THE PROVINCIALISM OF GLOBAL BRANDS AN EMPIRICAL ANALYSIS OF BRAND EQUITY DIFFERENCES IN MEXICO AND GERMANY

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ABSTRACT

The term "global brand" has become widely used by the media and by consumers. Although media and consumers call these brands "global" and centralized marketing departments manage these brands globally – are these "global brands" really global? Can we talk about truly global brand equity? And if there were brand image differences between countries, which factors cause them? The authors conducted an empirical research during May and June 2009 with similarly aged University students in Germany (n=426) and Mexico (n=296). The goal was to identify if brand awareness rates differ between Germans and Mexicans, if the brand image of Apple iPod is perceived in the same way in Germany and in Mexico and what influencing factors might have an impact on any brand image discrepancy between the countries. Results prove that brand recall rates differ between the two countries as well as brand image attributes vary significantly, with Mexico showing higher levels of favorable brand image attributes. Key influencing factors on the different brand image perceptions are perceived quality, satisfaction and the influence of reference groups. The results suggest that so-called "global brands" are not perceived the same way in Germany and Mexico. As a consequence, brand management using standardized marketing instruments for its presumable "global brands" might be better off with a more differentiated approach that takes into account a specific local brand image.

JEL classification: C21, M31

Keywords: Global Marketing; Global Brand; Brand Equity; Brand Image; Brand Awareness; Brand Analysis; Cross-country Comparison

1. INTRODUCTION

When companies go global, two extreme ways how to handle international marketing are possible: On the one hand, companies customize their brands according to the special needs and habits of the people living in the marketed country by using a differentiation strategy. On the other hand, companies can apply the same marketing as in their home country in the foreign market following a standardization strategy. However, a company does not have to decide between the both extremes – differentiation or standardization. Many companies choose a "mixed" approach, which means they might follow a standardized strategy for the core elements of their brands; however, when there are evident benefits in adapting these to the local needs, companies do so (Riesenbeck and Freeling 1991, p. 14). Therefore truly global brands with completely standardized marketing hardly exist. Taking Coca-Cola as an example, one can see that the company tailors the flavor, packaging, price, and advertising to meet consumers' taste in specific markets and is successful with this approach. Although Coke commercials are largely standardized, it makes minor modifications to the way it presents itself in each country, even if it is just a translation to the local language (Keller 2008, p. 600 and Solomon 2008, p. 669). However, Coca-Cola is regarded as THE global brand – by the company itself, the media and its customers (De Mooij 2005). A customer being on holidays in another country will find the Coke he or she is familiar with, even though the soft drink is sold in a can instead of a bottle and the taste differs a little due to a different recipe or locally sources ingredients. These slight differences might be unlikely to influence the image the consumer has of the brand. But even though a local consumer might have a certain image of a brand, does this automatically mean that a consumer of another country has the same perception of this brand? And if not, what are the reasons for these different brand images? The following article will try to give answers to these questions.[1]

[1] This paper has been prepared as part of the "How Global are Global Brands" project. For the detailed research report please see: Cleff et al. 2010.

2. THEORY ON BRAND EQUITY ANALYSIS

The term "global brand" is broadly used in International Marketing. However, existing literature lacks a consistent definition of what global brands really are. An analysis of the recent literature reveals that the main characteristics of global brands by different authors are the following: Global brands are virtually all global in reach, which means they must be available all over the world. In addition, Özsomer and Altaras (2008, p. 1) argue that global brands have "widespread regional/global awareness, availability, acceptance, and demand". Also, the company follows a globally integrated marketing strategy and adopts one brand name around the world (Johansson and Ronkainen 2005, p. 339 and De Mooij 2005, p. 14). Consequently, the brand has a "consistent positioning, personality, look, and feel in major markets" (Özsomer and Altaras 2008, p. 1) enabled through these programs and benefiting from a unique perceived image worldwide. Moreover, status, esteem and thus equity rise with globality, which means that the globality of a brand is positively related to perceived quality, prestige and purchase likelihood (Johansson and Ronkainen 2005, p. 339).

In summary, a global brand may be defined by three criteria. At first, it needs to have global awareness and recognition, which requires that the brand has a multi-market reach and is globally available. Second, it requests a global brand image that means it has to be perceived as the same brand worldwide both by consumers and other stakeholders owing to its standardization across markets. Third, a global brand enjoys high brand equity due to its financial assets, perceived quality and esteem. Since the Apple iPod fulfills all three requirements, it was chosen for the present brand equity analysis (Cleff et al. 2010).

Many authors have engaged themselves in the analysis of the description and composition of brands and developed implications and strategies for companies to accomplish a successful brand management. However, a deep literature review revealed that mainly the authors Kevin Lane Keller, David A. Aaker, his daughter Jennifer L. Aaker (1997) and Jean-Noel Kapferer (2005 and 1997) have established the basis for all successive theoretical works and research studies. As many studies largely refer to one or more of these previous mentioned authors, this study will also be based on their works and especially on Keller (2008 and 1993) and Aaker (1996). These two authors have very similar ideas about the elements of a brand according to how they identify and define them. Even though slight differences can be explored concerning the determination of components which contribute to the

equity of a brand, the authors define most of the dimensions in the same way. The following system of equations shows which dimensions in the brand equity model the authors of this article have finally decided on, after having compared the different definitions stated by Keller and Aaker.

(1) Brand Equity = f(Brand Awareness; Brand Image; Influencing Factors)
(2) Brand Awareness = f(Brand Recall; Brand Recognition)
(3) Brand Image = f(Brand Attitude; Brand Personality; Brand Association)
(4) Influencing Factors = f(Customer Commitment; Usage Rate; Reference Groups)
(5) Brand Association = f(Functional Association; Emotional Association)
(6) Customer Commitment = f(Perceived Quality; Satisfaction; Purchase Intention; Brand Loyalty)

Moreover, the equations demonstrate the relationships and components of the different brand dimensions which have been taken as a basis for the development of the survey instrument. For the most part, Keller's (2008, pp.51-59) customer-based brand equity model was utilized as origin, saying that brand knowledge with its two components brand awareness and brand image is the key to creating brand equity. However, Keller's brand image model consists of brand associations which are further sub-divided into attributes, benefits and attitudes. This classification was slightly modified respectively renamed for the purpose of this study. Instead of attributes, the term *brand personality* (Mäder 2004, pp.3) was chosen to evaluate human characteristics of the brand. Benefits were separated into *functional* (Low and Lamb 2000, pp. 352) and *emotional* (Bullmore 1984) *brand associations* which consumers attach to a specific brand and from which they benefit. Nevertheless, the term attitude was kept and only renamed into *brand attitude.*

The next step was to combine Keller's framework with influencing factors of other theoretical models: The factors *brand loyalty* and *perceived quality* were extended by two more sublevels of customer commitment namely *satisfaction and purchase intention* and two additional influencing factors, particularly *usage rate* and *influence by reference groups* (Keller 2008, p. 670; Lee et al. 2008; Jung and Sung 2008, p. 25). Perceived quality, satisfaction, purchase intention, and brand loyalty were subordinated to customer commitment. In conclusion, the three influencing factors on brand equity which were chosen by the researchers were: *customer commitment* with its sub-dimensions, *customer commitment*, *usage rate* and *influence*

by reference groups. The system of equations above shows the complete framework of the study.

3. LITERATURE REVIEW ABOUT THE APPLE IPOD AS A GLOBAL BRAND

Several theoretical papers exist on Apple's marketing strategies, brand extensions and success story. However, they do not include empirical investigations about the brands image or its globality. All in all, only one relevant empirical research paper, namely "The iPod phenomenon: identifying a market leader's secrets through qualitative marketing research" (Reppel et al. 2006) was found, which was taken as a basis for this study. Since Apple has not been over-investigated so far, the brand is suitable for further researches studies. In Reppel et al.'s (2006) study, the laddering technique was used to identify the preferred attributes of the iPod that German consumers value by combining quantitative and qualitative research methods. The objective was to understand how the product is used by the consumer and how attributes are evaluated by them. The findings revealed that German iPod consumers prefer attributes as "control elements", "ease of use" and "design". Comparing the two studies "The iPod phenomenon: identifying a market leader's secrets through qualitative marketing research" and the present study, the following differences can be detected:

First, the present study does not only aim at getting an idea of how the consumers of the brand iPod perceive the brand, but also how the consumers of competitor products see it. Moreover, a model to explain influencing factors on brand image, and hence the measurement of the globalness of a brand should be developed. Second, instead of conducting the survey online through "text-based online laddering chats" as in the Reppel et al. study, a self-administered questionnaire was developed to be conducted. Third, this study is cross-national, thus not only students from Germany, but also from Mexico built the sample. Fourth, instead of filtering opinion leaders as Reppel et al. did, the easiest sampling process, namely asking business students of two universities was chosen for this study. Fifth, only quantitative research was done in this study due to a tight time frame.

In conclusion, the research paper of Reppel et al. showed a first attempt to use attributes named by consumers of iPod and have respondents rate them afterwards. This approach formed also the main part in the self-administered questionnaire of this study with the aim to get an idea of the brand equity which iPod users and non-users have of the brand.

4. THE EMPIRICAL BRAND EQUITY ANALYSIS

4.1. The Sample of the Study

For the conduction of the investigation, the research sample and its size had to be defined. Due to the fact that the study was conducted in the frame of a research project of Pforzheim University in Germany in cooperation with Tecnólogico de Monterrey in Mexico, the authors decided to use German as well as Mexican students for this research study. According to the sample size of other studies taking students as sample, the number of interviewees being part of the brand analysis of Apple iPord was defined to be around 300 per country. The sample size of these studies was about 172 (Foscht et al. 2008), 275 (Lee et al. 2008) and even 400 (Esch et al. 2006) per country.

The selection of students was appropriate due to the following reasons:

First, previous studies have shown that the choice of students as a sample is highly convenient and very often used. Consequently, the comparison of results between the different studies using students as a sample is possible and easy. Second, research indicates that young people are more open to new ideas and innovation. Furthermore, they are more similar to their peers worldwide in their wants and needs than other age groups (Foscht et al. 2008, p. 134). Third, only students were asked because a comparison of countries should always be based on people with the same education and occupation. Above all, students are in a certain age range. The choice of particular majors should further contribute to the homogeneity of the sample. However, one has to bear in mind, that although the selected German and Mexican students are relatively homogeneous in terms of important demographics as age and educational background, they still differ in terms of language, social background and cultural frames of reference. The difference between the students and the resulting limited representativeness has to be considered by the later analysis of the results and the comparison of these two countries.

4.2. Operationalisation of Brand Attributes and of the Influencing Factors

Based on the established model the frame of the questionnaire was built. The main part of the questionnaire contained attributes which had to be rated by the students to measure the various brand dimensions. Even though measurement scales for the different brand dimensions were developed by other authors (e.g.

Aaker 1997; Keller 2008), these scales are not practical to use in some applied studies because of their length. Hence, the researchers established their own scales or used simple scales as Likert type (Cleff et al. 2010). The attributes of iPod and Apple being tested in the survey had been collected by the means of the following sources:

1. The brand identity of iPod, that means, how the company Apple wants its brand to be seen by its stakeholders, especially by its customers
2. Recent literature and
3. Other studies about Apple (see especially Reppel et al. (2006))

The assignment of these attributes to the four brand dimensions was accomplished according to their meaning for the consumer. Hence, statements like *fill their owners with pride* were subordinated to *brand attitude*, as they stress consumer's opinion and overall evaluation of the brand. In addition, the equal procedure was done for the allocation of the other attributes to the three remaining dimensions *functional* and *emotional brand associations* and *brand personality*.

4.3. Pretest of the Questionnaire

First of all, a German questionnaire draft was developed and checked by experts, and subsequently tried out with the help of pretests. For the German pretest, 17 students from Pforzheim University who attend higher semesters than in the real survey were asked, so that the students going to be surveyed do not know the questionnaire beforehand. In the pretest, the students as representatives of the sample population got detailed information about the purpose of the study and the research topic so that they were enabled to make adequate proposals based on the given background. Students were asked about understanding problems, meaning of particular words, the way they understand the given instructions and their overall opinion of the questionnaire, e.g. flow of the questions, length, interest and attention. The first questionnaire draft contained a large number attributes and some of them were quite similar. The objective was to eliminate part of them with the aid of Cronbach's alpha (see Cleff et al. 2010).

4.4. The Translation of the Mexican Questionnaire

Instead of developing an English questionnaire which could be conducted in Mexico and Germany, the questionnaire was generated in the native languages of

these two countries. The main reason for this more complex translation was, that by using English words, especially attributes, one might risk that students from Mexico interpret them differently than the German students, thus, the analysis could include biases. However, the process of translating the questionnaire into Spanish also entailed possibilities of failures. For the translation of the German questionnaire into Spanish, the back translation method was used (see Cleff 1997, p. 155 and Kumar 2000, p. 431). Nevertheless, despite the dedicated accuracy, the back translation cannot guarantee complete reliability that researcher and interviewees will not misunderstand each other regarding the meaning of specific terms.

4.5. The Conduction of the Survey in Germany and Mexico

The survey took place at Pforzheim University and Tecnólogico de Monterrey during lecture time in May and June 2009. The questionnaires were distributed at the beginning of the lectures to ensure that the students are concentrated and have a high motivation to answer them in the best possible way. As the survey was accomplished with a self-administered questionnaire, it was highly important that the students had the necessary information of how to answer it correctly. Since the authors were present to ensure correct conduction of the survey in Germany, it also had to be ensured that the survey was correctly conducted in Mexico. Therefore, a manual with essential details was developed to guarantee that Mexican students are informed in an equal way as the German students. Hence, the best possible initial position to ensure both an optimal data collection and a fast implementation was achieved. In total, n_G=426 Germans and n_M=296 Mexicans participated.

5. RESULTS

5.1. Brand Recall Differences between Germany and Mexico

Several insights can be gained by the information in this Table 1. First, more female students (in total about 63%) completed the questionnaire in both countries. Second, the age range respectively the mean of the student's age is comparable in the two countries due to the procedure to ask different semesters in each country. Third, a high number of Mexican students stated that they do not own an MP3 player. However, due to the high market share of MP3 players, especially for iPod, it can be assumed that these particular students did not want to complete the questionnaire, thus, crossing the answer "*no, I do not use an MP3 player*". Fourth, in

Germany are less students who own an iPod compared to Mexican students. Fifth, an almost equal number of iPod-owners in Germany and Mexico bought an iPod respectively got an iPod as a gift.

Table 1: Sample Characteristics

	Germany	n_G	Mexico	n_M
Female / Male	65% / 35%	316	59% / 41%	228
Age in years[1]	Ø = 21.5	317	Ø = 20.9	228
Students who own an MP3 player / students who do not own an MP3 player	99% / 1%	426	81% / 19%	296
iPod-owners / non-iPod-owners	47% / 53%	311	91% / 9%	234
iPod-purchaser / iPod as a gift	76% / 24%	146	81% / 19%	213

The first brand equity component to be analyzed is *brand awareness* which was further divided into *brand recall* and *recognition*. As the query of both dimensions would have gone beyond the scope of this study, only brand recall was requested from the students. Due to the absence of the forms filled in by the 56 Mexican non-MP3 player-users, brand recall was calculated by considering only the answers of MP3 player-users in both countries. In Germany, 362 out of 408 MP3 player owners answered the brand recall question, that means 46 respondents did over-read the question, simply did not want to answer it or really could not recall an MP3 player brand even though they own one. On average about three brands were recalled by the German students, whereby iPod was recalled by about 62%, Apple by approximately 27% and in total about 88% recalled at least one of these two brands.

In Mexico, 231 out of 236 owners of an MP3 player answered the brand recall question, with an average of 2.6 brands. The brand iPod was recalled by about 78% and Apple by approximately 19%. It never happened that a student recalled both brands, that means in total 97% recalled either iPod or Apple.

Table 2 shows that students in both countries are very familiar with iPod as they recall it to a high extent. Second, the brand recall of iPod is higher among Mexican students than German students and for Apple it is vice versa. Nevertheless, when screening the data sets it was detected that 15 German and four Mexican students actually own an iPod, but nevertheless did not mention either Apple or iPod in the

provided space for the recall question. Reasons for this incident could be, that for the owners of an iPod it is too obvious that they know that brand, thus, they do not think it is necessary to mention it explicitly. Another factor could be that students do not see an iPod as an MP3 player, but rather as an individual category of music players with the result that they do not have an iPod in mind when being asked about MP3 player brands.

Table 2: Brand Recall of MP3 Player-Users in Germany and Mexico

	Germany	Mexico
iPod	61.9%	78.4%
Sony	68.5%	63.6%
Samsung	32.6%	22.9%
Philips	37.0%	14.7%
Apple	27.3%	19.0%

** The Chi-square-test is significant on the 0.01 level.

Only the most often recalled brands are shown in the table above.

Moreover, the Chi-square test of independence was used to prove whether the differences of frequencies are significant between the two countries. In summary, as the brand recall of iPod differs significantly between Germany and Mexico, it can be concluded that this dimension is different between Germany and Mexico. Consequently, as brand awareness is in turn one brand equity element, the first part of it seems to differ. The following analyses will explore whether the second element of brand equity, namely brand image also differs between the two countries.

5.2. Brand Image Differences between Germany and Mexico

The parametric t-test of independent samples and the non-parametric Mann-Whitney U-test were chosen for the comparison of the means / mean ranks for all attributes belonging to brand image between the two countries. This dimension was defined as a generic term for its sub-dimensions *brand attitude*, *functional* and *emotional brand associations*, and *brand personality (*see appendix). Every single attribute independent of the sub-dimension it belongs to was considered in the two tests:

- First, comparing the means for the attributes belonging to brand attitude, the findings showed that the means of only one statement, namely *are nothing for followers* (α=0.91) did not differ significantly between Mexico and Germany.

- Second, the cross-national comparison of the functional brand associations revealed that out of six attributes only *flexible* (α=0.08) and *elegant* (α=0.07) were not significantly different in the two countries. For the emotional brand associations, it was even detected that complete mean heterogeneity prevails.
- Third, the section included human attributes which had to be rated in order to examine brand personality. This part was the most extensive section as it included 14 out of 34 attributes, which were analyzed in the four sub-dimensions of brand image. The t-test for independent samples identified that *not cocky* (α=0.66), *American* (α=0.06) and *not sophisticated* (α=0.21) did not differ significantly between Mexican and German students. Whereas the Mann-Whitney U-test revealed that only *not cocky* (α=0.64) and *not sophisticated* (α=0.28) were not significantly different.

In conclusion, the assumption that Brand image of iPod differs in Germany vs. Mexico can be affirmed. Due to the high amount of attributes, a factor analysis had to be accomplished considering the rated attributes for the brand image sub-dimensions. *Table 3* gives an overview of the nine resulted factors used as reduced brand image dimensions for the following analysis. The brand image sub-dimensions are „meritorious“ (Kaiser and Rice 1974, pp. 111) for a factor analysis because the Kaiser-Meyer-Olkin Measure of Sampling Adequacy is equal to 0.822.

Table 3: Factor Analysis of the Brand Image Dimensions

Factors	Attributes
Factor 1: "Basics"	Elegant; A "must-have"; Inspirational; Different; Innovative; Aesthetic; Cool; Creative
Factor 2: "Performance"	Just need to be loved; Multifunctional; Easy-to-use; Powerful; Time-saving; Are better than other MP3 players
Factor 3: "Esteem"	Are a symbol of liberty; Are a mean of self-expression; Fill their owners with pride; Are no products for show-offs; Are nothing for followers
Factor 4: "Apple's Core"	Intelligent; Stylish; Trustworthy; Unique; Young
Factor 5: "Attitude"	Full of the joys of life; Passionate; Not sophisticated
Factor 6: "Normality"	American; Unexaggerated
Factor 7: "Exclusiveness"	Not mainstream; Not cocky
Factor 8: "Convenience"	Not too expensive; Flexible
Factor 9: "Responsibility"	Social responsible

5.3. Influencing Factors on Brand Image

The question is which influencing factors have an impact on brand image? The influencing factors were previously defined as *influence by reference groups*, *usage rate* and *customer commitment*. The latter one was sub-divided into brand loyalty, purchase intention, perceived quality and satisfaction. The analysis had to be conducted for each of the nine brand image factors (see Table 3) with every single influencing factor. As the Kolmogorov-Smirnov test revealed that the variables to be tested differ significantly from a normal distribution, Kendall's Tau rank correlation coefficient was used to proof the correlations. Table 4 shows whether there is a correlation between the variables and if so, the direction of the correlation.

Table 4: Correlation Analysis (Kendall's Tau) of Brand Image and Influencing Factors

		Perceived Quality	Satisfaction	Purchase Intention	Brand Loyalty	Usage rate	Purchase influence	Group aspiration
Basics	Tau	-,033	,101**	,082	-,017	-,131**	,050	,015
	Sig.(2-tailed)	,314	,002	,068	,721	,000	,099	,618
	N	539	539	266	274	545	494	494
Performance	Tau	,315**	,556**	,427**	,125**	-,180**	,262**	-,030
	Sig.(2-tailed)	,000	,000	,000	,007	,000	,000	,328
	N	539	539	266	274	545	494	494
Esteem	Tau	,082*	-,100**	-,080	-,012	,045	-,105**	,155**
	Sig.(2-tailed)	,012	,002	,079	,796	,167	,001	,000
	N	539	539	266	274	545	494	494
Apple_core	Tau	-,025	,091**	,086	-,019	-,116**	,082**	-,030
	Sig.(2-tailed)	,451	,005	,057	,690	,000	,007	,325
	N	539	539	266	274	545	494	494
Attitude	Tau	-,007	,014	,025	,067	-,044	,061*	-,037
	Sig.(2-tailed)	,821	,667	,573	,151	,176	,046	,221
	N	539	539	266	274	545	494	494
Normality	Tau	-,008	,000	-,044	-,075	-,032	,005	,000
	Sig.(2-tailed)	,815	,982	,327	,109	,326	,867	,995
	N	539	539	266	274	545	494	494
Exclusiveness	Tau	-,224**	-,070*	,120**	,072	-,102**	,087**	-,020
	Sig.(2-tailed)	,000	,034	,008	,124	,002	,004	,514
	N	539	539	266	274	545	494	494
Convenience	Tau	-,080*	-,037	-,061	,020	-,033	-,044	-,010
	Sig.(2-tailed)	,014	,257	,177	,668	,309	,153	,741
	N	539	539	266	274	545	494	494
Responsibility	Tau	-,045	,062	,000	,143**	-,088**	,018	,037
	Sig.(2-tailed)	,170	,060	,994	,002	,007	,560	,227
	N	539	539	266	274	545	494	494

It can be seen that all of the influencing factors have an impact on brand image. Moreover, *satisfaction*, *usage rate* and *influence by reference groups* show the highest impact on *brand image* as each of them correlates with five of the nine factors defined for this dimension.

Before the test of independent samples and the Mann-Whitney U-test were conducted to analyze whether the influencing factors on brand image in Germany and Mexico differ significantly, a closer look was taken at the means of these factors to get a first insight. Table 5 shows an overview of the means of these factors in both countries. As it can be detected, the means in Germany are always higher, which means that the German students have a lower degree of agreement with the attributes or statements than the Mexicans. In addition, usage rate is lower in Germany with an average of 1.6 hours per day in comparison of 2.6 hours per day in Mexico.

Table 5: Overview of the Means of the Influencing Factors

	Germany	Mexico
Perceived quality	2.3	1.9
Satisfaction	2.2	1.7
Purchase intention	3.6	2.1
Brand loyalty	1.9	1.6
Influence by reference groups	4	3.5
Usage rate	1.6 hours	2.6 hours

The t-test for independent samples and the Mann-Whitney U-test both showed that only the factor g*roup aspiration* did not differ significantly between Germany and Mexico. Thus, the other six influencing factors (purchase influence, usage rate, perceived quality, satisfaction, purchase intention, and brand loyalty) were significantly different! Therefore, multivariate analysis needs to analyze if these influencing factors are causing the differently perceived brand equity or if the single dimensions of brand equity stay significant (within the brand equity model). The latter would mean that iPod does not consist of a uniform brand image (and hence not of a uniform brand equity).

5.4. Validation of the Brand Equity Model by Multivariate Analysis

Due to the high correlation of six influencing factors, a factor analysis without splitting the file was done before a logistic regression analysis could be accom-

plished. This is to avoid multicollinearity. Table 6 shows which influencing factors resulted in a new one (KMO=0.56).

Table 6: Factor Analysis of Influencing Factors

Factors	Influencing factors
Factor 1: "Usage Influence"	Purchase Influence & Usage rate
Factor 2: "Experience"	Perceived quality & Satisfaction
Factor 3: "Purchase Pressure"	Group Aspiration & Purchase Intention

The analysis was accomplished in order to prove whether a conclusion on the variable *nationality* – representing the difference of brand equity in Germany and Mexico - can be drawn by differences of the independent variables of the brand equity model. Equation (1) may be transformed in the following equation (7):

(7) Δ Brand Equity = f(Δ Brand Awareness; Δ Brand Image; Δ Influencing Factors)

The logistic regression was accomplished with *nationality* as the dependent variable: Mexico is coded as "0" and Germany as "1", whereby "1" corresponds to the group for which the probability is measured. In addition, the nine factors for the brand image attributes and the three factors for the influencing variables were used as independent variables.

This approach starts from the assumption that according to the brand equity model (see equation (7)) potential regionally different characteristics of brand equity can be explained by regionally different brand dimensions and influencing factors.

Figure 1 gives an overview of the factors which have a significant influence on nationality with their according regression coefficients. The model was built using backward stepwise methods, including all of the predictors. In addition, at each step the predictor that contributed the least was removed from the model, until all of the predictors in the model were significant ($\alpha \leq 0.05$). The resulted model showed that seven out of the 12 possible variables whose influence on *nationality* should be tested were significant (see Wald statistic and significance level in the regression table of Figure 1). The results remain stable even by using any of the following stepwise methods: forward conditional, forward LR, forward Wald, backward conditional, backward LR, or backward Wald. According to the measure of Nagelkerke's R-Square, the proportion of the explained variance is 77.5%.

Moreover, the classification table shows that 572 out of 633 cases (90.4%) have been correctly estimated. The seven significant factors were *basics, performance, Apple's core, exclusiveness*, and *responsibility,* which are part of the brand image, and *usage influence* and *experience* belonging to the influencing factors on brand image. Hence, the five independent factors *purchase pressure*, *esteem, attitude, normality and convenience* are not able to differentiate the regional different brand equities. Mexican and German respondents do not differ in their answering behavior for these five factors.

Figure 1: Binary Logistic Regression Model

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
303,493a	,567	,775

Classification Tablea					
	Observed		Predicted		
			Nationality:		Percentage Correct
			Mexican	German	
	Nationality:	Mexican	195	39	83,3
		German	22	377	94,5
	Overall Percentage				90,4
a. The cut value is ,500					

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
	Basics	1,688	,203	69,454	1	,000	5,408
	Performance	2,136	,264	65,494	1	,000	8,468
	Apple_core	1,450	,209	48,242	1	,000	4,262
	Exclusiveness	1,815	,208	76,179	1	,000	6,140
	Responsibility	,611	,153	16,031	1	,000	1,842
	Usage_Influence	,709	,191	13,710	1	,000	2,031
	Experience	-1,075	,208	26,841	1	,000	,341
	Constant	1,129	,159	50,119	1	,000	3,093

According to the above table, the following regression function can be retrieved:

$$Z = 1.129 + 1.688 \times \textit{Basics} + 2.136 \times \textit{Performance} + 1.450 \times \textit{Apple's core} + 1.815 \times \textit{Exclusiveness} + 0.611 \times \textit{Responsibility} + 0.709 \times \textit{Usage Influence} - 1.075 \times \textit{Experience}$$

Six of the seven significant factors show positive coefficients. Due to the coding[2], this proves that with these factors the German respondents have a lower degree of agreement with the attributes or statements than the Mexicans. As an example, if the (standardized) brand image factor *performance* is increased by one standard deviation, the probability, that a German respondent is involved is eight times higher than for a Mexican respondent (see the respective odds *Exp(B)* in the regression table)!

Something similar accounts for the brand image factor *basics* (around 5 times higher), *Apple's core* (around four times higher), *exclusiveness* (around six times higher), r*esponsibility* (around two times higher) and the influencing factor *usage influence* (around two times higher).

The German respondents only agree more with the influencing factor *experience* (which consists of perceived quality and satisfaction): an increase of this factor by one standard deviation increases the probability that a Mexican respondent is involved by double its size ($e^{(1-0,341)}$).

As a summary it can be concluded, that the iPod manages to generate agreement for the favored brand image much better in Mexico than in Germany – even though the influencing factor *perceived quality* is evaluated worse in Mexico. Controlled for all influencing factors, the brand equity in Mexico and Germany is different.

6. SUMMARY

The study comprises of a brand equity analysis of the brand iPod comparing the markets Germany and Mexico. The authors started from the overall hypothesis that – although the brand iPod is seen by media and customers as a global brand – the awareness and perception of the brand in the two countries is different. Therefore, the goal of the study was to compare brand awareness and brand image perception between Mexicans and Germans. In addition, influencing factors which might explain brand perception differences should be identified.

The first set of results confirmed the majority of the hypotheses of the authors regarding brand awareness and brand image:

[2] Dependent variable: Code=1 for Germany; Independent variable: Likert scale 1="strongly agree" and 5 was "strongly disagree"

- Brand recall rates (which measures brand awareness) for the iPod are significantly different in Germany and Mexico: whereas only 62% of the Germans know the brand and 78% of Mexicans can recall it.
- Regarding the key dimensions of brand image – brand attitude, functional brand associations, emotional brand associations and brand personality – the t-test for independent samples and the Mann-Whitney U test showed that the means of the large majority of the attributes belonging to brand image differ significantly between Germany and Mexico. Out of the 34 attributes analyzed, 28 differ significantly. However, the overall brand image of the iPod – being an aesthetic, young, stylish and easy to use brand of high-quality – was confirmed in Germany and in Mexico. But the overall strengths of the certain attributes (not the direction) is seen differently in Germany than in Mexico (e.g., both countries perceive the iPod to be "intelligent", however the Germans much less than the Mexicans). In total it can be concluded, that the Mexican students assigned better scores for the brand image dimensions than the Germans, which the researcher – except in one case – correctly predicted. It was expected that Germans would rate the functional associations more favorable than Mexicans, however, the contrary was explored.

As explained in the beginning, a global brand by definition needs to have the same brand image around the world. Nevertheless, the brand analysis of Apple revealed that the consumers' perception of the global brand Apple is at least not perceived the same by Germans and Mexicans. According to Hsieh (2001), the extent to which a brand image is perceived similarly across nations can serve as indicator in measuring the degree of brand globalization. Consequently, due to the detected differences between Apple's brand-equity in the two countries, it can be concluded that this brand is not that global as it seems to be. This of course could have implications on Apple's marketing approach for the iPod. The partly less positive brand perceptions in Germany (e.g. seeing the iPod as a much less "innovative" and "intelligent" brand than in Mexico and also as a "mainstream" brand) might suggest, that the actual product performance or at least the communication message/tonality needs to consider counter-active measures to improve the brand image overall in these essential dimensions.

The second set of results tried to explain what is causing these differences in brand image perception. Foscht et al. (2008) already provided clear evidence that the same brand is perceived differently in different cultures in spite of its identical

positioning (or identical brand identity). In addition, besides culture, the influencing factors analysis of the iPod revealed that numerous more factors have an impact on brand image, hence on brand equity. It was proven, that especially the variables satisfaction, usage rate and influence by reference groups have a significant impact on Apple's brand image. The advantage of these influencing factors is that they can partly be influenced by marketing measures of Apple. That means, through influencing factors like customer satisfaction or recommendations by reference groups, Apple can indirectly influence its brand image. An example: Measures to reduce post-purchase customer dissatisfaction such as thank-you-letters or the encouragement of positive word-of-mouth through buzz marketing campaigns might be recommendable marketing instruments to influence brand image perception.

In conclusion, if Apple wishes to achieve the same global brand image around the world, it might be necessary not to apply the same marketing instruments in every country, but to differentiate the marketing (at least temporarily) to wipe out specific brand image weaknesses in specific countries which have been identified.

This study has several limitations that must be addressed in future research. First, the use of a student sample limits the generalization of the findings, as students represent only a subset of consumers. Future research should be conducted with a sample which is more representative of the entire consumer population. Second, it is highly recommended that the developed main and auxiliary hypotheses are tested with other global brands to generalize the findings of the study. Furthermore, besides the already analyzed factors culture, CAA, COO[3], customer commitment, usage rate, and influence by reference groups, further factors should be defined and analyzed in the same way as in this study to achieve comparability. Third, this study included only two countries, namely Mexico and Germany. Besides, the analysis showed that the Mexican students assigned better scores for about 78% of all Likert-type questions than the Germans did. Hence, it could be concluded that the Mexicans tend to cross rather extreme responses and that this special behavior probably increased the difference of Apple's brand image in the two countries. Consequently, future research should be expanded to consumers in numerous other countries (e.g. Asian countries) to provide more comprehensive insights into consumer perceptions towards global brands.

[3] These factors were part of other studies than this one.

Appendix: T-Test for Independent Samples and U-Test

1. Brand Attitude

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Are a symbol of liberty	Equal variances assumed	21,727	,000	-5,858	538	,000	-,560	,096	-,747	-,372
	Equal variances not assumed			-5,679	432,915	,000	-,560	,099	-,753	-,366
Are a mean of self-expression	Equal variances assumed	2,166	,142	3,974	538	,000	,432	,109	,218	,646
	Equal variances not assumed			4,009	514,575	,000	,432	,108	,220	,644
Just need to be loved	Equal variances assumed	27,158	,000	-14,158	537	,000	-1,426	,101	-1,624	-1,228
	Equal variances not assumed			-14,592	536,440	,000	-1,426	,098	-1,618	-1,234
Fill their owners with pride	Equal variances assumed	6,150	,013	3,985	538	,000	,419	,105	,212	,626
	Equal variances not assumed			3,950	483,993	,000	,419	,106	,211	,627
Are no products for show-offs	Equal variances assumed	,229	,633	2,458	540	,014	,264	,107	,053	,475
	Equal variances not assumed			2,446	492,818	,015	,264	,108	,052	,476
Are not too expensive	Equal variances assumed	6,066	,014	5,065	541	,000	,474	,094	,290	,658
	Equal variances not assumed			4,990	471,254	,000	,474	,095	,287	,661
Are nothing for followers	Equal variances assumed	,107	,744	-,119	538	,905	-,013	,110	-,229	,202
	Equal variances not assumed			-,119	493,799	,906	-,013	,110	-,229	,203
Are not better than other MP3 players	Equal variances assumed	1,225	,269	-4,488	536	,000	-,522	,116	-,750	-,293
	Equal variances not assumed			-4,474	493,209	,000	-,522	,117	-,751	-,293

Ranks

	Nationality:	N	Mean Rank	Sum of Ranks
Are a symbol of liberty	Mexican	234	232,18	54330,00
	German	306	299,80	91740,00
	Total	540		
Are a mean of self-expression	Mexican	233	299,83	69861,00
	German	307	248,24	76209,00
	Total	540		
Just need to be loved	Mexican	234	179,04	41894,50
	German	305	339,79	103635,50
	Total	539		
Fill their owners with pride	Mexican	234	300,06	70214,50
	German	306	247,89	75855,50
	Total	540		
Are no products for show-offs	Mexican	234	292,40	68421,50
	German	308	255,62	78731,50
	Total	542		
Are not too expensive	Mexican	234	308,26	72132,50
	German	309	244,54	75563,50
	Total	543		
Are nothing for followers	Mexican	232	269,87	62610,50
	German	308	270,97	83459,50
	Total	540		
Are better than other MP3 players	Mexican	233	302,87	70568,50
	German	305	244,01	74422,50
	Total	538		

Test Statistics[a]

	Are a symbol of liberty	Are a mean of self-expression	Just need to be loved	Fill their owners with pride	Are no products for show-offs	Are not too expensive	Are nothing for followers	Are better than other MP3 players
Mann-Whitney U	26835,000	28931,000	14399,500	28884,500	31145,500	27668,500	35582,500	27757,500
Wilcoxon W	54330,000	76209,000	41894,500	75855,500	78731,500	75563,500	62610,500	74422,500
Z	-5,206	-3,918	-12,161	-3,960	-2,809	-4,865	-,083	-4,448
Asymp. Sig. (2-tailed)	,000	,000	,000	,000	,005	,000	,933	,000

a. Grouping Variable: Nationality:

2. Functional Brand Association

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Multifunctional	Equal variances assumed	,433	,511	-6,115	539	,000	-,431	,071	-,570	-,293
	Equal variances not assumed			-6,201	523,986	,000	-,431	,070	-,568	-,295
Easy-to-use	Equal variances assumed	19,642	,000	-9,789	536	,000	-,668	,068	-,802	-,534
	Equal variances not assumed			-10,228	533,512	,000	-,668	,065	-,796	-,540
Powerful	Equal variances assumed	7,213	,007	-2,698	534	,007	-,211	,078	-,364	-,057
	Equal variances not assumed			-2,607	421,989	,009	-,211	,081	-,369	-,052
Time-saving	Equal variances assumed	14,115	,000	-8,618	535	,000	-,810	,094	-,995	-,625
	Equal variances not assumed			-8,465	462,603	,000	-,810	,096	-,998	-,622
Elegant	Equal variances assumed	3,322	,069	-1,832	536	,068	-,163	,089	-,338	,012
	Equal variances not assumed			-1,823	491,723	,069	-,163	,089	-,339	,013
Flexible	Equal variances assumed	3,677	,056	-1,744	534	,082	-,19027	,10910	-,40459	,02405
	Equal variances not assumed			-1,722	474,776	,086	-,19027	,11048	-,40737	,02683

Ranks

	Nationality:	N	Mean Rank	Sum of Ranks
Multifunctional	Mexican	234	224,90	52626,00
	German	307	306,14	93985,00
	Total	541		
Easy-to-use	Mexican	233	203,41	47394,00
	German	305	319,99	97597,00
	Total	538		
Powerful	Mexican	234	241,40	56488,00
	German	302	289,50	87428,00
	Total	536		
Time-saving	Mexican	234	206,51	48324,50
	German	303	317,26	96128,50
	Total	537		
Elegant	Mexican	234	251,75	58909,00
	German	304	283,16	86082,00
	Total	538		
Flexible	Mexican	234	252,29	59035,50
	German	302	281,06	84880,50
	Total	536		

3. Emotional Brand Association

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
A "must-have"	Equal variances assumed	3,763	,053	-9,393	536	,000	-,992	,106	-1,200	-,785
	Equal variances not assumed			-9,238	464,676	,000	-,992	,107	-1,203	-,781
Inspirational	Equal variances assumed	6,794	,009	-3,427	537	,001	-,346	,101	-,544	-,148
	Equal variances not assumed			-3,345	447,412	,001	-,346	,103	-,549	-,143
Different	Equal variances assumed	,624	,430	-6,944	533	,000	-,701	,101	-,899	-,502
	Equal variances not assumed			-6,935	496,475	,000	-,701	,101	-,899	-,502
Innovative	Equal variances assumed	29,443	,000	-10,737	536	,000	-,820	,076	-,970	-,670
	Equal variances not assumed			-11,268	530,270	,000	-,820	,073	-,963	-,677
Unexaggerated	Equal variances assumed	2,117	,146	3,385	535	,001	,32686	,09657	,13716	,51656
	Equal variances not assumed			3,404	509,481	,001	,32686	,09601	,13823	,51549
Not mainstream	Equal variances assumed	,031	,860	-13,738	535	,000	-1,170	,085	-1,337	-1,002
	Equal variances not assumed			-13,700	494,039	,000	-1,170	,085	-1,337	-1,002

Ranks

	Nationality:	N	Mean Rank	Sum of Ranks
A "must-have"	Mexican	233	205,14	47797,00
	German	305	318,67	97194,00
	Total	538		
Inspirational	Mexican	233	247,21	57600,00
	German	306	287,35	87930,00
	Total	539		
Different	Mexican	233	217,53	50685,50
	German	302	306,94	92694,50
	Total	535		
Innovative	Mexican	233	193,90	45178,50
	German	305	327,25	99812,50
	Total	538		
Unexaggerated	Mexican	233	295,42	68833,00
	German	304	248,75	75620,00
	Total	537		
Not mainstream	Mexican	233	180,31	42012,00
	German	304	336,98	102441,00
	Total	537		

Test Statistics[a]

	A "must-have"	Inspirational	Different	Innovative	Unexaggerated	Not mainstream
Mann-Whitney U	20536,000	30339,000	23424,500	17917,500	29260,000	14751,000
Wilcoxon W	47797,000	57600,000	50685,500	45178,500	75620,000	42012,000
Z	-8,604	-3,059	-6,832	-10,581	-3,574	-12,020
Asymp. Sig. (2-tailed)	,000	,002	,000	,000	,000	,000

a. Grouping Variable: Nationality:

4. Brand Personality

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Aesthetic	Equal variances assumed	,849	,357	-6,249	530	,000	-,540	,086	-,709	-,370
	Equal variances not assumed			-6,327	516,644	,000	-,540	,085	-,707	-,372
Cool	Equal variances assumed	3,699	,055	-8,569	533	,000	-,718	,084	-,882	-,553
	Equal variances not assumed			-8,669	519,683	,000	-,718	,083	-,880	-,555
American	Equal variances assumed	20,512	,000	-1,963	533	,050	-,224	,114	-,447	,000
	Equal variances not assumed			-1,918	448,460	,056	-,224	,117	-,453	,005
Creative	Equal variances assumed	1,027	,311	-8,888	536	,000	-,734	,083	-,896	-,571
	Equal variances not assumed			-8,944	512,234	,000	-,734	,082	-,895	-,572
Full of the joys of life	Equal variances assumed	,674	,412	-5,878	533	,000	-,555	,094	-,740	-,369
	Equal variances not assumed			-5,792	468,423	,000	-,555	,096	-,743	-,366
Passionate	Equal variances assumed	11,331	,001	-6,418	533	,000	-,675	,105	-,882	-,468
	Equal variances not assumed			-6,323	469,022	,000	-,675	,107	-,885	-,465
Intelligent	Equal variances assumed	7,147	,008	-7,373	532	,000	-,715	,097	-,906	-,525
	Equal variances not assumed			-7,193	444,367	,000	-,715	,099	-,911	-,520
Social responsible	Equal variances assumed	14,345	,000	-8,904	522	,000	-,789	,089	-,963	-,615
	Equal variances not assumed			-8,518	389,830	,000	-,789	,093	-,971	-,607
Trustworthy	Equal variances assumed	,871	,351	-11,070	522	,000	-1,031	,093	-1,214	-,848
	Equal variances not assumed			-11,007	470,151	,000	-1,031	,094	-1,215	-,847
Stylish	Equal variances assumed	23,986	,000	-5,899	527	,000	-,418	,071	-,558	-,279
	Equal variances not assumed			-6,178	526,422	,000	-,418	,068	-,551	-,285
Unique	Equal variances assumed	,234	,629	-6,660	525	,000	-,689	,104	-,893	-,486
	Equal variances not assumed			-6,698	490,214	,000	-,689	,103	-,892	-,487
Young	Equal variances assumed	4,059	,044	-6,184	525	,000	-,535	,086	-,704	-,365
	Equal variances not assumed			-6,392	522,787	,000	-,535	,084	-,699	-,370
Not cocky	Equal variances assumed	1,409	,236	,445	535	,656	,04887	,10978	-,16678	,26452
	Equal variances not assumed			,441	482,385	,659	,04887	,11080	-,16884	,26658
Not sophisticated	Equal variances assumed	21,628	,000	-1,245	535	,214	-,120	,096	-,309	,069
	Equal variances not assumed			-1,207	431,017	,228	-,120	,099	-,315	,075

Ranks

	Nationality	N	Mean Rank	Sum of Ranks
Aesthetic	Mexican	232	219,75	50983,00
	German	300	302,65	90795,00
	Total	532		
Cool	Mexican	234	203,28	47567,50
	German	301	318,31	95812,50
	Total	535		
American	Mexican	233	250,99	58480,00
	German	302	281,13	84900,00
	Total	535		
Creative	Mexican	234	202,15	47303,50
	German	304	321,34	97687,50
	Total	538		
Full of the joys of life	Mexican	233	219,46	51134,00
	German	302	305,45	92246,00
	Total	535		
Passionate	Mexican	234	222,89	52156,50
	German	301	303,07	91223,50
	Total	535		
Intelligent	Mexican	233	208,97	48689,00
	German	301	312,81	94156,00
	Total	534		

Ranks

	Nationality:	N	Mean Rank	Sum of Ranks
Social responsible	Mexican	224	205,45	46020,00
	German	300	305,10	91530,00
	Total	524		
Trustworthy	Mexican	224	186,89	41864,00
	German	300	318,95	95686,00
	Total	524		
Stylish	Mexican	226	222,13	50202,50
	German	303	296,97	89982,50
	Total	529		
Unique	Mexican	224	216,01	48386,00
	German	303	299,48	90742,00
	Total	527		
Young	Mexican	225	218,10	49073,50
	German	302	298,19	90054,50
	Total	527		
Not cocky	Mexican	234	272,50	63765,00
	German	303	266,30	80688,00
	Total	537		
Not sophisticated	Mexican	233	261,02	60817,50
	German	304	275,12	83635,50
	Total	537		

Test Statistics[a]

	Aesthetic	Cool	American	Creative	Full of the joys of life	Passionate	Intelligent
Mann-Whitney U	23955,000	20072,500	31219,000	19808,500	23873,000	24661,500	21428,000
Wilcoxon W	50983,000	47567,500	58480,000	47303,500	51134,000	52156,500	48689,000
Z	-6,499	-9,003	-2,293	-9,275	-6,635	-6,116	-7,969
Asymp. Sig. (2-tailed)	,000	,000	,022	,000	,000	,000	,000

a. Grouping Variable: Nationality:

Test Statistics[a]

	Social responsible	Trustworthy	Stylish	Unique	Young	Not cocky	Not sophisticated
Mann-Whitney U	20820,000	16664,000	24551,500	23186,000	23648,500	34632,000	33556,500
Wilcoxon W	46020,000	41864,000	50202,500	48386,000	49073,500	80688,000	60817,500
Z	-7,775	-10,188	-6,366	-6,403	-6,373	-,471	-1,086
Asymp. Sig. (2-tailed)	,000	,000	,000	,000	,000	,638	,278

a. Grouping Variable: Nationality:

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[1] Younger than 18 and older than 24 years was calculated with 18 years resp. 24 years.