to be measured through the

questions adopted by Netemeyer et. al., (2004) because they are in agreement with the definition of the construct in the proposed model.

### **Model Estimation and Results Discussion:**

The populations under study are clothing consumers and visitants of five brands which have their own retailing chain. The consumers who answered the questionnaire in the stores, were distributed randomly in two groups of data, one used in the estimation of the models (and they are designed as the sample survey) and the other one used as a validation sample, carrying out the methodological requirements. In the research a structured questionnaire was used with scales of Likert of five points. The questionnaire was divided in two big sections. The first one contains a series of questions about characteristics of consumers and the second one has the questions related to the variables of the model and the objectives of research.

In terms of the field work it was necessary to identify clothing brands that could be object of analysis. Brand selection was made based on a pre-test prepared in university environment, during October and November 2006, with a sample of 65 students, evaluating the spontaneous reputation of the brands. The students were asked to refer the brands of denim clothing they knew with had their own stores. The brands mentioned were Levi's, Salsa, Pepe Jeans, Tiffosi and Cheyenne.

In this work, the sample selection was made in the moment of data collection, because we are dealing with individuals – potential buyers – that came into the stores of all different brands considered in the study and who accepted to answer the questionnaire. In this way, we deal with a convenience sample, in spite of the fact that we did not control who really went to the store. The inquiry in the point of sale was the option, because there was no list of consumers with telephonic contacts or addresses. Data collection was made since mid - March 2007 and during all month of April of the same year. The inquiry proceeding inside the stores was completely randomly, approaching the consumer at the exit of the store, independently of who has shopped anything. We obtained 544 valid questionnaires.

Modelling through structural equations has been used often in social sciences so it is a well-known confirmatory method. This method provides an understanding of the makes possible for the research to environment that evaluate and change theoretical models (Hair et. al. 1992, 1998, 2006; Bollen, 1989; Diamantopoulos and Siguaw, 2000; Anderson and Gerbing 1988; Fornell, 1987; Nunnally, 1978; O’Leary-Kelly and Vokurka, 1998), therefore it has a good potential for the development of theory’s.

With the proposed model we wanted to test the hypothesis that exists a positive relationship between awareness and brand equity from the point of view of consumer (H<sub>1</sub>) ( $\gamma_{11} > 0$ ), that exists a positive relationship between the perceived quality and brand equity from the point of view of the consumer (H<sub>2</sub>) ( $\gamma_{12} > 0$ ), that exists a positive relationship between brand personality and brand equity from the point of view of the consumer (H<sub>3</sub>) ( $\gamma_{13} > 0$ ), that exists a positive relationship between brand equity and brand loyalty from the consumer point of view (H<sub>4</sub>) ( $\beta_{21} > 0$ ) and, finally, that exists a positive relationship between brand equity and the willingness to pay for a price premium for the brand from the consumer point of view (H<sub>5</sub>) ( $\beta_{31} > 0$ ).

In this work, we follow the assumption of Anderson and Gerbing (1982, 1988) that the modelling of structural equations must be done through two conceptual distinct models: factor analysis or confirmatory measurement model and the structural confirmatory model or structural model.

Following this recommendation we made an exploratory factor analysis to the set of initial indicators of constructs. From the results obtained, there were cases where it was necessary to proceed to some adjustments, mainly in the scale of brand personality. This construct was measured through many dimensions and from this large set of items it was necessary to adapt some, for the particular case of denim brand clothing and for Portuguese consumers. So, it was verified that, concerning brand personality, only one of the proposed dimensions by Jennifer Aaker (1997) had importance for Portuguese consumer in the domain of denim brands clothing: genuine dimension.

All other scales had little adjustments in the number of items. Eliminated items were those who presented a *loading* factor inferior to 0,75. In this way, the awareness scale that was initially composed by four, one item was eliminated to in. The scale of

perceived quality maintained the three items, and the same applied to the loyalty scale. The only one which did not suffer any adjustments was the brand equity scale, which presented always good indicators and the one of the price premium which included only two items.

Then an analysis of scale reliability was carried out. Therefore, we analysed the Alfa Cronbach ( $\alpha$ ) coefficient, to the set of indicators of each scale used to measure the theoretical constructs. The most followed recommendation concerning the values of reliability indicators is the one of Nunnally (1978). This Author recommends as minimum values for reliability indicators, namely the Alfa Cronbach coefficient ( $\alpha$ ). In empirical research, the values of 0,70 - considered as an reasonable indicator – the values of 0,8 - considered a good indicator, and the values of 0,9 - considered an excellent indicator. However, according to the types of research, these values may be different, that is, one value of the Alfa Cronbach coefficient ( $\alpha$ ) of 0,7 could be an excellent indicator in a preliminary research and the value of 0,8 could be considered excellent for a basic research.

All the constructs used in the proposed structural models, present values of the Alfa Cronbach coefficient ( $\alpha$ ) above 0,8, except for the one of perceived quality, that nevertheless, has an approximated value of 0,8. So, it was verified that the items used to measure the constructs to be applied on models were inside the recommended values.

**Table 2 – Analysis of Scales Reliability**

<b>Construct</b>	<b>Scales Authors</b>	<b>Items</b>	<b>Alfa de Cronbach</b>
Brand Awareness	Yoo, Boonghee, Naveen Donthu e SungHo Lee (2000) e Yoo, Boonghee e Naveen Donthu (2001)	3	0,815354
Perceived Quality	Yoo, Boonghee, Naveen Donthu e SungHo Lee (2000) e Yoo, Boonghee e Naveen Donthu (2001)	3	0,780648
Brand Personality	Aaker, Jennifer L. (1997)	3	0,936546
Brand Equity	Yoo, Boonghee, Naveen Donthu e SungHo Lee (2000) e Yoo, Boonghee e Naveen Donthu (2001)	4	0,910221
Brand Loyalty	Yoo, Boonghee, Naveen	3	0,917189

Construct	Scales Authors	Items	Alfa de Cronbach
	Donthu e Sungho Lee (2000) e Yoo, Boonghee e Naveen Donthu (2001); Keller, Kevin Lane (2001); Villarejo-Ramos, Angel F. e Manuel J. Sánchez-Franco (2005)		

The confirmatory measure model determines the way how the latent variables are measured. The results of confirmatory factor analysis of the proposed model are presented in the next table and serve to determine the items that each construct must have and must be used in the estimation of the models in their structural form.

**Table 3 - Confirmatory Factorial Analyses**

AFC	Factor Loadings
N2	0,821
N3	0,871
N4	0,656
QP1	0,603
QP3	0,777
QP4	0,718
P1	0,727
P2	0,689
P3	0,681
CM1	0,888
CM2	1,019
CM3	0,972
CM4	0,742
L1	0,969
L2	1,072
L4	1,002
PP1	0,995
PP2	1,149
Normalized $\chi^2$	<b>1,69869</b>
RMSEA	<b>0,052</b>
GFI	<b>0,922</b>

To analyse the goodness of fit, the chosen indicators are the ones suggested by Hair et. al. (1992, 1998, 2006) as being the better absolute indicators about goodness of fit, Chi-square, RMSEA (*Root Mean Square Error of Approximation*) and GFI (*Goodness-of-Fit*).



Chi-square distribution is used to assess the sensibility of the test to sample dimension ( $n= 272$ ). Chi-square distribution presents acceptable values when this is included between 1 and 3 (Hair, et. al., 1992, 1998, 2006). It used the RMSEA (*Root Mean Square Error of Approximation*) instead of RMSSR (*Root Mean Square Residual*) because the model basis is estimated on data covariance matrix. This indicator must be situated between and including the values of 0,05 (good adjustment) and 0,08 (acceptable adjustment). GFI (*Goodness-of-Fit*) is an index of the goodness of fit that represents the total degree of adjustment, without one correction relatively to the degrees of freedom of the models. In the model of estimated measure by confirmatory factor analysis, values above 0,9 were obtained leading to the conclusion that it had a good adjustment.

After the stabilisation of the model of measurement and the analysis of the quality of the adjustment, we verified whether the hypotheses of research were confirmed or not. In the case of the model proposed, estimation was carried by the method of the maxime likelihood (ML), so that we could meet the objective of developing and testing the theory about the measurement of brand equity based on consumers' mind.

Before moving forward with the presentation and analysis of the results it is necessary to explain some behaviours that were made at this point and that have to do with some infractions of hypothesis that are implicit to the methodology of structural equations. One of this hypothesis is related to the normality of the data. It was carried out an analysis of normality of data, Skewness and Kurtosis indicators have been calculate, noticing that data did not follow a normal distribution. However, according to Bollen (1989), in this kind of methodology, in spite of the fact that multivariate normality requirement, is not a necessary condition for the estimation of theoretical models. Browne and Shapiro (1988) identify several conditions under which the majority of the properties of estimators of maxime likelihood continue to be verified even when data did not follow one normal multivariate distribution. So, we present and discuss the results of the proposed models estimated, immediately.

**Table 4 - Structural Model Estimated**

Main Hypotheses	Parameter	Estimated	p-Value	Conclusion
Brand Awareness → Brand Equity (+)	$\gamma_{11}$	-0,207	0,004	Not sup.
Perceived Quality → Brand Equity (+)	$\gamma_{12}$	0,562	0,000	Supported
Brand Personality → Brand Equity (+)	$\gamma_{13}$	0,157	0,009	Supported
Brand Equity → Brand Loyalty (+)	$\beta_{21}$	0,933	0,000	Supported
Brand Equity → Price Premium (+)	$\beta_{31}$	0,849	0,000	Supported
Others Hypotheses	Parameter	Estimated	p-Value	Conclusion
Brand Awareness ↔ Perceived Quality (+)	$\phi_{12}$	0,638	0,000	Supported
Perceived Quality ↔ Brand Personality (+)	$\phi_{23}$	0,558	0,000	Supported
Brand Awareness ↔ Brand Personality (+)	$\phi_{13}$	0,408	0,000	Supported
Brand Loyalty ↔ Price Premium (+)	$\psi_{23}$	0,482	0,000	Supported
Indicators of Adjustment				
$\chi^2$ Normalised			2,062	
RMSEA			0,063	
GFI			0,906	
AGFI			0,869	

Brand awareness appears estimated in the model with a negative sign, that is, the bigger the notoriety the smaller the brand equity. This hypothesis is opposite to the logic of the explanatory model of brand equity. Nevertheless, it was considered the possibility that brand awareness was an initial point for the explanation of the perception of brand equity come the part of the consumer, that is, every respondent knew well the brand, what is reinforced by the fact that data collection had been made in the brand stores, so, the question of brand awareness lost relevance for the explanation of brand equity. To notice that even with the negative coefficient, brand awareness could be explained for the tendency to multicollinearity, so awareness may be strongly related to other perceptuals constructs. In this way, the model was re-estimated without the construct “Brand Awareness” presenting indicators of better adjustments, or the GFI (*Goodness-of-Fit*), or the AGFI (*Adjusted Goodness-of-Fit*). Take notice that the estimated coefficient of the variable quality received an important alteration, what confirms the tendency of multicollinearity.

In respect to the second hypothesis the correlation of the constructs of perceived quality and brand personality and brand loyalty and the price premium are also supported. The analysis of quality indicators of adjustment show that the model present values for all of them, leading to the conclusion that a good adjustment is verified.

**Table 5 - Structural Model Re-Estimated**

Main Hypotheses	Parameter	Estimated	p-Value	Conclusion
Perceived Quality → Brand Equity (+)	$\gamma_{12}$	0,438	0,000	Supported
Brand Personality → Brand Equity (+)	$\gamma_{13}$	0,143	0,018	Supported
Brand Equity → Brand Loyalty (+)	$\beta_{21}$	0,932	0,000	Supported
Brand Equity → Price Premium (+)	$\beta_{31}$	0,848	0,000	Supported
Others Hypotheses	Parameter	Estimated	p-Value	Conclusion
Perceived Quality ↔ Brand Personality (+)	$\phi_{23}$	0,558	0,000	Supported
Brand Loyalty ↔ Price Premium (+)	$\psi_{23}$	0,508	0,000	Supported
Indicators of Adjustment				
$\chi^2$ Normalised			2,249	
RMSEA			0,066	
GFI			0,919	
AGFI			0,881	

Validation of the models with a new sample is the proceeding recommended by several authors (Peterson, 1994, Anderson and Gerbing, 1982, 1988; Diamantopoulos and Siguaw, 2000; Gerbing and Anderson, 1988; Bollen, 1989), in order to verify whether the proposed models may or may not be generalised. Thus, the model was estimated again using the second sample, the validation sample.

**Table 6 - Structural Model Estimated with Validation Data**

Main Hypotheses	Parameter	Estimated	p-Value	Conclusion
Brand Awareness → Brand Equity (+)	$\gamma_{11}$	-0,089	0,178	Not sup.
Perceived Quality → Brand Equity (+)	$\gamma_{12}$	0,447	0,000	Supported
Brand Personality → Brand Equity (+)	$\gamma_{13}$	0,180	0,007	Supported
Brand Equity → Brand Loyalty (+)	$\beta_{21}$	0,912	0,000	Supported
Brand Equity → Price Premium (+)	$\beta_{31}$	0,833	0,000	Supported
Others Hypotheses	Parameter	Estimated	p-Value	Conclusion
Brand Awareness ↔ Perceived Quality (+)	$\phi_{12}$	0,514	0,000	Supported
Perceived Quality ↔ Brand Personality (+)	$\phi_{23}$	0,536	0,000	Supported
Brand Awareness ↔ Brand Personality (+)	$\phi_{13}$	0,277	0,000	Supported
Brand Loyalty ↔ Price Premium (+)	$\psi_{23}$	0,544	0,000	Supported
Indicators of Adjustment				
$\chi^2$ Normalised			2,468	
RMSEA			0,075	
GFI			0,887	
AGFI			0,842	

We then to verified if the construct of brand awareness as explanatory variable of brand equity was a valid hypothesis. The model was re-estimated now without this construct. Values found for quality indicators of adjustment were slightly lower than those

obtained with the first sample, however, values the obtained allow us to keep the same conclusions obtained with the original sample.

**Table 7 – Re-Estimated Structural Model with Validation Sample**

Main Hypotheses	Parameter	Estimated	p-Value	Conclusion
Perceived Quality → Brand Equity (+)	$\gamma_{12}$	0,396	0,000	Supported
Brand Personality → Brand Equity (+)	$\gamma_{13}$	0,184	0,005	Supported
Brand Equity → Brand Loyalty (+)	$\beta_{21}$	0,911	0,000	Supported
Brand Equity → Price Premium (+)	$\beta_{31}$	0,832	0,000	Supported
Others Hypotheses	Parameter	Estimated	p-Value	Conclusion
Perceived Quality ↔ Brand Personality (+)	$\phi_{23}$	0,534	0,000	Supported
Brand Loyalty ↔ Price Premium (+)	$\psi_{23}$	0,552	0,000	Supported
Indicators of Adjustment				
$\chi^2$ Normalised		2,740		
RMSEA		0,081		
GFI		0,900		
AGFI		0,851		

In this case, all hypotheses are supported and the indicators (*Goodness-of-Fit*) and AGFI (*Adjusted Goodness-of-Fit*) improve a little, in the same way verified with the first sample.

### Conclusions:

The model used here proposes the separation of constructs associated to brand equity, attending to its logical function and also with the advantages that could remove to the level of management from that different logical positioning. Thus an important empirical result was the conclusion that loyalty and willingness to pay for a price premium variable are consequences of brand equity. In the model logical and structurally determinants of brand equity were identified, and then revealed to be statistically significant: perceived quality and brand personality. To notice that the construct brand awareness, used in measurement models of brand equity, were not important here. First, because that are brands of general knowledge, and secondly, because the inquiry was made to potential buyers, that were inside the stores. This awareness was ensured by all respondents, not contributing (given the absence of variability) for the explanation of the different values of brand equity. Thirdly, some empirical results describe situations of statistic instability, developing from the described situation. On the other hand, perceptual dimensions explanatory's of brand

equity had a good functioning in the sense that they capture the evaluation made by consumers about the brands under study.

In conclusion, we could say that it is of interest to separate the constructs between antecedents and consequents of brand equity, and that this should be considered in measurement models of brand equity in consumers' perspective.

### **Limitations and Future Research:**

This work may be improved in order to be applied to a random sample and a representative sample of consumers in general. It could be applied also to other brands from different sectors to verify if results could be and should be generalised.

Future research should be conducted in order to develop competing models so that the perceptual evaluation that consumers made about the brands, is simplified. To keep the logical separation of the constructs according to its perceptual and comportamental character seems to be a good methodological clue. However, models whose behaviour components could be developed could include image effects of the stores.

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