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## **The influence of university brand image, satisfaction, and university identification on alumni WOM intentions**

### **ABSTRACT**

This study investigates the influence of university brand image, satisfaction, and alumni's university identification on positive word-of-mouth (WOM) intentions. The model is tested using data collected from a sample of 1000 university alumni, an important and under-researched stakeholder group. A contribution is provided by enhancing our understanding of key under-researched relationships. University brand image was found to be a key driver of alumni positive WOM intentions, due to its direct and indirect influences. The study also identified the mediating roles of alumni's university identification and satisfaction. The influence of university brand image on alumni WOM is partially accounted for through its influence on alumni satisfaction and alumni's university identification.

**Keywords:** brand image, university image, word-of-mouth, university identification, satisfaction, alumni.

## **Introduction**

In a higher education context in an internationally competitive environment (Pyvis & Chapman, 2005), higher education (HE) development relies upon redefining and paying greater attention to building relationships with stakeholders (Drezner, 2018). Given the importance of stakeholder relationship management, it is surprising that relatively little research has focused on student stakeholders, and even less research on alumni stakeholders (Toledo & Luque, 2020).

Barnard and Rensleigh (2008, p.433) noted that “the establishment and nurturing of mutually beneficial relations between a university and its alumni as a primary stakeholder group should be a top priority for any HE institution that wants to prosper and grow in a fast-changing and highly competitive market.” It is reasonable to believe that alumni who feel an attachment or identification with their university are more likely to volunteer or donate to support their alma mater. Furthermore, committed alumni may act as their university’s advocates and ambassadors by providing positive word-of-mouth (WOM) comments and referrals (Helgesen & Nettet, 2007; Pedro, da Costa & Nobre, 2020).

A good deal of research in HE marketing has been performed on marketing communications (Foroudi et al., 2020; Yousaf, Mishra & Bashir, 2020). Much of this prior research has focused on the influence of university-disseminated communications on student choice. Although student choice is an important outcome variable, WOM is also another important outcome variable. Prior research has found that WOM is an important influencer of university brand attitudes (Casidy & Wymer, 2015).

Some researchers highlight the crucial role of WOM in evaluating HE institutions’ marketing effectiveness (Herold, Tarkiainen & Sundquist, 2016; Wilkins & Huisman, 2015). Consequently, an earlier review of the HE literature finds a need for more research on antecedents of WOM communications, identifying an important gap in the HE marketing

literature (Herold et al., 2016; Hemsley-Brown & Oplatka, 2006). Our study aims to help fill this research gap by examining several antecedents of alumni's positive WOM.

We examine the influence of alumni's identification with their university on WOM. Prior consumer behavior research has found that customers are more likely to engage in supportive behaviors when they identify with an organization (Ahearne, Bhattacharya, & Gruen, 2005; Bhattacharya & Sen, 2003; Hong & Yang, 2009). The influence of individuals' identification with their university is a potentially important construct which has been examined in a small number of studies using currently enrolled university students (Heffernan, Wilkins & Mohsin, 2018; Wilkins, Kratochvil, & Balakrishnan, 2016). We examine this construct's influence on university alumni, another important stakeholder group.

Another potential antecedent of alumni WOM is university brand image. There is a gap in the literature on the relationship between brand image and WOM (Ahemd & Spinelly, 2012, Popp & Woratschek, 2017). The relationship between the brand images of public institutions like universities and important outcome variables has been an under-research area (Wæraas & Solbakk, 2009; Watkins & Gonzenbach, 2013; Aghaz, Hashemi & Sharifi, 2015; Lafuente, Zorrilla & Forcada, 2018; Foroudi et al., 2020). Hence, our examination of the influence of university brand image on alumni WOM represents a another contribution of this study.

Our study helps fill literature gaps and contributes to under-researched areas by examining the relationships among university brand image, alumni satisfaction, alumni university identification and positive WOM. Our findings enrich our understanding of the influence of a university's brand image on a loyalty behavior like WOM as well as our understanding the influence of satisfaction and identification on the relationship between brand image and WOM.

In the next section we will identify and define our focal constructs and present a set of hypothesized relationships. A model of the focal constructs' inter-relationships is presented. Then, an empirical research study is reported to test our hypothesized relationships. Finally, we conclude with a discussion of our research findings, their managerial implications, and future areas of productive research inquiry.

## **Literature Review**

MacKenzie (2003) admonishes researchers to clearly define the constructs they are investigating. He argues that a failure to define focal constructs is a major cause of poor quality research. Therefore, we will begin this section by defining our focal constructs. Then we will present a conceptual model, which we will later test in an empirical study.

### *University Brand Image*

Organizational image is important because it allows members of an organization to compare their own perceptions of the organization with the assessments of external stakeholders (Dutton, Dukerich & Harquail, 1994). Conceptualizing image is a complex issue that has been accompanied with confusion because some scholars and practitioners interchangeably use the term to refer to organizational identity and to the organization's reputation (Gotsi & Wilson, 2001). However, the differences between them cannot be ignored (Dutton et al., 1994; Aghaz et al., 2015). In this research, following the definitions developed by Aghaz et al., (2015), and Dutton et al., (1994), organizational image is conceptualized as a construct that is distinct from organizational reputation.

A university's brand image refers to how the university is comprehended by members of a target (stakeholder) group based on information group members have received about the university and their experiences with the university (Wymer, 2013). University image has

been shown to influence students' supportive behavioural intentions (Sung and Yang, 2008), loyalty and student satisfaction (Casidy & Wymer, 2015; Heffernan et al., 2018). Nguyen et al. (2016) suggest that a strong HE brand signals the university's ability to fulfill student needs, engenders trust in its capacity to deliver the required services, and helps potential students make favorable academic and course decisions. Empirical studies (Ildamaria & Andrz, 2019; Pinar, Girard & Basfirinci, 2020; Foroudi et al., 2020; Hashim, Yasin & Ya'kob, 2020) suggest that, if effective, a successful HE branding strategy could improve university services, as well as attract and retain students.

Despite the importance a favorable brand image has for higher education institutions, few studies have examined the perceptions of university alumni of their universities' brand image (Schlesinger, Cervera & Pérez-Cabañero, 2017; Del Castillo, Blanco-González & González-Vázquez, 2019).

### *University Satisfaction*

University satisfaction refers to alumni's summary affective response to their university (Casidy & Wymer, 2015). This conceptualization of satisfaction is adapted to our study's context (Giese & Cote, 2000). Satisfaction has been considered a focal construct in long-term relationships (Frasquet, Calderón & Cervera, 2012). The construct can also find appropriate application in higher education (Hartman & Schmidt, 1995; Borraz-Mora, Hernández & Melguizo, 2019).

Most previous research measuring satisfaction in higher education collect data from current students and examines students' satisfaction with their current university experience. This approach differs from the recommendations of Westbrook and Oliver (1991) who argue that satisfaction is a state that should be assessed after consumption of the service experience.

In this way, and according to Toledo & Luque (2020), we consider students' satisfaction as a posteriori evaluative judgment of their entire university experience.

In this regard, the definition of satisfaction proposed by Elliott and Healy (2001) and Toledo & Luque (2020) is adopted. It views alumni' satisfaction as an attitude that results from the evaluation of prior experiences with their former university.

#### *Alumni's University Identification*

The concept of organizational identification is derived from social identity theory (Stryker & Burke 2000), in which individuals integrate the organization's image into their self-concepts. According to Bhattacharya and Sen (2003), the relationship between the company and its customers is explained by social identity theory (SIT) developed by Tajfel and Turner (1979). Social identity is the way individuals identify themselves with their perceptions of the social group with which they feel a belonging or identification. It serves as a base through which customers define themselves, identify with the company, and build a solid customer-company relationship according to the attractiveness of the offered social identity and the extent to which it satisfies one or more major self-definitional needs (Bhattacharya and Sen, 2003).

The concept of social identity is well established and has been used to explain behavior in the fields of organizational behavior (Mael & Ashforth, 1992), group membership (Bhattacharya, Rao, & Glynn, 1995), and consumer brand loyalty (Homburg, Wieseke & Hoyer, 2009). Organizational identification is a specific form of social identification in which individuals define themselves in terms of their memberships of particular organizations (Mael & Ashforth, 1992; Marin & Ruiz, 2013).

Alumni university identification refers to the degree to which alumni self-images are derived from their association with their alma mater (Mael & Ashforth, 1992; Hefferman et

al., 2018). Alumni identification with a prestigious university can be ego enhancing. Heffernan et al. (2018) provide empirical evidence that students can identify with two transnational HE partner institutions simultaneously; they also found that student-university identification was a significant predictor of student satisfaction, loyalty, and extra-role behaviours.

Bhattacharya and Sen (2003) conceptualize student-university identification as the degree to which students perceive themselves and the university as sharing the same defining attributes and values, in an attempt to satisfy one or more personal definition needs. Through this identification, students are somewhat psychologically attached or bonded with their universities. Arnett, German, and Hunt (2003) found that those with more salient alumni-identities are more likely to be donors to their alma maters. Abdelmaaboud, Polo and Mahrous (2020) offer relevant insights into the research on identification with the university. Their results confirmed the significant influence of satisfaction on the identification with the university and on the supportive behaviors towards it. Hence, it is reasonable to believe that the level to which individuals identify with their universities influences their attitudes, intentions, and behaviors.

#### *Positive Word-of-Mouth (WOM) Intentions*

Positive WOM intentions refer to the extent to which alumni anticipate making positive comments about their alma mater (Casidy & Wymer, 2015). WOM is an influential source of interpersonal communication but is scarcely studied in the HE marketing field (Casidy & Wymer, 2015; Lee Ng & Bogomolova., 2020). The works of Heffernan et al., (2018) and Lee et al. (2020) call for additional research on WOM processes in higher education.

This study uses positive WOM intentions (or simply WOM, for brevity) as an important HE marketing outcome. Behavioural intentions are strongly associated with

behaviours (Heffernan et al., 2018; Lee et al., 2020). Our use of WOM is consistent with the stream of research on influences of WOM (Brown, et al., 2005; Lu & Seock, 2008; Casidy & Wymer, 2015). In the literature, behavioral intentions have generally been examined within the scope of WOM or re-visiting intentions (Brown et al., 2005; Bujisic, Hutchinson & Parsa, 2014; Dedeoglu, et al., 2018). Given its importance to organizations, it is surprising to find relatively little prior research directed at understanding antecedents of WOM in higher education marketing (Gallarza et al., 2019; Heffernan et al., 2018; Lee et al., 2020).

### **Hypotheses Development**

Now that the focal constructs have been identified and defined, it is appropriate to describe a conceptual model that will depict the predicted relationships among these constructs. The conceptual model to be tested in this study is presented in Figure 1.

Figure 1 here.

Referring to Figure 1, and starting with Hypothesis 1, we depict the university brand image as an antecedent of positive WOM intentions. Admirable or esteemed organizations are more likely to confer socio-psychological rewards to their members than less prestigious organizations (Sung & Yang, 2008). Self-concept research (Kunda, 1999) finds that people need self-enhancement and the maintenance of positive self-views that result in greater self-esteem. One way in which individuals can meet their self-esteem needs is by associating with prestigious brands or organizations (Casidy & Wymer, 2016).

When members of a prestigious organization derive esteem rewards from their association with the organization, it is reasonable to believe they are motivated to engage in positive WOM (Ahmed & Spinelli, 2012). It is also reasonable to believe that comments to others that are favorable affirm the organization's positive brand image, maintaining the

derived esteem rewards. Research that actually examines the influence of brand image on WOM is needed to add to our knowledge of this relationship (Ahmed & Spinelli, 2012; Pedro et al., 2020; Yousaf et al., 2020). Hence, the following hypothesis is presented.

*H1: University brand image has a positive influence on positive WOM intentions.*

It is reasonable to believe that university satisfaction will have a mediating effect on the influence of university brand image on WOM. University brand image influences alumni satisfaction with the university and, in turn, satisfaction influences WOM intentions. Brakus, Schmitt, and Zarantonello (2009) found that brand experience was an antecedent to satisfaction. Hence, to some degree, the brand image evokes a halo effect on student affect and behaviors. However, this halo effect is mediated by students' satisfaction with their university experience.

Because alumni are more likely to derive esteem-enhancement rewards as a university's prestige increases, there is a positive bias operating on alumni perceptions of their alma mater. This argument is supported by prior research on prestigious brands (Casidy & Wymer, 2016). For example; Baek, Kim, and Yu (2010) found that brand prestige has a positive influence on perceived quality (a mediator) and purchase intention (a consequent).

In HE, prior research has found that high-status universities experience very low student withdrawal rates (Select Committee on Education and Employment, 2001). The low dropout rates for prestigious universities implies higher university satisfaction rates (Guilbault, 2018). Several studies support a link between student satisfaction and WOM (Arif, Ylyas & Hameed, 2013; Ledden & Kalafatis, 2010; Lee et al., 2020). Santini, et al., (2017) and Schlesinger et al. (2017) provided a review of the literature on satisfaction in the educational context to gain a better understanding of its antecedents and outcomes. Their

results demonstrate that satisfaction and consequent behaviors are significantly influenced by the educational context. We predict that university brand image influences WOM, and that this influence is mediated by university satisfaction. Even though the association between brand image, satisfaction and customers' identification with an organization has yet to be empirically tested, the findings from Mael and Ashforth's (1992), Hong and Yang (2009), Pedro et al., (2020) and Bhattacharya et al. (1995) may be applied to predict this association. Therefore, we present our next hypothesis:

*H2: The influence of university brand image on positive WOM intentions is mediated by university satisfaction.*

Research relating to social and organization identity theories has found that the strongest individual-organization relationships occur when individuals identify with an organization that satisfies one or more of their self-definitional needs (Su, et al., 2016). In an educational context, Mael and Ashforth's (1992) study on alumni university identification has found that alumni satisfaction with the institution is positively associated with organizational identification. Wilkins et al. (2016) and Abdelmaaboud et al. (2020) found that student identification with a university was related to both student commitment to study, student trust, and student satisfaction. However, discrepancy exists between these studies in the directionality of the relationship between satisfaction and identification. While some studies present satisfaction as an antecedent to identification (Arnett et al., 2003; Mael and Ashforth's, 1992; Myers et al., 2016; Schlesinger et al., 2017), others present identification to satisfaction (Abdelmaaboud et al., 2020, Popp & Woratschek, 2017, Wilkins et al., 2016). This study proposes that students who are satisfied with their university are more likely to develop higher levels of identification with their institution. Based on the previous discussion, we hypothesize that:

*H3: University satisfaction has a positive influence on alumni's identification with their universities.*

According to social identity theory, consumers are willing to identify with companies with a positive image, which can facilitate their self-definition process and satisfy the need for self-distinctiveness and self-enhancement (Bhattacharya & Sen, 2003; Keh & Xie, 2009). Ahearne et al. (2005) found that a company's image influences customer-company identification. They found that customers who identified with a company were likely to behave in ways that were beneficial to the company. Other research has found that customers who identified with companies were more likely to be loyal, manifested by positive WOM behaviors (Bhattacharya & Sen, 2003; Kim, Han & Park, 2001).

Fombrun and Van Riel (2003) reported that the more customers identify with a company, the more likely they are to engage in supportive behaviors for the company, even acting as ambassadors for it. Bhattacharya and Sen (2003) and Popp and Woratschek (2017) also emphasized positive WOM as one of the key behavioral outcomes of customer-company identification.

With respect to our HE context; Balaji, Roy, and Sadeque (2016); Schlesinger, Cervera, and Iniesta (2015); and Lee et al. (2020) found that students who have a strong university brand identification are more likely to spread positive messages about their universities. Given this prior research, it is reasonable to believe that university brand image will influence alumni's university identification which will, in turn, influence WOM. Hence, we predict that alumni's university identification will have a mediating effect on university brand image's influence on WOM intentions. Thus, our next hypothesis:

*H4: The influence of university brand image on positive WOM intentions is mediated by alumni's university identification.*

To test the hypotheses derived from the conceptual model presented in Figure 1, we conducted a study that we report in the following section.

## **Research Methods**

### *Measures*

Existing validated scales were used to measure our focal constructs. They were measured using an 11-point Likert scale (0 = completely disagree to 10 = completely agree). To test our research hypotheses, a two-step confirmatory modeling procedure using SEM was employed. In both steps, the procedure was based on a covariance structure approach using EQS 6.2 and SPSS 26.0.

Our measurement scales are presented in Table 1. University brand image was measured through 4 items, adapted for our context from a scale by Nguyen and Le Blanc (2001). For alumni's university identification, the scale we used was proposed by Mael and Ashforth (1992) applied to the university context and replicated by Caboni and Eiseman (2003) in the educational sector. The scale used to measure satisfaction has been used in the university context with appropriate reliability measures by Palacio, Díaz and Pérez (2002) and Helgensen and Nettet (2007). Lastly, prior research has operationalized WOM as intentions (Brown et al., 2006). WOM intentions were measured using behavioral-intention items, adapted to our study's context, from Söderlund (2006) and Henning-Thurau et al. (2001).

Table 1 here.
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### *Questionnaire Development*

As the data were to be collected from alumni of two Spanish universities, and since all scales were originally written in English, we used translation and back-translation to ensure the equivalence of the Spanish version (Brislin 1980). Next, we carried out two pilot applications of the survey with 70 university graduates to verify that the questions were clear, to solve some drawbacks of the translation to Spanish and to check the time required to answer the questionnaire.

Data collection was made through Computer Assisted Telephone Interviewing (CATI).

### *Sample*

In the quantitative study, the target population consisted of alumni from two Spanish public universities. In order to be able to generalize these results, the study sample consisted of graduate students at two Spanish public universities belonging to the European Higher Education Area. This area arises as a result of the European convergence process (Bologna Declaration, 1999; European Commission, 2003). At the time of data collection, respondents had completed their university studies within the last three years. This condition ensured that they were able to offer a personal assessment as alumni while remembering their own university experiences as students and avoiding some potential biases derived from circumstances associated with a specific academic course.

The universities provided the contact information of their alumni. The selection of sample units used simple random sampling with a 5 percent margin of error and a confidence levels of 95 percent ( $p = q = 0.5$ ). The final sample consisted of 500 alumni from each university ( $N = 1000$ ) in all areas of study (i.e., formal and applied sciences, health sciences,

social sciences, and humanities). The characteristics of our sample are presented in Table 2. The sample obtained represents the population under study.

Table 2 here.

### **Data Analysis**

In order to ensure comparability of universities chosen, an analysis of variance (ANOVA) was performed and revealed no statistically significant differences in the mean responses between university samples for any of the variables in this study. The descriptive statistics are presented in Table 3.

Referring to Table 3, it appears that alumni were quite satisfied with their universities, with a mean of 7.6 out of 10. Alumni also gave favorable assessments of other variables such as university brand image (mean 7.2 out of 10) and positive WOM intentions (mean 7.7 out of 10). Compared to the means of other constructs, alumni's university identification is moderately low (mean 4.3/10).

Table 3 here.

The data were analyzed using structural equation modelling (SEM) with EQS 6.1. software, following the two-stage method recommended by Anderson and Gerbing (1988). First, the measurement model was evaluated. Then, the structural model was evaluated which, in effect, tested the hypotheses presented previously.

#### *Measurement Model Evaluation*

To check psychometric properties of the measurement model, we carried out confirmatory factor analysis. Table 3 shows the high internal consistency of the constructs. Reliability

evaluation using Cronbach's Alpha coefficients, Bagozzi and Yi's (1988) recommended composite reliabilities (all values are higher than 0.8), and Fornell and Larcker's (1981) average variance extracted index (higher than 0.7 for the three measures) yielded good results. The overall fit indices provide support for the fit of the proposed structural model (S-B  $\chi^2$  (115) = 1030.713  $p < .000$ ; BBNFI= 0.879; BBNNFI= 0.910; IFI= 0.921; CFI= 0.921; RMSEA= 0.068). All items load positively on their designated factors, and their estimates were positive and significant. The results of the confirmatory factor analysis are also reported in Table 3. For convergent and discriminant validity, the model was re-estimated following Bagozzi and Yi (1981).

Evidence for discriminant validity of the measures was provided for a pair of factors (image with WOM) that have a high positive correlation. The S-B  $\chi^2$  value of the baseline measurement model was compared to that value for a measurement model constraining their correlation to equal one (Fornell & Larcker, 1981); the  $\chi^2$ -difference test was significant between identification and WOM. The global support of this test suggests that the measurement model achieves discriminant validity.

## **Findings**

### *The Structural Model Evaluation*

The hypotheses predict that satisfaction and alumni's university identification mediate the relationship between university brand image and WOM intentions. The classical mediation test of Baron and Kenny (1986) is probably the most popular test for checking if a third variable exerts a mediation effect on the influence of an independent variable on a dependent one. Although Baron and Kenny's test is very simple and intuitive, it has an important shortcoming: it involves regression equations and, thus, manifest variables have to be used instead of latent variables measured through indicators (Holbert & Stephenson, 2003). As

Baron and Kenny (1986) recognize, like any regression, their basic approach makes no particular allowance for measurement error, which is simply subsumed into the overall error term. Because of this shortcoming and consistent with the approach adopted in our research, we have used Structural Equation Modelling (SEM) to assess the classical mediation test of Baron and Kenny (1986), following the recommendations by Iacobucci, Saldanha and Deng (2007) and Sánchez-García and Currás-Pérez (2011).

The procedure proposed by Baron and Kenny (1986) does not allow simultaneous testing of the effect of more than one mediational variable or the effect of one mediational variable on more than one dependent variable. The three models have been estimated using SEM (EQS 6.1), providing the standardized  $\beta$  of the three proposed relationships, on the dependent variable (WOM intentions), and reporting the standardized  $\beta$  of the direct relationship and the  $R^2$  of the dependent variable. Finally, the direct effect models have been compared with their respective simple mediation models, providing the effect size ( $f^2$ ) of the  $R^2$  variation (Cohen, 1988; levels around 0.02 denote weak effect size; higher than 0.15 denote a moderate effect size and 0.35 strong effect size) and if ‘full’, ‘partial’ or ‘no’ mediation exists).

The results of the structural model evaluation confirm the importance of our model’s inter-construct relationships. The results of these estimations are shown in Table 4. Mediation test results confirm a partial mediation effect in all mediation models that have been estimated.

Table 4 here.
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H1 predicted that university brand image influenced WOM intentions. The effect between university brand image and WOM resulted in a significant ( $p < 0.01$ ) standardized coefficient of 0.51. A standardized path coefficient greater than 0.50 is considered evidence

of a strong effect (Ellis 2010; Galán, Galera & Wymer, 2013). Hence, H1 is supported and the influence of university brand image on WOM is a strong effect.

According to the results of our mediation tests (Table 4 and Figure 2) the effect of university image on WOM is partially mediated by satisfaction (H2) and identification (H4). H3 is also confirmed, supporting the hypothesis that satisfaction is an antecedent of alumni's university identification.

Figure 2 here.

## Discussion

Our results offer relevant insights into the the body of knowledge on alumni-university relationships (Mael & Ashorth, 1992; Toledo & Luque, 2020) and specifically in emerging research on identification with the university (Abdelmaaboud et al., 2020; Wilkins et al., 2016) as well as alumni and WOM (Casidy et al., 2015; Pedro et al., 2020). This study suggests that a social identification perspective can integrate with a social identity theory approach to enhance alumni supportive behaviors. This study demonstrates this by developing and testing a broader model that integrates identification with other variables - satisfaction and university image- as antecedents of alumni's loyalty intentions as WOM. The results also show that identification, satisfaction, and university brand image are key factors in influencing alumni WOM intentions.

Overcoming previous inconsistent considerations of the relationship between identification and satisfaction (Abdelmaaboud et al., 2020; Popp & Woratschek, 2017), this study provides new results in line with previous findings that confirmed the significant influence of alumni satisfaction on identification (Arnett et al., 2003; Mael and Ashforth's, 1992; Myers et al.,2016; Schlesinger et al., 2017). Moreover, our comprehensive integration

of university image, identification, and satisfaction into a framework of influencers of WOM intentions extends previous findings from Abdelmaaboud et al. (2020) and Popp and Woratschek (2017). In these studies, the authors assume that satisfaction mediates the effect of identification on loyalty. They pointed out that the effect of identification on loyalty does not necessarily have to be mediated by satisfaction, but could also be a direct effect. By considering this additional direct link in our conceptual model, we demonstrate the fundamental role of identification for alumni-university relationships and positive WOM intentions.

Finally, the results of the tested conceptual model that includes alumnis' brand image perception of their university as well as alumni' identification (attachment) to the university may provide more understanding about antecedents of alumni outcomes.

### **Limitations and Future Research**

All studies have limitations and ours is no exception. One of the limitations of this research is the fact that the sample (although quite large) is from two Spanish universities. Although most prior studies are performed in one or two universities (Wardley, Bélanger & Valorie, 2013; Toledo & Luque, 2020), incorporating more universities would improve the study's generalizability across institutions and regions.

Another limitation relates to the scale items included in the independent variable (university brand image) used in the study. The inclusion of a multidimensional approach would have provided more information. Furthermore, the consideration of additional moderating variables (i.e., satisfaction, gender, current employment/unemployment status) may be an interesting option for future research. Also, additional relationships can be proposed (e.g., students' satisfaction influencing directly perceived university brand image, brand image influencing directly alumni's university identification). These relationships

could be an opportunity to test competing models. The extent to which our findings are generalizable will be clarified through replications and extensions of this study in future research.

The university experience is primarily a service-related phenomena resulting from a process of co-creation with many participants. Planning that process can exert a positive influence on important outcomes like WOM. Future studies can investigate other variables affecting university satisfaction and alumni's university identification as commitment, trust or shared values, for example. Other stakeholders should be considered in order to test the relationships analyzed.

Finally, future research is needed to examine the influence of our focal constructs on other desired loyalty alumni outcomes such as volunteering and donating to the alma mater.

## **Conclusions**

Despite the growing importance of WOM to institutions, only a few studies have examined the factors that influence stakeholders' positive WOM intentions. Our findings enhance our understanding of university brand image's influence on alumni positive WOM intentions. In HE, contradictory and scarce results are provided about the relationship between brand image and WOM. Herold et al. (2016) provide evidence that brand attitudes are formed mainly through cognitive information. In this research, we found that university brand image was a key driver of alumni positive WOM intentions (H1).

Additionally, the study has identified the mediating role of alumni university identification on the influence of university brand image on positive WOM intentions. Admittedly, alumni university identification had only a relatively moderate influence on alumni positive WOM intentions. The findings also show that satisfaction significantly influences university identification (H3). It is relevant to note that the influence of university

brand image on WOM intentions was partially mediated by university satisfaction and alumni's university identification (accepting H2 and H4).

This study investigated perceptions of universities in the minds of graduates through the lens of a developed model based on the prior literature. Hence, this study helped to fill relevant research gaps in the literature. The main contribution of this paper arises from the development of a model including university brand image, satisfaction, alumni's university identification and their influence on positive WOM . We believe that the originality of the findings can clearly contribute to research in higher education marketing.

This work illustrates innovative theoretical paths, which will facilitate a better understanding of how branding strategies can be applied to HEIs. These conclusions show the important consequences for a university in developing a favorable brand image.

#### *Practical Implications*

Results obtained provide substantive managerial implications. The importance of WOM communication is based on the idea that people consider personal sources of information to be more trustworthy than other sources (Murray, 1991) and university brand image has been found to be a key influencer of positive WOM intentions. University managers should increasingly view their respective university brand images as an important facet of their long-term marketing strategy. A prestigious university brand has a strong influence on alumni satisfaction, alumni university identification, and alumni positive WOM intentions. It appears that university brand image is a strong driver of important outcomes and, thus, university managers should strive to enhance it.

Another implication of this research is derived from the relevance of alumni university identification. The descriptive analysis (see Table 3) shows that alumni university identification has a relatively lower mean than the other variables. The proposed model and

its supported relationships have important managerial implications. Managers of HEIs can take advantage of identifying the drivers that enhance identification and satisfaction. It will help them make informed decisions and direct their efforts toward the factors that most influence the desired marketing outcomes.

Universities would benefit from articulating and communicating their identities clearly, coherently, and in a persuasive manner (Bhattacharya & Sen, 2003). In particular, strategies that develop sustained and meaningful interactions between alumni and their institutions might lead to stronger identification and satisfaction (Wilkins & Huisman, 2013). Accordingly, a strategic plan of communication appears to be a key marketing tool to help build a stronger university brand image and to achieve higher levels of identification.

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**Table 1. Measurement scales**

<b>Variable</b>	<b>Items</b>	
<b>University Brand Image</b> Nguyen and Le Blanc (2001)	I1	I have always had a good impression of this university
	I2	In my opinion, this university has a good image in the minds of consumers
	I3	I believe that the university has a better image than its competitors
	I4	In general, I have a positive image from this University
<b>Satisfaction</b> Fornell (1992)	S1	My decision to choose it were correct
	S2	Has satisfied my expectations
	S3	In general I am satisfied
<b>Identification</b> Mael and Ashforth (1992)	ID1	If the university were criticized, it would influence how I thought about myself.
	ID2	I am interested about the people think about the university
	ID3	When I talk about the university normally I say “us”
	ID4	When the university obtain a success I feel that was mine
	ID5	When somebody praise the university I feel that they praise me
	ID6	If a story in the media criticized the university, I would feel embarrassed
<b>Positive Word of Mouth</b> Söderlund (2006) Henning-Thurau et al. (2001)	WOM1	If somebody ask me surely I’ll recommended my university
	WOM2	If the opportunity arose I would make positive comments to family and friends
	WOM3	I would encourage others to study at this university.

**Table 2. Sample Characteristics**

Characteristics		Amount/% Total	University 1	University 2
<b>Gender</b>	Male	32.8%	31.6%	34.6%
	Female	67.2%	68.4%	65.4%
<b>Age</b>	< 25 years old	8%	8.9%	7.7%
	25 – 33 years old	85%	84.3%	84.4%
	34 – 41 years old	4%	3.7%	4%
	41 years old	3%	2.8%	2.9%
<b>University education</b>	5-year degree course	64%	62.2%	54.6%
	3-year degree course	36%	37.8%	35.4%
<b>Area of study</b>	Arts and Humanities	6.6%	6.4%	5.2%
	Sciences	10.7%	12.2%	7.6%
	Health Sciences	15.7%	15.8%	14.8%
	Social and Legal Sciences	58.9%	58.2%	61.2%
	Engineering and Architecture	8.1%	7.4%	11.2%
<b>Employment situation</b>	Employed	77.4%	78.6%	78%
	Unemployed	22.6%	21.4%	22%

**Table 3. Measurement Model**

Factor	Item	Convergent validity		Reliability		AVE	Mean (Desv.St)*
		Factor loading	Loading average	Cronbach's $\alpha$	CR		
UNIVERSITY BRAND IMAGE	BI 1	.767*	.77	.86	.91	.74	7.2(1.48)
	BI 2	.919*					
	BI 3	.871*					
	BI 4	.842*					
SATISFACTION	S1	.890*	.92	.84	.97	.91	7.6(1.67)
	S2	.953*					
	S3	.911*					
IDENTIFICATION	ID1	.762*	.85	.93	.97	.69	4.3(2.55)
	ID2	.804*					
	ID3	.780*					
	ID4	.914*					
	ID5	.927*					
	ID6	.867*					
POSITIVE WOM	WOM1	.933*	.924	.90	.98	.89	7.7(1.92)
	WOM2	.931*					
	WOM3	.982*					
<b>Goodness of fit indexes</b>							
S-B $\chi^2$ (115)=1030.713 ( $p=0.000$ )	<b>BBNFI</b>	<b>BBNFI</b>	<b>CFI</b>	<b>IFI</b>	<b>RMSEA</b>		
	.879	.910	.921	.921	.068		
<i>Note:</i> CR=Composite Reliability; AVE=Average Variance Extracted *For all variables the minimum is 0 and the maximum is 10.							

**Table 4. Hypotheses Testing**

	Direct model		Mediation model satisfaction				
	$\beta$	R <sup>2</sup>	$\beta$	$\beta_{ind}$	R <sup>2</sup>	f <sup>2</sup>	Mediation
University Brand Image $\Rightarrow$ WOM	.51*	.26	.43**	.22*	.18	.28	Partial moderate
University Brand Image $\Rightarrow$ <i>Satisfaction</i>			.30*				
<i>Satisfaction</i> $\Rightarrow$ WOM			.51**				

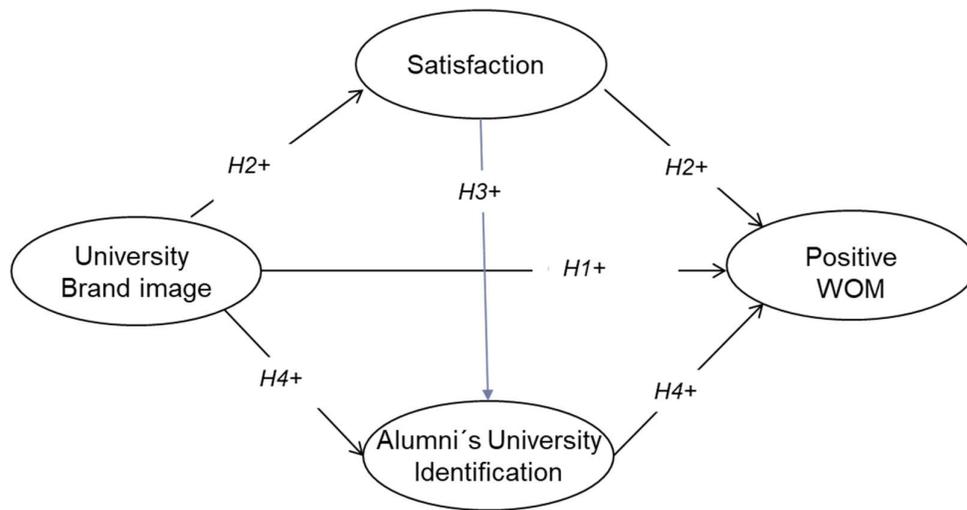
	Direct model		Mediation model identification				
	$\beta$	R <sup>2</sup>	$\beta$	$\beta_{ind}$	R <sup>2</sup>	f <sup>2</sup>	Mediation
University Brand Image $\Rightarrow$ WOM	.51*	.26	.46**	.08*	.32	.47	Partial strong
University Brand Image $\Rightarrow$ <i>Identification</i>			.34**				
<i>Identification</i> $\Rightarrow$ WOM			.25*				
	$\beta$						
Satisfaction $\Rightarrow$ <i>Identification</i>	0.31*						

\* p < 0.05; \*\* p < 0.01.;

$\beta$  ind: indirect effect

$\beta$  are standardized coefficients

**Figure 1. Conceptual Model**



**Figure 2. Hypotheses Testing**

