

# **The application of a model to measure university brand image. Differences between English, Spanish and Portuguese undergraduate students.**

## **Abstract**

Research on the role brand image plays in higher education (HE) suggests that it is crucial to understand students' perceptions of their university. This study builds on existing empirical work by Alcaide-Pulido, Alves, and Gutierrez-Villar (2017) exploring themes of national and international recognition, economic value, university campus facilities, and external communications and values. It employs a structural equation modelling approach with Partial Least Squares (PLS) and Decision Trees Analysis through a sample of 624 undergraduate students from England, Spain, and Portugal. The findings highlight areas of commonality as well as differences between the different cultures and nationalities examined as part of the study. They show areas that brand managers from each country should concentrate on, making recommendations that could help to shape the marketing direction of universities in each of the nations included in the research. The English and Portuguese should prioritize communication to students through their institutional website, whereas Spaniards should attend to ethical values and social responsibility. Economic value is an aspect that Spanish and English universities should focus on. Spaniards and English agree that campus facilities are important, whereas class size is key for Portuguese. Finally, Portuguese students' highly value the national recognition of their university.

## **Keywords**

Brand image; Higher Education; Decision trees; PLS Multigroup analysis; cross-cultural framework; Quantitative analysis.

## **Introduction**

Discussion of brand image has become common in Higher Education (HE) (Schüller & Chalupský, 2011; Waeraas & Solbakk, 2009; Chapleo, 2011; Schlesinger, Cervera, & Pérez-Cabañero, 2016). It is widely agreed that Higher Education Institutions (HEIs) need to understand brand management (Williams & Omar, 2014) as this will provide market competitiveness and decision-making capacity to their managers (Aghaz, Hashemi, & Sharifi Atashgah, 2015; Farhat, Mokhtar, & Salleh, 2020).

Research in HE branding is therefore relevant and timely due to the increasingly globally competitive nature of the HE landscape (Aghaz et al., 2015; Schlesinger et al., 2016). Recent studies have advanced understanding of this field (eg (Williams & Omar, 2014) Schlesinger, Cervera, & Pérez-Cabañero, 2016; Chapleo & O’Sullivan, 2017; Abdelmaaboud, Peña, & Mahrous, 2020) but there is still a gap around understanding the perceptions of brand image held by undergraduate students

Broadly, this paper therefore contributes to the limited literature focusing on brand image in HEIs and seeks to critically explore and understand European university marketing strategies; it has a different and valuable perspective as it helps to explain the behaviour and decisions of students in particular, and suggest models to help provide a holistic offering for HE marketers and academics,

The specific focus of this research is to determine that the four factors comprising university brand image in the eyes of students in England, Spain and Portugal are significant and thereby demonstrating the validity of results applying the global model previously developed by Alcaide-Pulido et al. (2017) and applied by Manzoor, Ho, and Al Mahmud (2020) to investigate the influence on students’ citizenship behaviour in the context of HEIs’ achieving sustainability. This model was selected as, methodologically, it fits well with the needs of this study and is increasingly widely cited (Çirak-Kurt, & Kalman, 2019; Gordon-Isasi, Narvaiza,

& Gibaja, 2021; Hwang & Choi, 2019; Jooste, Cullen, & Calitz, 2020; Volkova, & Plakhotnik, 2021) and authors such as Manzoor, Ho, & Al Mahmud (2020) apply it in their research of the influence on students' citizenship behaviour in the context of HEIs.

Conceptually, brand image in HE has been under discussion for some time (eg Kazoleas, Kim, and Moffitt, 2001).

However, this work builds upon previous theoretical frameworks, as other studies as Ivy (2001); Kazoleas, Kim, and Moffitt (2001); Beerli-Palacio, Díaz-Meneses and (2002); Arpan, Raney, and Zivnuska (2003); Duarte, Alves, and Raposo (2010) propose a model of brand image in HEI, but as Alcaide-Pulido et al (2017:162) argues "regarding the image of HEIs, the literature presents different measurement models, with no consensus about the variables to include in them". For this reason, the model presented by Alcaide-Pulido et al (2017) not only carries out a systematic review and analyse all the variables included in the studies of university brand image from 2001 to 2017, but also includes new relevant variables for HEIs brand image to develop a complete and more effective model to measure HEIs image. Alcaide-Pulido et al (2017) validate the model in two different countries, which aims to increase reliability. Also, through the theoretical implications of this model of measurement, HEIs managers could improve the effectiveness and efficiency of their actions on marketing theory of HEIs

In this paper, we explore this cross-national and cross-temporal variation to derive and test multiple hypotheses about brand image perceptions from undergraduate management students, an understanding of which allows university brand managers to make strategic decisions. Following the implementation of the Bologna Plan (1999), all European countries focus on the need for transformations in the field of tertiary education related to the teaching approach, the student- academic interaction, and the need for a participatory management of academics, students and employees (Jakobi & Rusconi, 2009; Torgal, 2015). Reviewing the academic literature, these needs should be based on four factors: the recognition of European Higher

Education Institutions (HEIs) in a national and international context, the costs of HEI, the university campus facilities, and even the management of the external communications and values (Alcaide-Pulido et al., 2017). However, the priorities of these needs differ between countries (England, Spain and Portugal) and within each country across time due to the different socioeconomic environments and the characteristics of the countries (Brook, 2018).

This study explores the various communication practices within these three European universities as they all attempt to communicate to an extremely diverse stakeholder group.

This research is exclusive in nature. The first time such an empirical study has compared these European countries (England, Spain, and Portugal), with the objective of understanding the perception of brand image held by undergraduate students. This key stakeholder group (Hemsley-Brown & Oplatka, 2006; Helgesen, 2008; Schüller & Chalupský, 2011; Gutiérrez-Villar, Alcaide-Pulido, & Carbonero-Ruz, 2017; Abdelmaaboud et al., 2020) provides invaluable information to the brand managers.

In the following sections, we will review previous studies related to brand image in HE. The methodology section will explain how the empirical results were achieved. Finally, we present the results and the paper concludes with a summary of the recommendations for brand management theory and the implications to practice.

## **Literature review**

### ***Brand image in Higher Education***

Investigating the benefits of branding in HEIs is crucial for the development of a strong educational sector. The literature is clear that brands are complex offerings. Conceived by

organisations but ultimately they reside in consumers' minds (Deheer & Tandoh-Offin, 2015; Massoud & Ayoubi, 2018).

The increasingly competitive market of HE has required HEIs to be competitive in not just their branding and reputation management but also their projected brand image to society (Chapleo, 2011; Aghaz et al., 2015; Baltaru, 2019; Khoshtaria et al., 2020). It is essential to understand how the institution's brand image is formed in order to build strategies to improve brand management decisions (Arpan, Raney & Zivnuska, 2003; Schlesinger et al., 2016; Farhat et al., 2020).

Alcaide-Pulido et al. (2017) define university brand image: "as the set of students' mental perceptions that influence them to express a positive or negative opinion about the university" (p. 164). Authors suggest that HEI strategies are currently focused too greatly on national and international recognition, economic value, university campus facilities, and external communication and values; when in fact, strategies aimed at improving the institutional brand image to the current undergraduate students could actually have a more positive effect on branding.

Conceptual models focused on brand image in HEIs were introduced in the academic literature in 2001 (Ivy, 2001; Kazoleas, Kim, & Moffitt, 2001). Alcaide-Pulido et al. (2017) identified the need to build on previous theoretical frameworks by introducing multiple variables to create a model for measuring university brand image. These variables were identified through secondary research and then tested for validation through primary data collection and analysis.

The authors then affirmed: "The intense bibliographical review, bearing in mind the university's different stakeholders, allows us to use the same variables we have used to measure the brand image held by students with other stakeholders in the university context" (2017, 182).

The results of the analysis confirmed that the variables selected to measure the university brand image are grouped in four factors. The first one formed by national and international recognition factor is very important. In this case, results show that HEIs should strive to make their institution known nationally and internationally, they should seek to achieve a strong reputation and academic prestige and be well-placed in university rankings (Gruber, 2014; Baltaru, 2019). The second factor is economic value. Institutions must consider how to achieve a balance between quality and price and, not less important, they should set an appropriate tuition fee (Farhat et al., 2020). Following, universities must focus on their campus facilities. In relation to classrooms, universities may prioritise providing enough technological equipment (Henderson, Selwyn, & Aston, 2017), subjects informed underpinned with theoretical and practical influence, and to offer an appropriate and healthy number of students per class. Furthermore, universities must consider the size of campus. Finally, universities should focus on external communications and values, which implies website and social networks; and values related to the commitment to society, act ethically, and social and environmental responsibility.

### ***Similarities and differences between the countries in this study***

Following the entry of Spain, Portugal and England into the EHEA (European Higher Education Area), universities in these countries have undergone profound changes – mainly due to political and administrative decentralisation, sources of public funding, the appearance of new centres, and an increase in student mobility (Brooks, 2019). Therefore, it is interesting to observe the similarities and differences of these countries in order to understand the context of the research (Jakobi & Rusconi, 2009; Brooks, 2019).

The University Act in Spain and Portugal looks to improve the international prospects of the university system as well as the mobility between HEIs. Firstly, Spanish institutions have emphasised the promotion of the educational and researcher offer focusing on international awareness (Pétriz, 2016). This can be achieved through the creation, transfer, development and

criticism of technological and scientific knowledge, and by the beneficial transfer to society in order to be attractive in a globalised world (Hemsley-Brown & Oplatka, 2006; Deheer & Tandoh-Offin, 2015; Khoshtaria, Datuashvili, & Matin, 2020) allowing the achievement of a higher citizen wellness. The Portuguese higher education system has had a comparative development in reference to other countries in the European Union, especially in relation to free access, social support for students, accreditation and quality assessment, such as public financing (Machado & Taylor, 2010).

England has a unitary higher education system “resulted from the merger of the polytechnic system with the ‘autonomous’ university sector in 1992” (Weyer, 2018, p. 157). The number of universities has been on the rise from 2011/2012 because after the modification of the research mission in 1998, a number of higher education colleges were able to obtain university status with degree-awarding powers.

*H<sub>1</sub>: As Spain and Portugal develop their activity in similar socioeconomic environments and the countries share some characteristics, there are similarities in the brand image students from Spain and Portugal have; and there are differences between the brand image from Portugal and Spain students compared to students from England.*

### ***National and international recognition of HEIs***

As time passes, HEIs gain greater recognition, drivers of regional and national economic development, providing management training and contributing to the expansion of permanent education. The social dimension and the link with society in the context of university management enable a better development of this international recognition (Wilkins & Huisman, 2015).

Students and staff will select the university where they would like to study or research depending on the international recognition and reputation. In addition, the international

recognition of the university facilitates not only institutional relations, but also promotes partnerships and agreements between universities, and allows university systems to improve the promotion of job opportunities, and international alliances (Duarte, Alves, & Raposo, 2010). This variable enables international competitiveness (Hemsley-Brown & Oplatka, 2006; Machado & Taylor 2010; Schlesinger et al., 2016); and a competitive position in university rankings, among other things, will see benefit to research and technological and knowledge advancement (Hemsley-Brown & Oplatka, 2006; Baltaru, 2019). Which in turn, brings prestige and reputation establishing the HEI as a point of international reference (Duarte et al., 2010; Baltaru, 2019).

It should be emphasised that HEIs are engines of economic and social development in countries and must collaborate with society for the expansion of life-long education (Orazbayeva, Davey, Plewa, & Galán-Muros, 2019) and HEI's need to be well established in their country and have an effective balance between quality and price. This is a very significant relationship as rankings bring excellence, differentiation, and universities actively pursue strategies to position themselves in these systems that measure academic level.

*H<sub>2</sub>: National and international recognition are important for the three analysed countries and they are related to the ranking position.*

### ***Economic value***

Economic value is fundamental in forming the university's brand image in the student body because tuition fee level is a key differentiator. Universities must communicate their value to their stakeholders, achieving a balance between quality and price.

In a scenario where there are state centers (mainly supported by state funds) and private centers whose tuition fees are more expensive, the relationship between price and quality are very important for the analysis of universities (Farhat et al., 2020). HEIs should provide an



affordable access for all students (Ivy, 2001; Beerli Palacio, Díaz Meneses, & Pérez Pérez, 2002; Arpan et al., 2003; Duarte et al., 2010; Abdelmaaboud et al., 2020). The reality is that HEIs face strong competition and the search for differentiation (Schlesinger et al., 2016). Thus, HEIs need to compete for resources and students, which can be realised if the managers of these institutions achieve a balance between price and quality.

*H<sub>3</sub>: Economic cost of studies has an effect to the brand image of the three analysed countries.*

### ***University campus facilities***

This research presents three university scenarios where not only is the size of the campus relevant to students' perception of brand image, but also the pedagogical adaptation needed to suit a variety of learning and teaching approaches in a variety of classroom settings is important. Such learning and teaching environments include: Problem solving, the discussion of practical cases for learning in small groups, the use of technologies linked to new methodologies in the classroom, as well as tutorial attention (Pétriz, 2016).

In the literature review, for example, physical aspects have been significant in shaping the size of the campus. Kazoleas et al. (2001) indicate that organization's infrastructure is the most basic factor, but also the most critical part related to the brand image of the facilities. That is to say, these are prominent parameters, and so the campus must be of an adequate size.

Conversely, the variable related to technological equipment is considered fundamental, as HEIs must adapt to changes in teaching, incorporating technological elements that facilitate the work and interactivity between academics and students (Henderson, Selwyn, & Aston, 2017). In addition, the use of these tools in the classroom setting alongside academic innovation, and the need for a low student/classroom ratio is key for positive brand image. Thus, reduced class sizes are better for teaching and the use of social networks for communication.

*H4: Campus size, technological equipment and student per classroom ratio are essential for three countries in the analysis of brand image.*

### ***Communication***

The field of communication has been revolutionised by the proliferation of social media (Killian & McManus, 2015; Gordon-Isasi, Narvaiza, & Gibaja, 2020). Social media is an electronic media platform that facilitates the exchange of information and relationship building between individuals and groups on social networking sites. Universities must show the characteristics that make them different, showing higher quality, in a competitive environment, in an environment where the quality-price relationship is very important and where the web page is fundamental too (Chapleo, Carrillo Durán, & Castillo Díaz, 2011; Gordon-Isasi et al., 2020). Communication and management on the web favour the close relationship between universities and their environment and facilitate their international projection (Alcaide-Pulido & Herrero-Diz, 2013).

Therefore, what universities communicate and how they communicate to their different stakeholders is very important, as this influences their different target audiences and impacts on society, so they must pay close attention to what they do in this field (Alcaide-Pulido & Herrero-Diz, 2013) for marketing management (Hemsley-Brown & Oplatka, 2006; Schüller & Chalupský, 2011). This makes them responsible for the consequences and impacts that their teaching actions and research can generate.

*H5: Online communication and social networks executed by the university is an influential key factor to the three studied countries in this research.*

In addition, the messages transmitted by the university should provide ethical values and social responsibility. Understanding ethics as an intrinsic element underlying all the university's expected services and programs, and ethical discourse is important as a maxim of HEI

marketing and communication, in the context of the global integration of European higher education contributing to diminishing social gaps (Hemsley-Brown & Oplatka, 2006).

*H<sub>6</sub>: The messages transmitted by the three analysed countries should transfer ethical values.*

## **Research Objectives and Hypothesis**

The main objective of this study builds on the previous research undertaken by the authors in two keyways:

1. Multigroup analysis conducted with three countries instead of two.
2. The combination of two methodologies. The first, PLS model and frequencies analysis of the variable's values; and decision trees to classify. The second methodology is multigroup analysis to compare groups.

The analysis of the model will contribute to practical implications as well as theoretical knowledge by demonstrating how the brand image that undergraduate students hold, helps to inform marketing decisions made by university brand managers confirming that the application of commercial approaches has ceased to be over-simplistic.

This research has two aims:

1. Determine that the four factors forming university Brand Image (national and international recognition, economic value, university campus facilities, and external communication and values) in the eyes of undergraduate students in England, Spain and Portugal are significant and thereby demonstrating the validity of results applying the global model previously developed by Alcaide-Pulido et al. (2017).
2. Detect which variables have low or regular values, which have high values, or even the variables that are unknown for students from England, Spain and Portugal to accept or reject the specific hypothesis (H<sub>1</sub>-H<sub>6</sub>).

## **Material and methods**

### ***Methodology context***

To achieve the main objective of the research, Partial Least Square (PLS) model is applied to test the difference in the parameters between more than two groups. It is crucial for researchers in international marketing and other cross-cultural research fields, because they frequently encounter situations where they need to compare more than two groups (Sarstedt, Henseler & Ringle, 2011).

### ***Sample, questionnaire and data***

The population for this research is a convenience sample formed of 700 undergraduate students: 200 students from Bournemouth University (BU), a public university in England, 250 from Universidad Loyola Andalucía (ULA), a private university in Spain, and 250 from Universidade da Beira Interior (UBI), a public university in Portugal. BU currently has over 17000 students, including over 1500 international students (The World University Ranking, 2021); ULA is a small university with an enrolment range between 2,000-2,999 students (Unirank, 2021), including over 350 international students; and UBI has approximately 7000 students, including approximately 1400 international students (The World University Ranking, 2021).

There are similarities between the public university in England and the private university in Spain in terms of average tuition fees for bachelor's programs, while a public university in Portugal is cheaper. The three selected universities offer students fellowship programs and financial support from their Government. Thus, the prices for the next academic year 2021/22 are: BU: £9.250 (Bournemouth University, 2021); ULA: 8.000€ to 10.640€ (Universidad Loyola Andalucía, 2021); UBI: 5.000€ (University Beira Interior, 2021). These similarities and differences with regards to prices and tuition fees show the adequacy of the sample.

Information was collected through a questionnaire validated in the study of Alcaide-Pulido et al. (2017). There are four factors forming university image. The first is “External Communication and Values”, which is formed of five variables: having a good website, being present on social networks, being committed to society, conveying ethical values and social responsibility, and conveying values of environmental sustainability. The second most significant construct is “National and International Awareness”, which includes four variables: being known in the country, being known internationally, having a good reputation and academic prestige, and being well placed in university rankings. The third significant construct is “Economic Value”, with two variables: a good quality-price relationship, and the right price. The fourth significant construct is “Facilities”, formed of four variables: classrooms being well equipped technologically, the number of students per class being appropriate, subjects generally having a good balance of theory/practice, and the campus being of an appropriate size (Alcaide-Pulido et al, 2017:180-182).

The total number of variables are measured through a Likert-type scale of 7 points ranging from one (totally disagree) to seven (totally agree), and nine demographic questions.

Data collection was carried out in 2018 and the final sample consists of 624 undergraduate students, since seventy-six questionnaires were considered invalid, with the following characteristics: students attending Social Science courses (Business, Law, Communication, Marketing, and International Relations); men and women between 18 and 22 years old; both the universities’ own students and exchange students.

### ***Data modelling***

The appropriate treatment of data (which was processed in two steps) was of crucial importance in order that it provide robust information.

Before starting the explorative analysis, it is important to validate the model through structural equation modelling approach (Helgesen, 2008) with PLS confirmatory model and the analysis of the frequencies. Next step was implementing an exploratory analysis through data mining. For modelling the data, decision-tree learning was selected as a method that allows the comparison of different variables. Based on key selected variables, decision trees are designed to segment large heterogeneous groups of data into smaller homogeneous groups (Sun, Cárdenas, & Harrill, 2016). This study uses the Chi-squared Automatic Interaction Detector (CHAID) decision tree for prediction and classification. This method can classify them providing the algorithm with an advantage over neural networks and genetic algorithms looking for relationships (Sun, Cárdenas, & Harrill, 2016). CHAID's advantages are that its output is visual and easy to interpret. Therefore, CHAID was widely adopted in marketing where it is used for segmenting customers (You, Si, Zhang, Zeng, & Leung and Li, 2015).

Knowing the most important significant groups of variables, the second part of the analysis used Structural Equations with SmartPLS (3.0). As Sarstedt et al. (2011) commented that “multi-group analysis provides a permutation-based analysis of variance approach that maintains the familywise error rate, does not rely on distributional assumptions, and exhibits an acceptable level of statistical power” (p. 213).

## **Results**

### ***PLS Model***

Before starting the comparative analysis, it is important to validate the model. The PLS confirmatory model is included in appendix 1. Following the recommendations by Ringle, Wende and Becker (2015), 5,000 samples (5,000 different combinations of samples from 624 cases) were used to configure the bootstrap analysis. In this case, after running the model with Bootstrap analysis in SmartPLS 3.0 MLA, results in table 1 indicate the validity of it because the *t* statistic values have levels above 1.96 (for a  $\alpha=0.05$ ).

*[Table 1 near here]*

In addition, the resulting model of brand brand image is observed in Figure 1.

*[Figure 1 near here]*

### *Frequencies*

Table 2 demonstrates the frequencies analysis results of indirect variables by descending order in terms of low or regular values, high values, and these variables unknown for undergraduate students.

*[Table 2 near here]*

The variable related to “university price” is the lowest valued. 84.71% students scoring it between one and five; contrarily, the best score goes to “the number of students per classroom”, where 43.47% of students scored it six or seven Likert scale points. In addition, “university rankings” and the fact that “university is known at international level” are variables that students are not usually aware of.

Table 3 illustrates the frequencies analysis resulting of indirect variables separately by countries and by descending order. The frequencies analysis among countries indicates similarities and differences between undergraduate students from three countries analysed in terms of low or regular values, high values and these variables unknown for them.

*[Table 3 near here]*

The main relationship from England, Spain and Portugal is observed in the classification of variables “unknown for students”. The variable shared by three countries in this category is “university is known internationally”. Also, for Spaniards and Portuguese the higher values of lack of knowledge is the “university rankings”. However, Portuguese and English students

share a lack of emphasis on the positioning of “university in rankings” (82.32% for Portuguese and 85.48% for English students).

Because of this, Hypothesis H<sub>2</sub> “*National and international recognition are important for three analysed countries and they are related to the ranking position*” is rejected because of the relationship between the unknown internationally and low scores of university rankings.

Focusing on variables that get higher values, there are more differences than the previous category explained:

- For Spanish and English students, the highest weight is related to the construct “university facilities” because they value very much “the technological equipment” that classes have (60% in Spain and 41.4% in England) and “university campus size” (49.5% in England and 49.16% in Spain).
- Portuguese students value greatly “the number of students per classroom” (33.83%); they also consider the variable “the university is known nationally” (31.31%).

Consequently, Hypothesis H<sub>4</sub> “*Campus size, technological equipment and student per classroom ratio are essential for three countries in the analysis of brand image*” is accepted because it is valuable for students.

In terms of “external communications and values”, Spanish students consider the “ethical values and social responsibility” as an important variable (51.25%). Because of, H<sub>6</sub> “*The messages transmitted by analysed universities should transfer ethical values*” is partially accepted.

Conversely, English students (33.87%) place high importance on “webpage” and Portuguese students also value it (29.79%) too. Therefore, Hypothesis H<sub>5</sub> “*Online communication and social networks undertaken by the university is an influential key factor to three studied countries*” is partially accepted.



Moreover, Portuguese students give the lowest values to the variable “the subject have a good theoretical/practical balance” (85.35%), a variable that a percentage of 75.42% of Spaniards consider with low values too. The only variable that just Portuguese decide as low or regular value is “the technological equipment” because the other two groups assigned a high value to this factor.

Regarding the low or regular values, it is significant that students from Spain and England estimate the “economic value” as the worst; showing the claim “The price is right” with the poorest evaluation (90.32% of English students and 83.33% of Spaniards). In addition, an 87.09% of English students and a 77.92% of Spanish consider negatively “the relationship between quality and price”. This result is very important because it is the most valuable and significant aspect for students in Spain and England that Portuguese do not take into account. It can be reinforced with the analysis of decision trees.

### ***Decision trees***

Results reinforce frequency results. Spanish students have the lowest perception related to the price they paid to study at university related to the quality and services they received. Also, English students show lower rates than the majority of Portuguese students, who value the price of their university at 3 points (39.6%); while 37% of the Portuguese, scored that category with medium points (4 or 5 points in Likert scale).

***[Figure 2 near here]***

According to this result, Hypothesis H<sub>3</sub> “*Economic cost of studies has effect to the brand image of the three analysed countries*” is accepted.

### ***PLS multigroup analysis***

Once frequency of variables and decision trees have been analysed, the second part of the analysis was conducted. Multigroup comparison can be effective using the method proposed by Chin (2000) and the analysis is developed comparing t-students values through analysis Multi-group (MGA) in SmartPLS 3.0 which test if pre-defined data groups have significant differences in their group-specific parameter estimates (e.g., outer weights, outer loadings and path coefficients). SmartPLS provides outcomes of three different approaches based on bootstrapping results from every group (Ringle et al., 2015).

The study of Hair, Ringle, and Sarstedt (2011) specifies that t-statistic critical value should be lower than 1.96 with a significance level of 5% (\*\*) indicating that there are not significant differences between groups.

Different tables will show the differences in three comparisons' path coefficient estimates (Portugal vs. Spain, Spain vs. England, and Portugal vs. England), and provide the results of multigroup comparisons. The analysis will show that, generally, the multigroup comparison test results correspond very closely. Consequently, the parametric approach generally can be considering more liberal in terms of rendering a certain significant difference. Table 4, table 5 and table 6 illustrate the differences between countries.

*[Table 4 near here]*

*[Table 5 near here]*

*[Table 6 near here]*

It is possible to determine focusing on the construct “National and international recognition” that there are differences between Spain and Portugal because results of T-students are higher than 1.96. Thus, the brand image for Portuguese students (0.471) is better than Spanish students have in this term (0.2809). There are significant differences in this construct. On the other hand, there are not significant differences between Spain and England.

In addition, “University campus facilities” construct shows significant differences in the relationship between Portugal and England because the T-student value is 2.43 (higher than 1.96). In this case, English students have better brand image (0.3068) than Portuguese students (0.0881).

Therefore, once the data has been analysed according to the groups, Portugal presents differences to students from Spain in terms of national and international recognition and awareness, and these Portuguese students present differences related to university facilities compared to English students. The result of university’ brand image measurement presents differences according to university country. That is, not only there are significant differences between students from Spain and Portugal but also between Portugal and England.

Consequently, Hypothesis H<sub>1</sub> “*Regarding to the literature review, as Spain and Portugal develop their activity in similar socioeconomic environments and the countries share some characteristics, there are similarities in the brand image students from Spain and Portugal have; and there are differences between both of them and students from England*” is partially accepted.

### ***Summary findings***

Results indicate almost all hypothesis are accepted or partially accepted and just one is rejected.

### ***[Table 7 near here]***

The summary of hypothesis shows that only H<sub>3</sub> and H<sub>4</sub> are totally accepted hypothesis. These are related to the effect of the Brand image of the three analysed countries in terms of economic cost of studies, and the importance of the university campus size, technological equipment, and student per classroom ratio for the three countries. Therefore, these two are the most important factors that affect the brand image that undergraduate students from England, Spain and Portugal perceive.

Technological equipment refers to technological currency in delivery and computing facilities (Kazoleas et al, 2001:209-210; Arpan et al, 2003:100), equipment and media, technical facilities which includes computers, projectors and data show and technological resources (Duarte et al, 2010:31)

It is anticipated that specifics of exact campus sizes, technological equipment etc will be academically informative and of practical value and it is anticipated that future research will approach these specifics in a more detailed granular manner where exact values are established

## **Discussion**

HEIs play a key part in contributing to countries' competitive capacity, as well as a fundamental role improving the quality of life (Hemsley-Brown & Oplatka, 2006; Aghaz et al., 2015; Orazbayeva et al., 2019) to achieve equal opportunities and tackle social exclusion (Kazoleas et al., 2001). Under this premise, the new EHEA has developed a role that influences universities commitment to the development of society (Beerli Palacio et al., 2002; Arpan et al., 2003) through new institutional models that contribute to the economic and social sustainability of these institutions.

The findings of this study offer a blueprint for university brand managers in order to understand and assess important variables for English, Spanish and Portuguese university undergraduate students to improve their perception of the institution's brand image. So far and contrary to the literature review expectations, which grouped Spain and Portugal as similar socioeconomic environments, multigroup analysis has revealed far more similarities between English and Spanish students than similarities between Portugal and Spanish.

Focusing on variables that get higher values results in Table 3 explains this a little further: for "Economic cost" we found that England and Spain have similar tuition fees. Also, both

countries consider “Economic value” as the ‘worst’ construct. Spaniards and English students also share similarities related to “University facilities” because they highly value “the technological equipment” that classes have (60% in Spain and 41.4% in England) and “university campus size” (49.5% in England and 49.16% in Spain), while, on the other hand, Portuguese students value greatly “the number of students per classroom” and that “the university is known nationally” (31.31%). In table 4 Portugal and Spain present differences in terms of the “National and International Recognition” construct, while table 6 determines differences between England and Portugal in the construct of “University campus facilities”. Finally, table 5 does not show differences between undergraduate students from England and Spain.

For these reasons, multigroup analysis reveals more similarities between English and Spanish students. However, this is an area for potential future deeper exploration to establish further specifics.

National and international brand recognition should not be overlooked, and universities should strive to make their institution known worldwide. HEIs should achieve a strong reputation and academic prestige, as well as obtaining good positions in rankings. However, Portuguese students consider it important that their university is recognised nationally, rather than internationally. This may be because this country is smaller than the other two analysed.

Economic value is fundamental in forming a positive brand image within the student body due to concerns regarding tuition fees. This research reveals that Spanish and English students demonstrated the biggest dissonance between their expectations of quality and value for

money. Universities in these countries therefore need to strike a balance between quality and price.

Regarding the factor of the university campus facilities associated with technological equipment in classrooms and the university campus size, Spain and England are consistently similar, whereas Portuguese students consider the ratio of students per classroom appropriate. Whilst the lack of theoretical and practical balance in subjects has made Portuguese and Spanish's students question the brand image of their universities. Therefore, universities in these countries must look outwards and embed the development of business practices in the classroom to enable a good theoretical-practical balance. HEI brand managers need to be mindful that campus size is also important for this stakeholder group; investing and energizing the university facilities should be a priority.

The main conclusion related to communication is that universities should be concerned with external communication, especially through online media such as their website (Chapleo et al., 2011; Hemsley-Brown, 2012) and their social networks (Killian & McManus, 2015; Farhat et al., 2020; Gordon-Isasi et al., 2020), rather than offline media. The messages transmitted by the university to their students should prioritise values such as commitment to society, behaving ethically and social and environmental responsibility.

English student's share the importance Portuguese students place on a good university website, whereas Spaniards prioritise communication focussed on ethical values and social responsibility. The continued use of social networks is evident in the university environment, so it is crucial that these institutions maximise these communication channels to facilitate two-way dialogue with the student community. Through their social networks and websites, universities must demonstrate the characteristics that make them unique in an environment where the management of these means of communication should be a priority (Hemsley-Brown, 2012; Farhat et al., 2020). The messages transmitted by the university should highlight

values such as commitment to society, acting ethically and with social and environmental responsibility. What and how universities communicate to their students is very important (Alcaide-Pulido & Herrero-Diz, 2013) for marketing brand management (Hemsley-Brown & Oplatka, 2006; Schüller & Chalupský, 2011) due to the influence of the brand image perception students will form.

## **Conclusions**

The principal contribution to knowledge of this research is in demonstrating that the most relevant constructs of brand image vary between country/ culture. Although three key European markets have been investigated, this is likely to also be the case with further country markets. With this in mind academics and marketing professionals should seek to fully understand their key students markets and align their brand image accordingly to maximise relevance and attractiveness. Of course, given the global nature of HE markets, this is especially challenging but nevertheless needs consideration.

It is also notable that the degree of value placed upon online brand image communication also appears to vary between country markets.

Conceptually, the work adopts previous work suggesting four factors forming university brand image in previous empirical work (national and international recognition, economic value, university campus facilities, and external communication and values) and builds upon this to understand how they vary across country/ culture.

## **Limitations**

This research was undertaken in three broadly comparable HEIs in England, Spain and Portugal with data collection from participants in the disciplines of Business, Law, Communication, Marketing, and International Relations. Therefore, it is recognised the findings from this research are only relevant to those countries sampled.

It is also acknowledged that the undergraduate student body sampled are stereotypically more aware of brand image than students would be from the various STEM disciplines.

It is however felt that the sample size is solid and therefore is a true representation of this key stakeholder group.

### **Future research**

Further empirical research with different European countries is needed in order to better understand how the university brand image differs depending on the nature of the nationality of undergraduate students and the geographical location of the HEI. If the brand image perceived by students of these three countries in the aforementioned research reflects similarities and differences to one-another, the extrapolation to a further country to compare results may show further evidence of the model's reliability.



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## Appendix 1. PLS Confirmatory model

The results of the significant constructs in the model, as well as the significance of the relationships through their paths (Table 1, Original Sample) are observed through the R<sup>2</sup> value, according to the study by Hair et al. (2011), results of 0.20 being considered high in disciplines such as consumer behaviour. Confirmed as high R<sup>2</sup> results are those obtained in the Nat&InternatRecon factor, this having the greatest loading, with a value of 0.335, followed by ExtComm&Values with 0.228; and UnivCampFacilities, with 0.209. Finally, EconValue presents average R<sup>2</sup> values with 0.158.

The next step now is to determine what changes are produced in the R<sup>2</sup> value when a specific exogenous construct is omitted from the model, the  $f^2$  statistic is calculated applying the following formula (Hair et al., 2011):  $f^2 = \frac{R^2_{total} - R^2_{excluded}}{1 - R^2_{total}}$ ; where ExtComm&Values result is 0.006, showing a low value; Nat&InternatRecon = 0.2785, viewing a high value; EconValue = 0.1161, it is observing a high value; and UnivCampFacilities = 0.035 which indicates a low value. All  $f^2$  values observed, despite being high or low, can be considered acceptable for the purposes of continuing the analysis.

The final stage now is calculate the predictive relevance of the endogenous construct, brand image, through the value of the Q<sup>2</sup> statistic. To obtain this value in the construct of the brand image and confirm predictive relevance, it is rotate the blindfolding obtaining a result of 0.329 which indicates that the brand image construct has great predictive importance (Hair et al., 2011).