Do UK universities communicate their brands effectively through their websites?

This paper attempts to explore the effectiveness of UK universities' websites. The area of branding in higher education has received increasing academic investigation, but little work has researched how universities demonstrate their brand promises through their websites. The quest to differentiate through branding can be challenging in the university context, however. It is argued that those institutions that have a strong distinctive image will be in a better position to face a changing future. Employing a multistage methodology, the web pages of twenty UK universities were investigated by using a combination of content and multivariable analysis. Results indicated 'traditional values' such as teaching and research were often well communicated in terms of online brand but 'emotional values' like social responsibility and the universities' environments were less consistently communicated, despite their increased topicality. It is therefore suggested that emotional values may offer a basis for possible future online differentiation.

Introduction

In the face of increasing national and international competition, universities and colleges all over the world have started to search for a unique definition of what they are. Clear differentiation may help to attract students and academic staff (Chapleo, 2004; Hemsley-Brown & Goonawardana, 2007). This has led to increased interest in branding in education although brand management in the specific context of higher education has seemingly received limited academic attention (Beerli Palacio, Diaz Meneses & Perez Perez, 2002).

Brands are pivotal resources for generating competitive advantage (Aaker, 1996; Balmer & Gray, 2003) and therefore brand management is a central organisational competence that needs to be understood (Louro & Cunha, 2001). This has significant implications in an age of increasing competition among UK universities (Stamp, 2004), as universities are more aware of the link between what they 'stand for' in terms of values and characteristics, as well as how they are perceived (Melewar & Akel, 2005). Arguably newer universities may be more adapted to the changing environment, where brand depends on what you are 'showing' and how you are 'adapting' (Johnson, 2001).

Therefore it becomes important to manage the set of convictions surrounding an organisation in the stakeholder's mind (Carrillo & Ruao, 2005). However, positive images are not a foregone conclusion (Kazoleas, Kim & Moffitt, 2001), driving universities to study their image and the process of brand management. In fact, there is a significant argument that a university may be too complex to be encapsulated by one brand or identity definition (Wæraas & Solbakk, 2008). Literature searches result in very few papers that specifically address higher education branding (Wæraas & Solbakk, 2008; Hemsley-Brown & Oplatka, 2006), although there is an established literature on different aspects of marketing of higher education. Branding is dominated by a focus on communication (Bulotaite, 2003) or brand architecture (Baker & Balmer, 1997; Chapleo, 2004; Hemsley-Brown & Goonawardana, 2007), and international branding (Gray, Fam & Llanes, 2003). Other papers discuss the brand (Lowrie, 2007), the pros and cons of branding (Stensaker, 2007), and successful brands (Chapleo, 2005). Despite the fact that several writers are optimistic,

seeing branding as an instrument for improving university competitiveness and reputation (Melewar & Akel, 2005), UK universities may have some way to go in terms of understanding and incorporating the branding concept (Johnson, 2001). It seems that necessity is forcing them to adopt the concepts and practices of branding, but the current perceived wisdom may not necessarily be suited to the specific needs of the university sector. Certainly it seems that internet strategies, as part of brand communication, are not well-explored in the literature relating to the university context (Opoku, Hultman & Saheli-Sangar, 2008).

Therefore, it seems reasonable to argue that the building of brands within universities have certain inherent challenges and these follow for the particular role of the university website in branding, which is a necessary discipline for all universities to master. Indeed, in their work on Spanish universities, Beerli Palacio et al. (2002) argue that those institutions with a strong distinctive image will be in a better position to face the changing future. However, few studies have investigated how universities demonstrate their brand promises through their websites.

Websites are an intrinsic part of brand communications (Schultz, Hatch & Larsen, 2000), both visually as well as in tone and content (Simmons, 2007). Therefore there is a need to understand and assess the particular qualities of university websites with a view to optimising their effectiveness as brand communication tools. This paper takes this task on by evaluating United Kingdom (UK) university websites; a similar study has already been carried out Spain (Castillo, 2007; Castillo & Carrillo, 2008).

United Kingdom (UK) universities were chosen as they are increasingly under pressure to act as businesses (Kotler & Kotler, 1998). This development is driven by tuition fees, competitive differentiation, league tables, organisations attaining university status and the mis-match between brand perceptions and delivery (Stamp, 2004). The increased need for international recruitment has also forced UK universities to consider international brand image and in doing so confront dilemmas of standardised or adapted brand strategies (Gray et al., 2003). Within the UK universities have enjoyed a high reputation and have benefited in market penetration worldwide. Unfortunately, this superiority has started to decline as other countries are emerging with their higher education proposition (Binsardi & Ekwulugo, 2003).

This indicative study explores UK universities' brand 'promises' on the internet through two objectives:

- To determine the extent to which UK universities effectively transmit their brands promises online and suggest which factors are important in successfully communicating an online university brand.
- To determine if it is possible to classify UK universities according to the way they demonstrate their online brand promises.

Literature review

Defining brands

'Brand' can be argued to be a subjective term (Kapferer, 2001). Examining existing academic definitions of brand, a 'two factor' approach forms the broad basis for many writers like de Chernatony and McWilliam (1990) and Caldwell and Freire (2004), suggesting brand definitions are based on 'emotional' and 'rational' factors. This approach is summarised by Pringle and Thompson (1999), who argue that there are two main constituents to a brand's authority: it's rational or performance benefits and it's emotional or image ones. Louro and Cunha (2001) embrace this and add 'strategic' and 'relational' dimensions in their argument that brands are

multidimensional.

It has been suggested that the predominant context for most brand research is that of consumer goods (Brodie & de Chernatony, 2009) and therefore the authors were mindful that definitions need to be considered in terms of transferability to university websites.

De Chernatony, Dall Olmo Riley and Harris (1998) suggest that a brand is 'a multidimensional construct whereby mangers augment products or services with values and this facilitates the process by which consumers confidently recognise and appreciate these values' (p. 427). As education is a service, an applicable definition seems to be 'a cluster of values that enables a promise to be made about a unique and valued experience' (de Chernatony, 2009, p. 104). Supporting this, Schultz et al. (2000) affirm that, 'increasingly organisations compete based on their ability to express who they are and what they stand for'.

There is little doubt that the branding concept has evolved in academic and practical terms from its more simplistic conceptualisations (Christodoulides, de Chernatony, Furrer, Shiu, & Abimola, 2006) to embrace the concept of 'experience'. A number of models focusing on personality can be found in the literature (Opoku, Abratt & Pitt, 2006; Geuens, Weijters & Wulf, 2009).

FIGURE 1

It has been suggested that models have evolved to focus more on the important addition of 'promise' particularly when conceptualising a brand, the concept of 'brand personality' (or 'to say') should be refocused as 'brand' (or 'to promise') (Villafañe, 2004). This is a fundamental difference and is supported by the notion of 'corporate reputation' ('recognition') rather than 'corporate image' ('to seem'). According to Schultz et al. (2000) 'emotional and symbolic expressiveness is becoming part of the experience of doing business'(p.1).

This re-conceptualisation of brand can be termed the 'brand experience' (Villafañe, 2004; Rowley, 2004). Therefore the 'brand promise' is central to the concept of the 'brand experience'.

Villafañe (2004) suggests that his vision of the 'brand experience' is composed of a number of factors. He terms these factors 'brand code', 'brand identity', 'communicated benefit' of the brand, the 'strategic position' of the brand, the brand's 'strategic management', the 'brand architecture' and then the actual delivery – 'visual identity' and 'tracking of the brand'. These elements culminate in the 'brand reputation index' (BRI), a methodology to evaluate brand reputation, using three types of analytical variables (Functional Values, Social Values and Emotional Values). The commercially accepted RepTrak™ Model (Forbes, 2007) suggests that a company's reputation is influenced by:
- stakeholders' experience
- corporate messaging: the company's corporate communication and initiatives
- media coverage: how and what the media is covering about the company
- internal alignment: the company's employees strategic alignment

These areas relate to functional and emotional values in general terms and underpin the approach of this paper.

University brand promise
Branding may be offered as a solution to a university's problems, although it forces it to examine its *raison d'etre* and form a unique and consistent definition of its organisational identity. The branding process will trigger existential questions such as 'what do we stand for?' as well as

'what do we want to stand for?' Consistent answers may be difficult to find, leading the university to remain in a state of ongoing and problematic self-definition without proceeding to the next step of communicating the identity to the audience (Wæraas & Solbakk 2008).

Before communicating universities have to elaborate their 'brand promise'. This is exemplified by the University of Haway which argues that the brand is not 'our logo, our advertising, our campuses or even our people. In its simplest form, our brand is nothing more and nothing less than the promises of value system makes to all of its audience. Our brand promise makes us unique, and differentiates us from every other university system in the world' (The University of Haway System, 2002). Balmer and Liao (2007) suggest that the strength of student identification with a corporate brand is predicated on awareness, knowledge and experience of a brand. Similarly, Villafañe's model of brand evolution (2004) suggests that the most important change is the evolution from corporate personality (how you define and show your brand) towards brand promise. The brand promise is the central theme of the 'brand experience'.

Brand promise comprises three values: 'functional values', 'emotional values' and 'social values' (Villafañe, 2004). Keller (2000) reinforces the conceptualisation of distinct functional and emotional values when he breaks down brand equity into elements such as 'product attributes, benefits, or attitudes' ('functional values') and 'people and relationships' ('emotional values').

Similarly, Veloutsou, Lewis and Patton (2004) identify the following 'information requirements' related to functional and emotional values for a university: reputation of university and programme ('functional and emotional values'), location of university ('functional and emotional values'), institutional infrastructure ('functional values'), costs of study at institution ('functional values'), career prospects ('emotional and functional values') and quality of life during study ('emotional values').

These models and requirements (Villafañe, 2004; Keller, 2000; Veloutsou et al., 2004) have some commonality and the application of these values to the university context can best be explained through these points:

'Functional': the basic running of universities in order to manage quality and innovation.

'Emotional': empathy characteristics that brands offer to their publics.

An understanding of the relationship between the subjective terms discussed in this section is important in order to understand the conceptual model underpinning this paper.

Online branding

The mainstream academic literature has been accused of largely neglecting the growing importance of online communications as part of corporate identity (Opoku et al., 2006). Having said that, 'new technologies may amplify a worldwide struggle between universities in the educational market. Academic standards, competence in information technology and international branding will contribute to the success of a university' (Kjaersdam, 2001, p. 66).

However, there seems to be a growing body of work discussing the role of the internet in branding. Simmons (2007) refers to this as 'i-branding' and argues that many organisations are searching for new internet branding strategies that might assist them in creating distinctiveness whilst engaging with customers.

De Chernatony (2003) suggests that the early emphasis on brands on the internet was at the rational level, but that a brand is actually a cluster of rational and emotional values that enable a stakeholder to recognise the 'promise experience'.

The 'Brand Experience' then, can be argued to be the culmination of these underpinning factors that lead to a successful brand (Villafañe, 2004). This is broadly supported by Rowley

(2004) who suggests that websites need to build 'online brand experience' and lists a number of activities including 'resources', 'ease of access' and 'relevance', which all contribute to this experience.

De Chernatony (2003) goes on to suggest that the 'brand experience' is not just assessed on the content of a site, but rather through the rational values, the emotional values and the promised experience. Branding on the internet is not intrinsically different from traditional branding but what changes online is the enactment of the brand (Christodoulides et al., 2006), moving towards the idea of a 'brand experience'.

A university brand should communicate both the 'cognitive' and 'affective' dimensions and therefore those responsible for conveying image should communicate attributes that address these distinct components (Beerli Palacio et al., 2002). These dimensions are suggested to manifest through 'functional values' (cognitive) and 'emotional values' (affective).

During examinations of university selection criteria Veloutsou et al. (2004) and Ho and Hung (2008) identify variables that can be reasonably connected with 'functional' and 'emotional' values. These core values form the underpinning theoretical model for the analysis conducted in this paper in order to obtain a brand promise value for UK universities in accordance with how they communicate their brand promises online. As discussed, functional and emotional values are widely defined in relation to university brand (Beerli Palacio et al., 2002) and the Internet (de Chernatony, 2003).

The Global University Network for Innovation (GUNI, 2009) contributes to the strengthening of worldwide higher education by helping to put into practice the decisions taken at UNESCO's World Conference on Higher Education in 1998. Its main objectives are to promote and reflect on innovation, universities' social commitment and how to improve the quality of higher education. It also states that HEIs should reorient their vision and mission towards the creation and distribution of socially relevant knowledge and their contribution to global social responsibility. The UNESCO (1998) declaration offered a first interpretation of the 'mission and functions of higher education' that equates to educating , promoting good citizenship, advancing research, advancing culture, innovating, enhancing social values, promoting freedom, forecasting and projecting issues, meeting societal needs, reflecting trends in employment, and contributing locally, nationally and globally. Therefore paraphrasing of the declaration and it's conceptualisation of the 'mission and functions of higher education', and subsequent examination (GUNI, 2009) alongside the current literature led the authors to suggest an overall set of variables that should be communicated through university web sites: 'teaching', 'research', 'management', 'local identity', 'international projection', 'social responsibility' and 'innovation'.

It is accepted that the date of the UNESCO declaration (1998) limits the extent to which it can embrace the evolving scope of website communication but it was nevertheless considered the most appropriate summary of the fundamental concept of what a university should be. According to the UNESCO Forum on Higher Education, Research and Knowledge (2006), five factors were particularly relevant (Bleiklie, 2005; Guri- Rosenblit & Sebkova, 2006; Teichler, 2006): growing international cooperation and mobility, globalisation, new steering and management systems, moves towards a knowledge society and new media. This work aims to draw from this literature and explore both traditional and newly-proposed variables in order to evaluate universities' online branding.

It also aims to determine if it is possible to classify universities according to the way they communicate their brands promises through the variables in table 1.

TABLE 1

These variables are those considered by the authors to be present in all universities investigated, with varying levels of intensity. Each of the variables were then tested on university websites and rated in terms of the following questions derived from literature as detailed below (Table 2).

TABLE 2

In summary, the approach consisted of analysing the brand promise messages within UK university web sites. This was undertaken through a detailed content analysis carried out to determine online brand communication classified under 'teaching', 'research', 'management international projection', 'social responsibility', 'universities environment' and 'innovation'. Content analysis involved reducing the material while preserving the essential contents through coding, and attaching each statement or phrase to one of the defined dimensions (Miles & Huberman, 1994; Schilling, 2006).

For each of variables the analysis identified the position (main page or secondary pages) of the messages, their translation to other languages, their customisation to different stakeholders and whether these messages are supported with data or any multimedia resource. In the content analysis, the values of each variable were considered to be present or not present, utilising the approach from a similar analysis of Spanish universities (Castillo, 2007; Carrillo et al., 2010).

Hypotheses

The main purpose of this work is to explore the effectiveness of UK universities' on line branding, with respect to the variables explained before.

Considering the objectives alongside the literature, four hypotheses emerged:

- H1. Universities consistently reinforce the projection of functional (e.g. research and teaching) in are communicating brand promises on the Internet.
- H2. 'International projection' is a consistently important factor when universities communicate their brands on the Internet.
- H3. After functional values, an emergent group of emotional values (e.g. 'social responsibility') are the most consistently projected values in UK university websites.
- H4. Those universities that project their emotional values well also tend to present their functional values well.

Segmentation of UK universities and methodology

The UK has 133 universities (UUK members, n.d.) which can be classified in three groups relating to date of incorporation; 'old', 'middle' and 'new' universities (Chapleo, 2005; Bennett, Ali-Choudhury & Savani, 2007; Walton, 2005).

The groups were: older universities incorporated before 1920 (36 universities), middle-group universities incorporated between 1920-1990 (33 universities), and new universities incorporated between 1990-2008 (64 universities). The number of universities analysed was 20 (26.2% of the population) distributed proportionally between old, middle-aged and new

universities. The selection was made through stratified sampling, taking each distinct category and sampling at random within that category, but proportionally to the category population.

TABLE 3

In a stratified study with small populations relevant confidence levels may be difficult to ascertain. In this sample the statistical error calculated is +-20.6% for a confidence level of 95.5%.

The methodology comprised several distinct steps:

Fuzzy logic
The Fuzzy logic method, used in many fields, including management in organisations, was employed (Terano, Asai & y Sugeno, 1994; Martín y Sanz, 2001). This method is considered valid in the study social sciences (Ragin, 2000; Smithson & Verkuilen, 2006; Ragin, 2008) because it provides a basis for the manipulation of vague and imprecise concepts. The concept of 'fuzzy logic' was important to the methodology, enabling intermediate values to be defined between conventional evaluations (such as true/ false). Fuzzy logic can be 'helpful for complex or nonlinear processes when there is no simple mathematical model' (Hellman, 2001) and it helps to avoid abrupt divisions in the results. For example, it is not appropriate to suggest that a university with an education value of 4.9 is 'bad' compared to another university that has obtained 5.0 in education. It has also been suggested that it is particularly suited to problems in which the involved sets have unsharp boundaries and membership (Mathworks, n.d.), as is clearly the case in this situation, where it is not sensible to fix strict limits when determining the performance of the university in a particular aspect of its brand promise on the Internet.

Therefore, through the identification of a series of attributes of functional and emotional characters, the authors have carried out a study of the brand messages published on the institutional websites of 20 UK universities. A group of variables were identified that should be present in these institutions' websites: 'teaching', 'research and management excellence', 'international projection', 'universities environment', 'innovation and corporate social responsibility'.

The units analysed were text, visual and audiovisual messages published on the univeristy websites. The variables evident from the literature were: 'existence of messages', 'position on the site', 'adaptation to stakeholders', 'translation into other languages' and 'data and audiovisual reinforcements'.

As stated, assessment of each variable took place using 'fuzzy logic', in particular the fuzzy inference system (FIS) (Jang & Sun, 1995), a popular methodology for implementing fuzzy logic (Shapiro, 2004). The fuzzy system was implemented using the computing language Matlab (Mathworks, n.d.) which takes data obtained from the web analysis as its input and determines whether the diffusion of the considered brand's facet can be considered to be 'very good', 'good', 'average', 'poor' or 'very poor'.

In order to demonstrate that the main variables in the fuzzy logic approach were reliable, Cronbach's Alpha was utilised, as a common measure of variables reliability that reinforces applicability (Cronbach, 1951; Cortina, 1993; Field, 2005).

Cluster Analysis

In assessing relationships among the sample through fuzzy logic, a logical next step may be some form of a cluster analysis, as it is a technique that has been proved suitable for grouping elements (Tryon, 1939).

The agglomerative method of clustering (the Ward's Method and K-Medias) was used. This is a process that continues grouping until all objects are in one cluster (Hair., 1998,). The measurement used in this study to estimate the distance is Squared Euclidian Distance Method (Hair, 1998).

MANOVA analysis

Finally, MANOVA analysis was carried out to explore differences in the way universities communicate brand on the Internet. After obtaining MANOVA results it is possible to put variables into groups in order to explain more significant differences between groups of universities.

Results

As explained, fuzzy logic was applied to achieve the measurement and weight of every variable in accordance with the literature and then Cronbach's Alpha technique was used to prove the reliability of these variables. Cronbach's Alpha analyse demonstrated that the variables of the study were reliable in 100% of the cases, as shown in table (table 4). This proves that all the variables selected from the literature review were suitable for the purpose of this work.

TABLE 4

Secondly, cluster analysis was applied in order to determine whether universities can be grouped according to the way they communicate their brands promises on the internet.

Results show four clusters or groups of universities which communicate their brands in a different way on the Internet (tables 5 & 6)

TABLE 5

TABLE 6

TABLE 7

Next, MANOVA analysis was carried out to explore differences between groups in the way they communicate brands on the internet (Table 8).

TABLE 8

According to the MANOVA results, although every variable shows differences, it is possible to group them in order to explain more significant differences between groups of universities. Therefore a discriminant analysis of three factors was undertaken. The third factor was not significant (0.134) and it may be concluded that only two factors are relevant in the analysis (Table 9).

TABLE 9

TABLE 10

The first factor is related to identity and functional values (teaching, research, management, innovation and international projection). The second relates to emotional factors (incorporating social responsibility and universities environment) (Table 9 & 10). Some clear differences can be identified in terms of four distinct clusters of universities:

Cluster 1

A group of universities, which have a good brand projection in terms of functional values but a much weaker projection of emotional values prioritises the communication of communicating research, teaching, innovation and international projection. However, they are seemingly less interested in social responsibility and the universities' environment.

Cluster 2

This group has a weak brand projection in terms of emotional values and functional values but they have higher scores in traditional values of teaching and research and newer values of international projection. They seem less concerned with other traditional functional values such as management and new values such as innovation.

Cluster 3

This group has a reasonably good brand projection in emotional and functional factors but not at the same level as the fourth group. They have high scores in functional values of teaching, research and international projection, and even their values in innovation can be considered good. In terms of emotional values they score well in universities' environment and have an acceptable score in social responsibility.

Cluster 4

This group has the strongest brand projection in both emotional and functional factors with high scores for every variable (even management) which is a variable less evident in every cluster.

These cluster groups are interesting, however, in that there seems to be limited evidence of commonality in terms of traditional segmentation of UK universities, which tend to be in terms of age (newer universities, 1960s 'redbricks', older universities), core mission (research vs. teaching) or peer association ('Russell' group, coalition of modern universities). Clearly the brand expression through the website is different to that of offline brand expression and has little to do with historical or league table perceptions.

Conclusions

In conclusion, it is considered appropriate to examine the underpinning hypotheses. The first hypothesis suggested that universities reinforce the projection of functional values such research and teaching when they are communicating their brand promises on the Internet.

Results show that all four groups of universities communicate traditional values effectively, but to varying degrees. Even the universities that project their overall brand less effectively seem to project the functional values somewhat better than the emotional ones. This hypothesis is therefore generally supported.

International projection (hypothesis two) is one of the more notable factors when universities communicate their brands online. In every group this variable scored highly, confirming that universities are concerned about communicating internationally, as suggested by the literature.

It was evident that those institutions that communicate functional values well, also generally do so with international projection. However, it is also interesting that even institutions that do not score highly on overall brand also seem concerned with their international brand projection. This hypothesis is therefore clearly supported.

Hypothesis three is also supported as many universities do show high scores for functional values, but also show good scores for emergent emotional values (e.g. the university environment and social responsibility), as evidenced through a discriminant analysis of values.

The fourth hypothesis concerning the universities that have a good projection of their emotional values also communicate their functional values well. The third and fourth groups which score highly in functional values also show concern for communicating emotional values. It seems safe to argue that universities communicating their overall brands well try to balance the projection of functional and emotional values. Hence, the hypothesis is supported.

The first group of universities, however, show a quite high concern for functional values and a marked lack of focus on emotional values. This may be because the projection of emotional values is not considered really beneficial by them or that these universities have not yet started communicating this aspect fully in their online brand .The second group also helps to confirm this hypothesis as they do not show a real concern for functional or emotional values.

Overall, it is evident that UK universities can be segmented in terms of brand communication through their websites, although this has a limited correlation with more usual segmentations based on age or league tables. Most universities throughout the groups communicate functional values well and are also concerned about their international brand online. Emotional values are less consistently communicated by all sub-groups, however and this is interesting as arguably these emotional values may offer a better basis for real differentiation?

Managerial implications

This study has practical implications for universities in a number of areas: firstly, to help them to understand their positions in terms of their online brands, secondly to identify their competitive environment and thirdly to distinguish their relative online strengths and weaknesses. Ultimately, it should therefore inform improved online brand projection.

In a wider context the study suggests that university branding needs to be given greater consideration in the online context in a time of increasing competition among universities. A number of audiences need full consideration in developing an online brand strategy: students, researchers and businesses as a minimum. Certainly the corporate aspect of university web branding seems to be problematic at times.

This study determines the main functional factors that UK universities' websites project to their customers. In addition to the traditional values of teaching, research or management, new factors linked to the functional aspects are suggested in this paper. Innovation and international projection in particular are key factors for universities to promote. This is important as modern universities cannot be content with just projecting their brand in terms of teaching and research, as was seemingly the case in the past.

This paper also demonstrates that universities should take into account an original group of emotional values, essential if they want to stand out. Two particular emotional factors were identified: universities environment and social responsibility. These innovative variables suggest that stakeholders are not only concerned with the functional aspects such as teaching, research and management as increasingly emotional values become relevant. It is suggested that emotional factors can be a good basis for competitive advantage through the online brand.

It should be noted, however, that online brand positioning should ultimately be largely consistent with the reality of the brand experience of students attending the institution, if a long term credible brand is to be maintained.

Overall, this study is innovative in combining content analysis and statistical methods to assess the online universities brand projection. This model may also be used in order to evaluate the effectiveness of offline brand projection in universities, as many of the variables have wider application.

Future research

A similar study with the same variables has been carried out in Spain by using a larger sample than in this research project. Hopefully, this approach has encouraged authors to conduct research including the remaining UK universities in order to enable a better comparison. Two particular variables, 'employability' and 'accessibility', are potentially important in the web communication of newer universities. 'Accessibility' has been driven at a UK level by the UK Government's widening participation agenda as well as wider international concerns with 'equity of access' (UNESCO, 1998). These variables were not investigated for the sake of consistency between this research and that carried out in Spain but should perhaps be considered separately for future work.

It is also conceded that, when considering websites, functional features such as loading time and reliability are important. However this paper particularly sought to investigate the appearance and content of UK university websites. Therefore functional features such as the above ones are perhaps also variables for further research.
Work on UK and Spanish universities is a good start but a logical future step would be to test this model in further countries to determine differences in terms of importance of variables

Finally, the work could eventually consider e-communication other than that in university websites, as social networking and 'blogs' cannot be ignored as part of the online brand.

References

Aaker, D. A. (1996). *Building strong brands.* New York: The Free Press.

Ansari, A. & Mela, C. F. (2003). E-customization. *Journal of Marketing Research*, 40(2), 131-45.

Ayoubi, R. M. & Massoud, H. K. (2007). The strategy of internationalization in universities: A quantitative evaluation of the intent and implementation in UK universities. *International Journal of Educational Management,* 21(4), 329–349.

Baker, M. & Balmer, J. (1997). Visual Identity: trapping or substance. *European Journal of Marketing*, 31(5), 366-382.

Balmer, J. & Liao. M. (2007). Student corporate brand identification: an exploratory case study. *Corporate Communications: An International Journal*, 12(4), 356-375.

Balmer, J. & Gray, E. (2003). Corporate brands: what are they? What of them?. *European Journal of Marketing,* 37(7/8), 972–997.

Barthes, R. (1990). *La aventura semiológica.* Retrieved from http://www.upf.edu/materials/fhuma/oller/generes/tema2/lectures/barthes.pdf. on 26.7.09

Beerli Palacio, A., Diaz Meneses, G. & Perez Perez. P., J. (2002). The configuration of the university image and its relationship with the satisfaction of students. *Journal of Educational Administration*, .40(5), 486-505.

Bennett, R., Ali-Choudhury, R. & Savani, S. (2007). *Defining the components of a university brand: a qualitative investigation*. International Conference of Higher Education Marketing, Krakow, Poland.

Binsardi, A. & Ekwulugo, F. (2003). International marketing of British education: research on the students' perception and the UK market penetration. *Marketing Intelligence & Planning*, 21(5), 318–327.

Bleiklie, I., & Kogan, M. (2007). Organization and governance of universities. *Higher Education Policy*, 20(4), 477–493.

Bleiklie, I. (2005). Organizing higher education in a knowledge society. *Higher Education*, 49(1), 31–59.

Brodie, R. J. & de Chernatony, L. (2009). Towards new conceptualizations of branding: theories of the middle range. *Marketing Theory,* 9(1), 95-100.

Bulotaite, N. (2003). University Heritage – An Institutional Tool for Branding and Marketing. *Higher Education in Europe*, 28(4), 449-454.

Caldwell, N. & Freire, J., R. (2004). The differences between branding a country, a region and a city: Applying the Brand Box Model. *Journal of Brand Management,* 12(1), 50-61.

Carrillo, V. & Ruao, T. (2005). *La reputación en las Universidades: de la Identidad Local a la Reputación Europea*. Paper presented at the Actas do V Congresso de Comunicação Local, Universitat Jaume I De Castellón, Spain.

Carrillo, V. Castillo, D. A. García y, M. & González, A. (2010) "Responsabilidad social corporativa de la Universidad española en el entorno on-line" Congreso AEIC. Málaga.

Castillo, D., A. (2007). *La comunicación de las marcas universitarias españolas a través de sus sedes webs institucionales*. Working Paper, Universidad de Extremadura, Spain.

Chapleo, C. (2004). Interpretation and implementation of reputation/brand management by UK university leaders. *International Journal of Educational Advancement*, 5(1), 7–23.

Chapleo, C. (2005). Do universities have 'successful' brands?. *International Journal of Educational Advancement*, 6(1), 54–64.

Christodoulides, G. & De Chernatony L. (2004). Dimensionalising on- and offline brands' composite equity. *Journal of Product & Brand Management*, 13(3), 168-179.

Christodoulides, G., De Chernatony, L., Furrer, O., Shiu, E., & Abimola, T. (2006). Conceptualising and Measuring the Equity of Online Brands. *Journal of Marketing Management*, 22(7/8), 700-825.

Clark, R. B. (2000). *Crearea universitilor antreprenoriale: direcii de transformare organizaional*. Bucureti: Paideia.

Cortina, J. M. (1993). What is coefficient Alpha? An examination of Theory and Applications. *Journal of Applied Psychology*, 78(1), 98-104.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334.

Cubillo, J. M. Sanchez, J. & Cervino, J. (2006). International Students' Decision-Making Process. *International Journal of Educational Management*, 20(2), 101-115.

Dafonte, A. (2005). *Universidad, Internet y Públicos, Facilitando el acceso a la Información*, II Congreso Iberoamericano de comunicación universitaria, Granada.

De Chernatony, L. & McWilliam, G. (1990). Appreciating brands as assets through a two-dimensional model. *Journal of Marketing Management,* 9, 173-188.

De Chernatony, L. Dall Olmo Riley, F. & Harris, F. (1998). Criteria to assess Brand Success, *Journal of Marketing Management*, 14(7), 765-781.

Field, A. P. (2005). *Discovering statistics using SPSS*. London. Sage Publications.

Fombrum, C. & Shanley, M. (1990). What's in a Name?. Reputation Building and Corporate Strategy. *Academy of Management Journal*, 33(2), 233-258.

Forbes (2007). *World's Most Respected Companies - Company Methodology*. Retrieved from http://www.forbes.com/2007/05/21/reputation-institute-survey-lead-citizen-cx_sm_0521methodology.html.

Geuens, M. Weijters, B. Wulf, K. (2009). A new measure of brand personality. International *Journal of Research in Marketing*, 26(2), 97–107.

Gibbs, G. (1995). *Assessing Student Centred Courses*. Oxford: Oxford Centre for Staff Learning and Development.

Global University Network for Innovation (GUNI) (2009) Higher Education at a Time of Transformation: New Dynamics for Social Responsibility. Retrieved from http://www.guni-rmies.net/info/default.php?id=215.

Gombrich, E. H. (1991). "La imagen y el ojo En", *La imagen visual: su lugar en lacomunicación*, Madrid: Alianza Editorial.

Gray, B. J. Fam, K. S. & Llanes, V., A. (2003). Branding Universities in Asian Markets. *Journal of Product & Brand Management,* 12(2), 108–120.

Grundey, D. (2008). TQM in university studies: Quality assessment and quality assurance in a Lithuanian University. *Transformations in Business and Economics,* 7(2), 216-235.

Guri-Rosenblit, S., & Sebkova, H. (2006) in Neave, G., *Knowledge, power and dissent* (295–323). Paris: UNESCO Publishing.

Hair, J. F. (1998). *Multivariate data analysis*. New Jersey: Prentice Hall.

Hegde, D. (2005). Defining the essence of a university: lessons from higher education branding. *Economic Development Quarterly*, 19, 373-386.

Hellman, M., (2001). *Fuzzy Logic Introduction*. Retrieved from http://www.fpk.tu-berlin.de/~anderl/epsilon/fuzzyintro4.pdf. on 15.3.08

Hemsley-Brown, J. & Oplatka, I. (2006). Universities in a competitive marketplace – a systematic review of the literature on higher education marketing. *International Journal of Public Sector Management*, 19(4), 316-338.

Hemsley-Brown, J. & Goonawardana, S. (2007). Brand harmonization on the international higher education market. *Journal of Business Research*, 60(9), 942–948.

Ho, H. & Hung, C. (2008). Marketing mix formulation for higher education: An integrated analysis employing analytic hierarchy process, cluster analysis and correspondence analysis. *International Journal of Educational Management*, 22(4), 328–340.

Jang, J-S. R. & Sun, C-T. (1995). Neuro-fuzzy modelling and control. *Proceedings of the IEEE*, 83(3), 378-406.

Johnson, A. (2001). Branding - the key to student recruitment (or maybe not). *Education Marketing*, March, 28-29.

Judson, K. M. & Aurand, T. W. (2006). Building a University Brand from Within: A Comparison of Coaches' Perspectives of Internal Branding. *Journal of Marketing for Higher Education*, 16(1), 97–114.

Kapferer, J. N. (2001). *(Re) Inventing the Brand*. London: Kogan Page.

Kazoleas, D. Kim, Y. & Moffitt, M., .A. (2001). Institutional image: a case study. *Corporate Communications: An International Journal*, 6(4), 205-216.

Keller, K. .L. (2000) cited in Schultz, M., Hatch, M., J., & Larsen, M., H. (2000). *The Expressive Organization*. Oxford: Oxford University Press.

Kjaersdam, F. (2001) cited in Pudlowski, Z. J. *Conference proceedings 4th UICEE Annual Conference on engineering education; Innovation in Engineering Education*, Monash Engineering Education Series, 66-68.

Kotler, N. & Kotler, P. (1998). *Museum Strategy and Marketing: designing missions, building audiences, generating revenues and resources*. San Francisco,USA: Jossey- Bass.

Lache, S. (2006). The **Entrepreneurial University: a key factor for regional development in a globalized economy.** Paper published by University of Brasov, Transylvania, Romania.

Louro, M. J. & Cunha, P. V. (2001). Brand Management Paradigms. *Journal of Marketing Management,* 17(7/8), 849-75.

Lowrie, A. (2007). Branding higher education: Equivalence and difference in developing identity. *Journal of Business Research*, 60(9), 990-999.

Lynch, P. J. & Horton, S. (2004). *Manual de estilo web - Principios de diseño básicos para la creación de sitios web*, Rosseó: Gustavo Gili.

Marcella, R. & Davies, S. (2004). The use of customer language in international marketing communication in the Scottish Food and Drink industry. *European Journal of Marketing*, 38(11/12), 1382-1395.

Marín, A., Trilles, I. & Zamarrón, G. (2005). *Mass media y Universidad. El reto de la comunicación en las universidades.* Granada: Universidad de Granada.

Martín, B. B. & y Sanz, A. (2001). Redes neuronales y sistemas borrosos. Madrid: Ra-Ma Editorial.

Mathworks (n.d.). *Foundations of Fuzzy Logic*. Retrieved from www.mathworks.com/access/helpdesk/help/toolbox/fuzzy. Accessed 17.7.2009.

Melewar, T. C. & Akel, S. (2005). The role of corporate identity in the higher education sector. *Corporate Communications: An International Journal*, 10(1), 41-57.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourceboo.* USA: Sage.

Monye, S. (2000). T*he handbook of international marketing communications*. Oxford: Oxford University Press.

Nielsen, J. (2000). *Usabilidad. Diseño de sitios web*. Madrid: Prentice Hall.

Opoku, R., Abratt, R. & Pitt, L. (2006). Communicating brand personality: Are the websites doing the talking for the top South African Business Schools?. *Brand Management*, 14 (1/2), 20-39

Opoku, R. A., Hultman, M. & Saheli-Sangari, E. (2008). Positioning in Market Space: The Evaluation of Swedish Universities' Online Brand Personalities. *Journal of Marketing for Higher Education*, 18(1), 124-144.

Pickton, D. & Broderick, A. (2000). *Integrated Marketing Communications*. Harlow: Prentice Hall.

Pringle, H. & Thompson, M. (1999). *Brand spirit: how cause related marketing builds brand.* Chichester: Wiley.

Ragin, C. (2000). *Fuzzy-Set Social Science.* Chicago: University of Chicago Press.

Ragin, C. (2008). *Redesigning Social Inquiry: Fuzzy Sets and Beyond. Chicago.* Chicago University Press.

Rowley, J. (2004). Online Branding. *Online Information Review,* 28(2), 131-138.

Schilling, J. (2006) On the Pragmatics of Qualitative Assessment: Designing the Process for Content Análisis. *European Journal of Psychological Assessment,* 22(1), 28-37.

Schultz, M. Hatch, M. J. & Larsen, M. H. (2000). *The Expressive Organization.* Oxford: Oxford University Press.

Shapiro, A., F. (2004). Fuzzy logic in insurance. *Insurance: Mathematics and Economics*, 35(2), 399-424.

Simmons, G. J. (2007). i-branding: developing the internet as a branding tool. *Marketing Intelligence and Planning*, 25(6), 544-562.

Smithson, M. J. & Verkuilen, J. (2006*). Fuzzy Set Theory: Applications in the Social Sciences.* California: Sage Publications.

Srikatanyoo, N. & Gnoth, J. (2002). Country image and international tertiary education. *Journal of Brand Management*, 10(2), 139–146.

Stamp, R. (2004). The new challenge of branding buy-in. *Education News*, Winter, 7.

Stensaker, B. (2007). *Quality as Fashion: Exploring the Translation of a Management Idea into Higher Education. Quality Assurance In Higher Education.* Netherlands: Springer.

Stensaker, B. (2005). *Strategy, identity and branding – Re-inventing higher education institutions.* Paper presented to the City Higher Education Seminar Series (CHESS), City University, London.

Szymanski, D. M. & Hise, R. T. (2000). E-satisfaction: an initial examination. *Journal of Retailing*, 76(3), 309-22.

Teichler, U. (2006. Changing structures of higher education systems: The increasing complexity of underlying forces. *Higher Education Policy*, 19(4), 447–461.

Terano, T. Asai, K. & Sugeno, M. (1994). *Applied fuzzy systems.* San Diego: Academic Press Professional.

Tryon, R. C. (1939). *Cluster analysis.* New York: McGraw-Hill.

UNESCO (1998). *World Declaration on Higher Education for the Twenty-First Century.* Retrieved from www.unesco.org/education/educprog/wche/declaration_eng.htm. Accessed 17.7.2009.

UNESCO (2008). *Quality Education, Equity and Sustainable Development: A holistic vision through UNESCO's four World Education Conferences 2008-2009.* Retrieved from http://unesdoc.unesco.org/images/0018/001818/181864e.pdf. Accessed 18.7.2009.

UUK members. (n.d.). Retrieved from www.universitiesuk.ac.uk/members/.

Veloutsou, C. Lewis, J. W. & Patton, R. A. (2004). University selection: information requirements and importance. *The International Journal of Educational Management*, 18(3), 160-171. Accessed 24.7.2009.

Varey, R. J. (2002). Relationship Marketing: Dialogue and Networks in the E-Commerce Era. Chichester: John Wiley & Sons.

Villafañe, J. (2004). *La buena reputación. Claves del valor intangible de las empresas.* Madrid: Pirámide.

Waeraas, A. & Solbakk, M. N. (2008). Defining the essence of a university: lessons from higher education branding. *Higher Education,* 57(4), 449-462.

Walton, J. (2005). Would the real corporate university please stand up?. *Journal of European Industrial Training*, 29(1), 7–20.