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Co-Creating Brand Image and Reputation through higher Education Internal-Stakeholder's Social Network

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Co-creating Brand Reputation through Higher Education Employees' and Students' Social Network

Abstract

By drawing on social identity and stakeholders' theories, this paper seeks to examine how universities co-create and manage their brand image and brand reputation through tapping into internal-stakeholders' social network. This research utilises explanatory research design at the preliminary stage, and the subsequent model is examined via a positivist survey carried out among higher education internal stakeholders in the UK. The results show that the relationship between navigation design of the website, usability of the website and customization of the website are not significant from students' perspective, whereas all those are significant from employees' perspective. Furthermore, the relationship between logo and co-creation behaviour is not significant from employees' perspective while it is significant from students' perspective. University website is the most important marketing tool to attract students and other stakeholders. Therefore, these findings have significant implications for higher education branding and marketing managers aiming to design appropriate communication tools with a view to actively engage students and employees in a co-creation process to improve their products, services and brand image.

Keywords – Co-creation, brand reputation, stakeholder's social network, logo, website.

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1. Introduction

'Corporate visual identity', 'co-creation' and 'reputation' constitute the marketing mantras nowadays. In their quest for sustained achievements in a global market, more and more higher education institutions are struggling to build profound, meaningful, and long-standing associations with their stakeholders. Due to the globalisation and marketization of higher education (HE), the UK higher education faces new challenges and especially the need to recruit more international students. Yet, if a company's social media is any indication, only a few companies such as IBM, Lego, Airbnb have realised the definitive promise of such collaborative-development determinations. The consumer, either supporter or champion, who shares ideas can help in developing a new value, concept, solution, product and services together with experts and/or stakeholders and could improve the reputation of the company and university.

What does differentiate the reputation of universities that have struck association-gold from the others? What is the nature of the associations these have with their stakeholders? Why and when are such associations likely to arise? A large body of relevant studies cover areas such as logo (e.g., Foroudi et al., 2014; 2017; 2018), website (e.g., Ageeva et al., 2018; 2019; Foroudi, 2019), co-creation (e.g., Hoyer et al., 2010; Yi & Gong, 2013), and reputation (e.g., Lebeau and Bennion, 2014). However, such associations are elusive for most marketing and communication managers and little attention has been paid to the impact of co-creation on the relationship between website and logo (the key elements of corporate visual identity) with corporate reputation (Foroudi et al., 2019).

Corporate visual identity (CVI) is increasingly significant as a means of differentiation in today's economy that creates a corporate reputation. Undoubtedly, the two key elements that have a considerable impact on a company's corporate reputation are the company's logo and website (Ageeva et al., 2018; 2019; Foroudi, 2019; Van den Bosch et al., 2006). However, having said that, little attention has been paid to the impact of co-creation on the relationship between website and logo with corporate reputation (Foroudi et al., 2019). Grounded on

social identity and stakeholders' theories, this research aims to investigate the link between logo and corporate reputation through the website and co-creation from employees' and students' perspective.

As students and employees become more market savvy, only organisations able to differentiate themselves from their competitors via the company's visual identity will succeed (Melewar et al., 2018; Van Riel et al., 2001). It is challenging to create and sustain the company's CVI as it creates the first impression for consumers which is difficult to change thereafter. However, this impression can be improved via customers' value co-creative behaviour, which could potentially increase the company's revenues, market coverage, innovativeness, profitability (Fuller et al., 2011), and reputation. We employ the concept of "student as consumer is merely metaphorical and acknowledges that students can perform different roles in higher education" (Wilkins & Huisman, 2015, p.1257).

Due to the globalisation and marketization of higher education (HE), the UK higher education faces new challenges to recruit more international students. UK higher education and universities focus on recruiting more students predominantly due to the globalisation and marketisation of HE (Yu et al., 2016). Furthermore, HE has often witnessed the largest growth in the diversity of students in terms of ethnic backgrounds (Melewar et al., 2018). Due to competitiveness, universities try to encourage student and employee participation and interaction in developing memorable experiences. This interaction has its root in the service-dominant logic, which is a new way of articulating a view of value creation and exchange in the process (Smith et al., 2014). It helps adjusting the educational service to students' particular needs and it, hence, assists in creating for them unique experiences throughout their HE years. Therefore, involving stakeholders (i.e. students) in the creation of university education helps tailor the educational services provided to students and hence assists in creating their unique experiences throughout their HE years (Elsharnouby, 2015).

Due to recent studies on higher education, it is agreed among scholars that involving students as end-customer (Hughes, 2010; Fueller et al., 2011; Cherif & Miled, 2013) could potentially improve higher quality services and customised products (Hafeez & Aburawi, 2013). A university website is the front-gate for students and other stakeholders. Online social platforms, such as Facebook and Twitter, provide a collaborative environment enabling

stakeholders to acquire and share knowledge. Increasingly, websites are seen as socially interactive processes in stakeholder networks (Bravo et al., 2012; Bravo et al., 2013; Kitchen, 2010; Merz et al., 2009). For instance, logos constitute a distinctive signature of a company among company stakeholders (Foroudi, 2019). Also, based on the communication tools (e.g., social media and reviews) used by the recruitment team, existing and alumni students are sharing their university experiences using online social networks or review sections, which impacts on the community's behaviours and their decision making for their HE selection (Plewa et al., 2015). Advances in web-based technology brought a paradigm shift in the ways companies and higher education institutions communicate with clients (Macharia & Pelser, 2014). In the internet and digital era, websites have become a primary vehicle for CVI (Van den Bosch et al., 2006) as well as in inter and intra-organization information exchange (Tarafdar & Zhang, 2008). According to Wilkins and Huisman (2015), the decision-making process of international students is a complex task that is subject to multiple influences.

Higher education institutions have recognised the importance of branding, corporate communication and reputation as strategic priorities (O'Loughlin et al., 2015; Waeraas & Solbakk, 2008). Corporate/brand logo is the most visible element of external organisational communications. It can thus be a badge of recognition (Omar & Williams, 2006) as it impacts visibility (Van den Bosch et al., 2005). A logo helps people remember an organisation (Van den Bosch et al., 2006). It can enhance the favourable image (Ewing, 2006; Van den Bosch *et al.,* 2005) and underpin reputation. Logos communicate corporate structure to stakeholders. It enables employee identification, (Van den Bosch et al., 2006; Stuart & Muzellec, 2004; Van Riel & Van Hasselt, 2002) and can also communicate organisational goals and directionality (Van den Bosch et al., 2006). In sum, corporate/brand logo is an essential managerial and marketing tool (Van Riel et al., 2001). Despite the importance of the relationship between corporate/brand logo and reputation, all previous studies have not examined this importance relationships empirically. So, there is little systematic research that examines the impact of the university logo and website on the university identity. The present study investigates the relationship of university logo to the university website, which could impact on students' image.

In particular, social co-creation processes through web-based interactions help firms to increase market acceptance while reducing market risk (Hoyer et al., 2010), allowing

consumers to (i) achieve financial, social, technological, and psychological benefits (Hoyer et al., 2010). It is acknowledged that a pleasant and entertaining web environment would attract more consumers (DeNisco & Napolitano, 2006). Literature unveils some interest in seeking to understand the co-creation process through web-based interactions (Hafeez & Alghatas, 2007). This, however, requires multiple perspectives that must involve stakeholders in order to lead to organisational success (Vallaster & von Wallpach, 2013).

One limitation of current research is that studies to date have adopted an almost exclusive consumer perspective and have ignored other internal-stakeholder groups (Hatch and Schultz, 2010; Ind & Coates, 2013). For example, a number of authors (e.g. Lusch & Vargo, 2006; Woodall, 2014) have emphasised the role students and consumers play as value co-creators. Cherif and Miled (2013) posit that consumers may be involved in brand value creation by considering the brand as the result of a relationship between client and firm. Despite these assertions, the view that consumers are the only stakeholders in co-creation is extremely debatable (Ind & Coates, 2013; Hatch & Schultz, 2010) and leads to a more holistic organisational view including consumers and employees that can impact firm behaviour. Also, limited research has been conducted on how university internal-stakeholders' co-creation behaviour affects university reputation from a multi-disciplinary perspective. In this paper, to avoid the repetition, authors use the term internal stakeholder instead of employee and students. Although there is a significant number of studies that have investigated stakeholder co-creation behaviour in marketing and management in higher education (Thatcher et al., 2016), there is a lack of studies which examine the relationships between logo, website, co-creation, and reputation display; it is exactly this gap in higher education that the current paper addresses.

In addition, there is a marked lack of explanatory models and theory-building studies in this area. In this study, we establish a model of antecedents (university's logo and website) and consequences (i.e. university's reputation) of employees and student value co-creation behaviour and then examine it empirically in the HE context in UK. The key role of employees and students' value of co-creation behaviour is to develop a university's reputation and how a university's logo and website could strengthen students' and employees' engagement. In addition, it illustrates how the components of value co-creative behaviour requires more attention in order to enhance a university's reputation.

As a result, we first review the literature in this domain. The next section outlines the research method and analysis for testing the hypotheses. An emergent model of university brand reputation and university internal-stakeholder co-creation is presented, along with implications for practitioners and researchers provided. We conclude with managerial and theoretical implications, as well as future research directions. In general, in today's higher education, marketisation and competition, university brand building and image play a significant role in attracting students and other stakeholders.

Theoretical background leading to research hypotheses

Corporate identity

University brand logo and its elements

Logo is a significant element of corporate visual identity and is crucial in communicating corporate identity (CI) to an audience in order to sustain competitive advantage. Logos play an important role in corporate branding and visual identity strategies (Hagtvedt, 2011; van den Bosch, et al., 2006). Based on the literature (Henderson and Cote, 1998; Van den Bosch et al., 2005; Foroudi et al., 2014), the logo has been defined as the signature of a company with essential communication and distinctiveness, which can reflect the company's image. The theory supports that customers' impressions are based on four elements of logo, namely the name (Foroudi et al., 2014; Henderson et al., 2003; Ohme and Boshoff, 2019), the colour, (Aslam, 2006; Hynes, 2009; Van den Bosch et al., 2005), the typeface (Hagtvedt, 2011; Henderson et al., 2004) and the design (Foroudi, 2019; Van der Lans et al., 2009). These elements are considered vital for every corporation because they can communicate an image, create differentiation, speed company recognition and attract customers (Van den Bosch et al., 2006).

Colour is instrumental in attracting consumers' attention towards the logo as it can be associated with various consumer rituals (Foroudi *et al.,* 2014). Colour is a more imperative factor than shape on the grounds that feelings can be related to colours. Colour communicates a message to an audience, and the message might include several meanings depending on other elements. The colour of a logo is significant in terms of recognition which helps a company and/or its brands stand out from the crowd. The second element of corporate logo is *typeface* which is a key communication objective (Hagtvedt, 2011; Henderson *et al.,* 2004); it can communicate through the logo (Chen and Bei, 2019; Henderson *et al.,* 2004), and is

endorsed by managers. The company's typeface aids memorability and readability. In addition, typeface can create a significant impression and portray an optimistic image to stakeholders. Another element which expresses a distinct message and relays organizational quality to consumers is *name*. A name can convey a distinct message and make organizational quality evident to consumers. It is the basis for distinguishing one organization from another. Name aids communication between corporations and consumers, and a name change also constitutes an object of communication. The role of the corporate/brand name is to help identify a company through its design in order to increase recognition speed (Foroudi *et al.,* 2014). A well-recognised logo needs to be compatible with the name. The last element of a logo is its *design* which should match corporate objectives and stakeholder perceptions, and which has a strong level of visual equity that can be recognised within an industry (O'Connor, 2011; Pathak et al., 2019). Design interacts with stakeholders. Therefore, it is critical that marketing managers and researchers understand design influence upon an audience (Van der Lans *et al.,* 2009). Appropriateness appears to be generally associated with more meaningful messages and leads to better evaluation. According to Clow and Baack (2010), the logo design needs to be compatible with the logo name. Therefore, our first hypotheses are:

H1: The favourable perception of employees and students towards (a) the colour, (b) the brand typeface, (c) the brand's name, and (d) the design used in the university's logo has a positive impact on their attitude toward the acceptance of brand logo.

Websites, on the other hand, serve an important communication function (Kim and Stoel, 2004) and previous studies (Lowry *et al.,* 2014; Robins and Holmes, 2008) show that the impression a user gets in the first few seconds is crucial to a website and business success (Lowry *et al.,* 2014) and may impact online trust (Bart *et al.,* 2005). The importance of customer trust has recognised by scholars (Shankar *et al.,* 2003). Developing an effective e-marketing strategy requires an understanding of the way consumer trust is developed and how trust influences on online consumer behaviour (Bart *et al.,* 2005). In an online setting, the notion of trust is the confidence about a website able to deliver according to the expectation, which is based on the prior experience (Gefen, 2000; Yoon, 2002). Website is considered to be a firms' virtual storefront (Argyriou *et al.,* 2006) and provides general audience information about the firm and its products/services and promotes a positive

corporate and product/brand image. Previous studies students use the university website to get access to information and literature (Sojkin *et al.,* 2012; Simoes & Soares, 2010; Wilkins & Huisman, 2015).

A unique corporate/brand website design is considered an important tool to gain competitive advantage, improve communication strategies, contribute to improving customer relationships, enable innovation, project corporate identities of the company (Bravo *et al.,* 2012; Bravo *et al.,* 2013), facilitate reputation (Campbell & Beck, 2004), reporting (Marston, 2003) increase loyalty (Srinivasan *et al.,* 2002), and enable satisfaction (Mahmoud & Hafeez, 2013; Casalo *et al.,* 2008). Based on these studies (Beldad *et al.,* 2010; Flanagin *et al.,* 2014), stakeholders' perceptions towards corporate/brand websites are: navigation design, visual identity/design, information, usability, customisation, security, and availability.

Navigation design is essential for website success (Bart *et al.,* 2005). Navigation design is the navigation scheme that aids access to different parts of a website (Gefen *et al.,* 2000). According to Tarafdar and Zhang (2008), this encompasses layout, including hyperlinks and tabs, as well as the ways in which these elements are arranged. Navigation design is one of the key elements of website design and is central in influencing customers. Another important element of the website which can play a role in building consumer trust is *visual identity/design* (Bart *et al.,* 2005; Urban et al., 2000). Components of visual design include shape, colour, photographs and font types. Other elements, such as logo, typeface, slogan and name, are mentioned by authors as CVI components (Van den Bosch *et al.,* 2006). As one would expect, visual identity aids visibility and recognisability by supplying people with signs that can help them remember an organization (Van den Bosch *et al.,* 2006). Moreover, components of visual identity are connected to the uniformity of the website and its emotional appeal.

Another element of website is *information* design which deals with website features that provide correct information about services or products to customers (Cyr, 2008). Information is also defined as an essential step to user's satisfaction (Flavián *et al.,* 2006). In fact, the information range available has increased markedly over the past two decades and should be organised in a way that satisfies users (Mahmoud & Hafeez, 2013). Nielsen (2000) explained *usability* as the ease with which a website can be accessed and used. This is associated with

ease to use, challenging character, whether it is visually appealing and fun, and whether it incorporates effective use of multimedia. Usability basically means that the website is natural and allows users to find what they are looking for rapidly and with a minimum effort (Lin, 2013). Moreover, usability can help users to successfully reach their purpose associated with accessing that website (Agarwal & Venkatesh, 2002).

Various authors (Raman *et al.,* 2008; Tarafdar & Zhang, 2008) have acknowledged *customisation* as an element in the construction of websites; this is the ability of a company to personalise services and products for its customers (Srinivasan *et al.,* 2002). It is noted that common features, such as customisation, can impact favourably customer reputation and e-loyalty. Another vital website element is *security* (Angelakopoulos & Mihiotis, 2011; Bart *et al.,* 2005); "[a] majority of studies highlight the fact that 'security' is the biggest single concern for customers when faced with the decision to use internet banking" (Sayar & Wolfe, 2007 p.125). Belanger et al. (2002) found that consumers were more concerned with the security features of the website rather than any statements of privacy. Security is applied by providing users with verifiable and safe transactions. The crucial element which is seen as the correct technical functioning of a site is *availability* (Alwi & Ismail, 2013). Website accessibility or availability are important for sustained use of the website by browsers. The above leads to the following hypotheses:

H2: The favourable perception of employees and students towards (a) the navigation design, (b) visual identity/design, (c) information design/content, (d) usability, (e) customisation, (f) security, (g) availability has positive impact on their attitude toward the acceptance of brand website.

University's brand logo and websites creation– can be an arduous task as it results in first impressions students and stakeholders form about the university, its image and/or reputation; it is a tool for managing stakeholder perceptions. A logo serves as a platform for innovative marketing and can help a university be distinctive. A website projects CI (Abdullah *et al.,* 2013; Booth & Matic, 2011; Iftach & Shapira-Lishchinsky, 2019) as "the visual manifestation of the company's reality" (Argenti, 2007, p.66) revealed through organizational logo, name, colour, design, and other tangible issues. Individuals react attitudinally to CVI (Lichtle, 2007), which must communicate a consistent image to stakeholders. Standardising

logo as a salient feature of CVI is presumed to have a positive effect on consumers' awareness (Van den Bosch *et al.,* 2006) and enhances students' familiarity with the university.

Furthermore, logos and trademarks are important characteristics of websites and/or for products presented there. Lowry *et al.* (2014) found that credible logos increase the tendency of site visitors to interact with a website. However, the assumption that a logo is a key element of CI that influences websites has yet to be tested (Foroudi *et al.,* 2014). Higher education management should communicate with the internal and external stakeholders and a well-designed logo on the website can strongly convey meaning between sender and receivers. However, studies exploring logo elements and associated websites are limited. Based on the above, we postulate the following:

H3: The favourable perception of employees and students towards the brand logo has a positive impact on their attitude toward the acceptance of a brand website.

Logo and co-creation – The logo as a graphic image is the first crucial step in building CVI (Hagtvedt, 2011; Foroudi, 2019), while it also communicates corporate identity. As part of corporate identity management, managers should try to project their companies' logos in order to create or maintain a favourable reputation and value co-creation. People may have different perceptions of a company's identity due to their personal feelings, emotions, and beliefs (Foroudi et al., 2014). Foroudi et al. (2019) stated that a corporate visual identity has a direct positive impact on stakeholders' co-creation behaviour. It has been also highlighted that people's perceptions of a company should match the organisational identity and represent the shared beliefs of what is enduring, distinctive, and central about this organisation (Dutton et al., 1994). A well-designed corporate logo may evoke an emotional response and transfer a positive reaction, motivating and evaluating organisations more favourably. The creation of a logo and CVI is costly and challenging. This is why universities harmonise both internal and external communications to generate favourable images of the company for target audiences. According to the stakeholder theory:

> "Managers determine those stakeholders as salient that possess one or more of three relational attributes - power, legitimacy, and urgency. However, the danger is that by

focusing exclusively on these criteria, management may overlook other relevant brand meaning co-creators" (Vallaster & von Wallpach, 2003, p.1506).

Co-creation can be defined as joint innovation of value and/or experiences of distinctive value through the participation of customers and internal-stakeholders, where the process focuses on continuous innovation and learning (Hatch and Schultz, 2010; Ind and Coates, 2013; Payne et al., 2009; Thatcher et al., 2016) in order to establish their reputation in an attractive field for prospective students (Lebeau & Bennion, 2014). From the CI perspective, stakeholders include any individual or group that shows an interest in a company, product, and services or brand. Senior management should view consumers as a vital part of the corporation which is or can be instrumental in 'co-creating' more sophisticated products and services (Hatch & Schultz, 2010, p.603). Organizations need to develop a social network of know-how by bringing together key stakeholders (such as customers, managers, and employees) in identity/brand redevelopment and potentially generating new brands (Ind & Coates, 2013, p.5). Coupland (2005) notes that the main players involved in co-creation are brand managers and stakeholders. As already identified, stakeholder theory underscores the importance of managing relationships with multiple stakeholders, that is, "groups or individuals who can affect or are affected by the achievement of organizational objectives" (Vallaster & Von Wallpach, 2013, p.1506). Value co-creation behavior by the employees and students through university logo embraces solicited and unsolicited information, which may help the HE organisations to advance service in the long-term. Drawing on this discussion, it can be claimed that employees' and students' attitudes towards a logo of an organisation exhibits how they evaluate the firm. Therefore, based on previous literature, it has been asserted that the corporate logo has a significant effect on value creation behaviour. Based on this, the following hypothesis has been derived:

H4: The favourable perception of employees and students towards the brand logo has a positive impact on their attitude toward value creation behaviour.

University website and co-creation – A website is an essential tool for organizational communication and interactions between firms and their customers, stakeholders and media (Ramaswamy and Gouillart, 2010). A corporate website is a communication channel that companies employ to reveal identity, manage external impressions (Abdullah et al., 2013; Bravo et al., 2012), reflect corporate image, signal uniqueness (AbuGhazaleh et al., 2012;

Tarafdar & Zhang, 2008), indicate reputation (Argyriou et al., 2006), enable brand loyalty (Kabadayi & Gupta, 2011), brings confidence to the users, and, underpin identification. Website images and their visual design are closely interwoven with subsequent satisfaction (Vance et al., 2008). Co-creation can be realised via websites and at social events (Ind et al., 2013, p.5), where stakeholders' interactions can take place. Muniz and O'Guinn (2001) define the concept of a brand community as "a specialized, non-geographically bound community" (p.412), established on a systematized collection of social interactions amid brand followers. Stakeholders participate in co-creation as a natural result of interest in a brand and/or belonging to a brand or corporate community (Schau et al., 2009), while engaging in dialogue and collaboration (Hafeez and Alghatas, 2007; Hatch and Schultz, 2010, p.592).

Corporate/brand communities offer broad social benefits to its members in an online manner, similar to mutual communication. These multiple collaborative interaction processes can co-create value (Yngfalk, 2013). According to Foroudi et al. (2019) and Yi and Gong (2013), stakeholders act as value co-creators by interacting during a service encounter and outlining their likes, dislikes, preferences and expectations. A university website and the associated social media are mechanisms for interaction and can co-create value with companies. In summary, the website is seen as an essential tool to be innovative and co-create value. Therefore, we assume that:

H5: The favourable perception of employees and students towards the brand website has a positive impact on their attitude toward the value creation behaviour.

University co-creation and reputation – The notion of co-creation as a central tenet of service-dominant marketing has been addressed in various studies (Lusch & Vargo, 2006). The literature trends toward the development of new and more efficient platforms for soliciting consumers' participation in branding and brand reputation (Fueller et al., 2011; Poetz & Schreier, 2012).

Value co-creation can be referred to "as a joint innovation of distinctive value and/or experiences through the participation of customers and other stakeholders" (Foroudi et al., 2019, p. 221). It is related to the continuous connections among the company and its

stakeholders, which create value by their participation. Also, it helps the company move the business forward and cultivate a strong reputation (Lebeau &Bennion, 2014). Consumers' participation in creating value can also influence other stakeholders' perceptions of the company (Ind & Coates, 2013).

The conceptualisation of brand reputation has been debated for decades. Still, though, the terms 'brand image' and 'brand reputation' are used interchangeably, and researchers have adopted different, sometimes even contrary definitions of both concepts. The corporate identity aims to create and develop a positive reputation among organizational stakeholders. The image has an evident external role-specific in higher education. Marketing studies consider image and reputation to indicate that the latter is perceived as dynamic, which takes time to build and manage (Gotsi & Wilson, 2001). It can be easily damaged, and image affects on-and off-line reputation, which affects consumer trust (Yoon, 2002). An enduring brand image ensures a favourable reputation and infuses stakeholders with positive attitudes toward an organization. A study by Wilkins and Huisman (2015) illustrates that the image of universities formed by prospective students' influences their choices. "As universities have become more exposed to competitive market forces, marketing has become more important in contributing to the creation of favourable institutional images that will help attract students, staff and resources" (Wilkins & Huisman, 2015, pp.1256-1257). Given this research, it is likely that, if stakeholders have a positive image of a university, a university's reputation will be maintained or improved (Walsh et al., 2009). According to previous studies (Black & Veloutsou, 2016; Flores & Vasquez-Parraga, 2015), the well-organized and innovative website can inspire customers' participation actions in branding reputation building.

In fact, marketing and innovation management literature underpin the role of consumers in service/product co-creation (Kohler et al., 2011; Hoyer et al., 2010; Tanev et al., 2011) within the new service-dominant logic (Merz et al., 2009). Co-creation is a collaborative process where consumers participate in creating value (Ind and Coates, 2013), which influences other stakeholders' perceptions. According to social identity theory, Brand reputation is how an organization's managers want stakeholders to perceive an organization. Co-creation can be seen as a core company competence (Hafeez et al., 2002) that requires interaction between a firm and its consumers, where both parties combine and integrate (to some degree) resources to help move the business forward. Feedback via s higher education website includes

solicited and unsolicited information that customers (students and stakeholders) provide, which may aid employees, students and the university to improve service in the long term. To investigate this, we hypothesise that:

H6: The favourable perception of employees and students towards the value co-creation has a positive impact on their attitude toward the brand reputation.

Methods

Data collection

Data were collected employing different methods of collection among employees and students of UK universities, as the higher education (HE) sector has enjoyed significant growth for over a decade. The majority of HE provision is delivered by HEI's in receipt of public funding from government councils. Over the last five years, approximately 93% of HE provision has been delivered. Yet recent changes in policy may lead to a shift in the balance between HE and FE. Moreover, the government has recently signalled its intention to support the entry of new providers in the market (see educationuk.org, 2018; Foroudi et al., 2019; Thatcher et al., 2016; Wilson, 2012). Along with the expansion in terms of student numbers, growth has mainly come from a significant increase in international student numbers studying at UK universities, which can be considered a further highly complex and multidimensional task for HE (Zlatkin et al., 2015).

The UK has become a popular destination for international students, as it is considerably well established in the history of higher education and international reputation (Ayoubi & Massoud, 2007). According to various scholars (Jacob & Hellström, 2014; Taha and Cox, 2016, etc.), internationalisation is an important element of the marketing strategy of these institutions. Following Bolsmann and Miller (2008), HE has been identified by UK Government ministers as a strategic sector towards attracting international students. Also, UK aims to attract 600,000 international students by 2030, and to greatly increase the value of its education exports. In addition, the success of this strategy may hinge on further immigration reforms (assets.publishing.service.gov.uk, 2020; monitor.icef.com, 2020).

English language itself is an essential competitive advantage and, thus, one of the main providers and exporters of HE services. In addition, despite the recession, not only is there an

increasing proportion of the UK population that holds a higher education qualification, but also the percentage of the UK labor force aged 30-34 with a higher education qualification has increased (Patterns and Trends in UK HE, 2015). Overall, these market factors have facilitated HE institutional competition in the UK (Adcroft et al., 2010).

In this study, 650 questionnaires were printed by authors and research assistants. A total of 620 questionnaires were returned; 28 questionnaires were removed because of missing data or incomplete responses with missing values. Finally, 592 questionnaires were filled out (taking between 20 min to 25 min to be completed) in face-to-face meetings with employees and students. According to Churchill (1999), the face-to-face survey is the most frequently employed sampling method in large scale questionnaire studies, ensuring that the survey is completed by the target respondents. Based on previous studies' recommendations (Andriopoulos & Lewis, 2009; Bryman & Bell, 2015; Denzin & Lincoln, 1994) the current work used a non-probability 'snowballing' as the main distribution method, by inviting informants to propose others who might be able to offer additional insights in an attempt to improve the sample size and ensure that the sample involved the most well-informed participants. At the end of this process, 163 employees' and 429 students' usable completed surveys were received and examined.

Prior to administering the survey, qualitative studies took place in the form of in-depth interviews and focus groups. In particular, interviews were conducted with the participation of eight UK marketing and communication university managers and experts, as well as four focus group (total of 27 participants) discussions of employees, doctoral researchers and MBA students from a UK Business School. The details of the interviewees and focus group interviewees are provided in Table I.

Following the structural equation modelling approach, the qualitative research allowed data triangulation to increase the validity of findings and enhance data richness (Saunders *et al.,* 2007). Out of the usable responses, 63% were provided by women between 18 and 51 years old who were employees at the universities, while 79% of them held a PhD degree. On the other hand, 57% of students were male participants between 18 and 47 years old, with 68% of them studying in undergraduate programmes.

Measures

The questionnaire used recognized and applied scales from previous research: i.e. the measures of brand logo and typeface (Foroudi et al., 2014), design (Foroudi et al., 2014; Henderson and Cote, 1998), colour (Aslam, 2006; Tavassoli, 2001), and brand name (Klink, 2003). The measurement of the brand website was based on previous studies (Alwi, 2009; Argyriou et al., 2006; Halliburton & Ziegfeld, 2009). Previous studies recognised antecedents of website design utilised here; these include navigation, visual identify; information; usability; customization; security; and availability.

The co-creation behaviour is a multidimensional third-order construct which was measured through customer participation behaviour (information seeking, information sharing, responsible behaviour, personal interaction) and customer citizenship behaviour (feedback, advocacy, tolerance, and helping) (Foroudi et al., 2019; Yi & Gong, 2013). In addition, image (Foroudi et al., 2014; Sen & Bhattacharya, 2001; Williams & Moffitt, 1997) and reputation (Chun, 2005; Fombrun et al., 2000; Foroudi et al., 2014; Helm, 2007) were also obtained from existing scales. The items employed in this study are presented in Appendix 1. According to Singh *et al.*'s (1990) recommendations, all items were measured using a seven-point Likert scale (1 = Strongly disagree, 7 = Strongly agree).

Analysis and results

The initial research measurement items underwent a series of factor and reliability analyses as an initial examination of their performance within the entire sample. This study employed a two-step approach based on Anderson and Gerbing (1988). In the first stage of analysis, exploratory factor analysis was ran as a fundamental and useful technique towards reducing the numbers of observed variables (indicator) to a smaller and more controllable set (Hair *et al.,* 2006) aiming to attain the theoretically expected factor solutions; 23 (students) and 24 (employees) out of 167 items in total were excluded for multiple loadings on two factors, and the total correlation was less than 0.50 (Hair et al., 2006).

All a priori scales demonstrated acceptable reliability (Cronbach's alpha <.79) (Nunnally, 1978). KMO's measure of sampling adequacy (employees: 0.831>0.6; students: 0.937>0.6)

suggests suitability for EFA; moreover, the relationships between the items are statistically significant for both data sets and provide a parsimonious set of factors (Tabachnick & Fidell, 2007). In addition, Bartlett's test of Sphericity illustrates the relationship between the measurement items which is higher than 0.3 and is also appropriate for EFA (Hair *et al.,* 2006). The response rate obtained confirmed the requirements of the data analysis techniques (structural equation modeling, SEM) and illustrates an insignificant difference in non-response bias examination (i.e. using the Mann-Whitney-U-test). However, random selections of the participants and the response rate needs caution when interpreting the research results. According to the proportion of survey questionnaires which were returned, the first 50 observations were taken as early responses and the last 50 were taken as late responses. The findings reveal that significance value in any variable is not less than or equal to 0.5 probability value (i.e. insignificant); therefore, there is no statistically significant difference between early and late respondents. Consequently, non-response bias does not form a concern in the present study. In the second stage, we ran CFA (confirmatory factor analysis) which was carried out to evaluate the measurement properties of the present scales' validity (Hair et al., 2006).

In the second stage of analysis, confirmatory factor analysis (CFA) was employed through Amos to assess the construct uni-dimensionality; the examination of each subset of items was internally consistent and validated the constructs on the basis of the measurement models (Gerbing & Anderson, 1988). Furthermore, convergent validity and discriminant validity were examined based on construct reliabilities (Anderson & Gerbing, 1988). Cronbach's alpha of all measures was higher than 0.860 (employees) and 0.909 (students), which shows adequate internal consistency (Bagozzi & Yi, 1988). Testing discriminant validity indicated that correlations among factors were lower than the recommended value of .92 (Kline, 2005). The homogeneity of the construct was also tested for convergent validity. The average variance extracted (AVE) for each construct ranged from 0.773 to 0.972 for students, and from 0.766 to 0.967 for employees. A good rule of thumb is that an AVE of .5 or higher indicates adequate convergent validity (Table II).

"INSERT TABLE II HERE"

In this stage, the structural model fit was examined through goodness-of-fit indices X^2–Chi-square; Df–degree of freedom (2.226); RMSEA–Root mean square error of approximation (students: 0.62; employees: 0.061); CFI–Comparative fit index (students: 0.909; employees: 0.913); IFI–Incremental Fit Index (students: 0.909; employees: 0.913); and TLI–Tucker-Lewis index (students: 0.905; employees: 0.909) the 'favourable' fit values provides a satisfactory fit to the data and therefore supports the uni-dimensionality of the measures (Anderson & Gerbing, 1988). Then, by employing hierarchical linear regression the research hypotheses were tested (Table III). To address multi-collinearity, this research established procedures to mean centre related variables before generating proposed interaction terms to assess the hypotheses.

"INSERT TABLE III HERE"

The results included in Table IV provide support for H1, i.e. that there exist relationships between colour and logo (H1a - students: β=0.137, t=2.644; employees: β=1.203, t=2.933), typeface and logo (H1b - students: β=0.106, t=2.48; employees: β=.646, t=7.471), name and logo (H1c - students: β=0.337, t=8.009; employees: β=.474, t=4.724), and design and logo (H1d - students: β=0.215, t=3.906; employees: β=.416, t=4.947). In the hypothesized model testing the effect of navigation design (H2a), the results reveal that employees believe the more favourably the navigation design is perceived by employees and students, the more favourable attitude they have towards the brand website (β=.377, t=6.825); however, students results did not support this relationship (β=0.091, t=1.499, p 0.134). H2b and H2c address the impact of visual identity/design and information on website (H2b - students: β=0.313, t=5.98; employees: β=.197, t=3.477; H2c: students: β=0.115, t=2.224; employees: β=.308, t=4.746, respectively) and the significant relationships were confirmed. In the hypothesized model, the effect of usability (H2d), customization (H2e), and website (employees: H2d - β=.307, t=5.224; H2e - β=.159, t=2.735) were significant from employees' perception. However, students felt that the brand websites are not usable and customized (Students: H2d - β=0.089, t=1.794 p 0.073; H2e - β=0.064, t=1.06 p 0.289). As a result, it can be a challenge for universities to design a favourable website which can influence students' attitude towards the HE institutions. Therefore, hypothesis H2d and H2e were rejected because the results were not statistically significant. Results also demonstrated that the more favourably availability is perceived by the employees and students (H2f - students: β=0.102, t=2.252; employees:

β=.389, t=5.998) security and (H2g - students: β=0.103, t=2.343; employees: β=.272, t=4.216), the more favourable their attitude towards the brand website.

In the hypothesized model, the effect of logo and website (H3 - students: β=0.186, t=2.702; employees: β=.718, t=8.586) were significant from both samples. We found that the more favourably the brand logo is perceived by students, the more favourable the students' value creation behaviour is (H4 - students: β=1.657, t=2.421). Surprisingly, employees were not concerned about the logo of the universities (H4 - employees: β=.059, t=.998, p 0.318). The standardized regression path between higher education employees' and students' perception towards the website and value co-creation behaviour (H5) is statistically significant (students: β=0.603, t=2.417; employees: β=.099, t=2.605). Hypothesis 6, which explains the relationship between co-creation behaviour and reputation, proved to be significant in the hypothesized direction (students: β=.153, t=4.226; employees: β=.561, t=3.564).

"INSERT TABLE IV HERE"

Discussion

Based on the research aims, we investigated the association of logo with corporate reputation through website and co-creation from employees' and students' perspective based on social identity and stakeholders' theories. This investigation, therefore, confirms the position that a logo is an element of university corporate identity which can communicate the personality and values of a university to its employees and students. The empirical results demonstrate that colour, typeface, name, and design have been found to influence the corporate logo. These findings are relevant to the context of the current study. The above factors were estimated and exhibited a good fit of indices in the measurement model. These constructs were depicted as latent exogenous variables in the structural model and have been found to impact strongly on favourable corporate logo and contribute to enhancing the internal-stakeholders' perception. The following is an example retrieved from a focus group participant's answer:

> "…there is a stronger relationship between our logo and image than between logo and reputation. Our logo fully mediates the relationship between logo and reputation. When you see the logo you perceive the image first and then [it]

remind[s] you of the reputation because the image is short term; reputation is built up, takes time to build up and takes time to fade; [an] image is more direct".

However, this research does not support students' point of view towards the navigation design. These findings confirm that some elements such as navigation design, usability, and customisation can bear positive or negative effects on attitudes toward the website (Beldad *et al.,* 2010; Flanagin *et al.,* 2014).

The research findings retrieved provide evidence for the discussion on relationships between CVI, image and reputation at a higher education internal stakeholder level marketing as introduced by marketing scholars and practitioners. In general, findings illustrated that, according to the research model adopted, logo consists of all four elements— typeface, name, design and colour. However, compared to Foroudi et al.'s (2014; 2018) study, stakeholders hold a more favourable perception of colour as used in the university's logo. A participant stated that,

> "[The] logo is like [what] clothes are to a person. You can easily change your suit; however, it's extremely difficult to change your personality … If the logo is used to deliver the personality and characteristics of a company, it will be persuasive to the customers and employees, such as our logo; everywhere it is the same".

The online experience that customers have impacts behaviour towards a website (Novak *et al.,* 2000) and can lead to greater online trust (Burt et al., 2005). The result of this study is consistent with the findings of Tarafdar and Zhang (2008), who supported that the first visit is not influenced significantly by customization features; it becomes apparent only when repeated visits are made to a website. Perhaps the respondents' previous experiences with the university play a primary role in these perceptions. The following quotes reflect this idea also confirmed through the focus group:

> "…after a couple of months [of] being a student, still I face some issues to find the right page and right information; I feel it is very confusing and time-consuming… I cannot find all the materials I need for my studies".
>
> "To my experience, the university website is not functioning well, and I don't think it is customized as well… In addition, the layout of the website is not consistent, and uploading or downloading a file take[s] longer than usual".

In accordance with findings from previous studies (Lowry et al., 2014), the logo contributes significantly to the impact of the website. Besides some positive views considering the website an element of corporate identity, limited systematic research has examined to date the effect of the logo and its components on the website. This study provides a new outlook in conceptualizing logo and its relation to the relevant website. The analytical findings are supported by our qualitative data. Results show that the more favourably the logo and website are perceived by employees and students, the more students and employees get engaged in the value creation process. The findings are supported by the qualitative research as illustrated by the following excerpt from a brand manager's answer:

> "As a university brand manager, I am responsible for our brand and how it can best communicate with our national and international audience. These days, we are trying to open ourselves and collaborate and co-create solutions with our consumers to deliver better value for our brand in this competitive market. We have community forums to engage with our students and employees, and we are sharing our courses and information through the website".

In addition, another focus group participant added that

> "the site provides just the right amount of text and is easy to navigate; good use of colours, not boring but neutral; but some information is difficult to find and not always easily accessible".

As our study is the first scholarly work to examine the impact of a logo on co-creation, we found out students have different perception compared to employees. Interestingly enough, employees claim that the brand logo has no effect on their attitude towards the value creation behaviour and the regression path unexpectedly illustrated a significant negative relationship between these two variables. Furthermore, the adopted scales of measurement from the qualitative study and existing literature may create the unforeseen insignificant relationship between logo and co-creation behaviour. For a more critical consideration of the emerging insignificant relationship, the literature and the qualitative data were revisited. The structural model evaluation supported the discriminant validity of the constructs and confirmed that the measures of the constructs are truly distinct. The estimated correlations of discriminant validity were statistically significant, and the estimated correlations among factors were less than the recommended value of 0.92 (Kline, 2005).

The results confirmed the favourable perception employees and students hold towards the brand website, which has a positive impact on their attitude toward value creation behaviour. Co-creation value by the employees and students is an emergent phenomenon (Hatch & Schultz, 2010) and is linked to brand reputation. Our findings support these relationships. A focus group participant stated that "I feel more engaged with the university brand now, and this has given me self-fulfilment and more trust about the university". Also, another employee mentioned that "I am more aware of the corporate branding for the university now and can explain [it] to external stakeholders". Furthermore, a marketing consultant commented that "co-creation has improved the website. I can see the impact on this on the university image on the short to medium term".

Brand reputation is considered to be the most important factor for sustainable competitive advantage (Firestein, 2006); therefore, the role of the employees is vital in the co-creation process (Yngfalk, 2013), a relationship also supported by our qualitative study. In consistency with prior studies (Chun, 2005; Helm, 2007; Fombrun et al., 2000) we found that a favourable perception of employees and students towards the value co-creation has a positive impact on their attitude toward the brand reputation.

Implications for Marketing Theory

Based on social identity and stakeholders' theories, the present findings build upon research related to co-creating universities' reputation through their employees' and students' social network in a higher education setting. The literature review (for instance, Henderson & Cote, 1998; Foroudi et al., 2014; Van der Lans et al., 2009) indicates that no theoretical models have described the adoption and evaluation of a favourable logo and website as key elements of co-creating CVI concerning brand reputation. The model developed to evaluate and assess the research constructs is a novel contribution attributed to this research. In addition, the model of co-creation can be appropriately extended and employed in other service sectors as well.

By investigating the proposed model of the relationship between the research constructs in the context of a UK-based University, this study provides a validated framework that discusses the relationship between logo, website, internal-stakeholders' co-creation behaviour,

and reputation from the perspective of internal-stakeholders. In addition, we extend knowledge in the area by examining the employees' and students' evaluations of the effect of logos and website on consumers within a HE setting (Foroudi et al., 2014; Van der Lans et al., 2009). Because UK HE consumers may have distinctive characteristics which impact the results of this study, the results cannot be generalized across the sector. However, the model can be subject to further examination within the fields of reputation and co-creation in HE or other sectors. This study also carries implications for marketing theory. By engaging in CVI activities, organizations can communicate more favourably to internal stakeholders the essential characteristics of the company's corporate identity. Contrary to extant branding research, the emphasis of this work is not placed on brand identity resulting from managerial efforts to build up an intended internal or external image and reputation (Keller, 2003), but on the active role stakeholders can play in co-creating image and in enhancing its reputation (Hatch & Schultz, 2010).

This research also offers managerial contributions for decision-makers, brand managers, graphic and web designers who wish to explore in more depth the relationship between a logo and its antecedent factors (i.e. name, typeface, design, and colour); website and its associated antecedents (navigation and visual identity/design, information, usability, customisation, security, availability) from employees' and students' perspective. Also, co-creation behaviour was measured through the sub-constructs of stakeholder participation behaviour and stakeholder citizenship behaviour (Foroudi et al., 2018; Gronroos, 2011; Hatch & Schultz, 2010; Payne et al., 2009) and its impact on brand reputation.

Through our qualitative study we have explored how co-creation is present in the management of institutional reputation in a HE context. Based on the conceptual model already described, it is shown that brand experience has significant effects on co-creation and reputation, and that perceived quality significantly affects reputation. In addition, via the mixed method approach we have compared the differing views of employees and students in relation to a HE institution.

Managerial implications
By engaging with CVI activities, organizations communicate more favourably towards employees and students regarding important characteristics of the company's corporate

identity. Logo and website are positioned at the centre of the UK universities' effort to build a favourable reputation through co-creation. The more favourably the company's stakeholders are engaged in value co-creation with the company, the more favourable attitude employees and students have towards the brand reputation. Even though organizational management may claim that interactions among stakeholders are beyond their control, the present study exemplifies that managers need to invent appropriate strategies and tools to involve themselves in co-creation processes and ultimately improve their products and services offered.

Furthermore, this research contributes an integrated and detailed perspective which has been conceptualised to advance knowledge of the multidimensionality of the brand logo and website within the context of a higher education institution in the UK. The findings may be of value to HEI managers wishing to ensure they have a logo reliable enough to strengthen brand reputation. The result shows that respondents have different expectations regarding websites (Jones, 2005). This research contributes to the current belief among scholars that "anything a company does it expresses its characteristics" (Van den Bosch *et al.,* 2005). The qualitative evidence reveals that there is a relationship between a university logo and CVI, as well as university image and reputation.

Their logo is the *"heart and soul of a company"* (Chajet & Shachtman (1991, p.28). A brand logo is inexorably intertwined with corporate identity. Researchers (e.g. Melewar & Akel, 2005; Van den Bosch et al., 2006) assert that the logo is used at the root of corporate identity, affecting people's judgements and behaviour. Given that students trust perceived institutional reputation (Wilkins & Huisman, 2015), it appears that institutions need to carefully manage their reputation and communications with all stakeholders, mainly those who influence directly students, parents and teachers. The institution's website is the key to communicate the institution's beliefs, ideas, feelings and impressions to stakeholders, and, in particular, it constitutes the best platform to transmit the institution services to potential international students.

According to Nguyen and LeBlanc (2001), in higher education being perceived as a service industry, it is challenging to recognize the relationship among institutional image and reputation and a company's offering because of the intangible nature of the service. From this

viewpoint, this study can be beneficial for the HE management to make the institutional image more discernible and easily perceived. In addition, this study can assist future researchers in higher education in better comprehending the meaning of institutional reputation from the consumers' perception; that way, they could recognize realistic and appropriate dimensions contributing to elaborate measurement scales for the constructs used in this study.

In today's higher education marketisation, universities are overtly conscious about branding and image building. University logos and websites are increasingly playing a significant role in recruiting students and attracting other stakeholders. The findings from this study can help university policymakers, IT directors and marketing directors to regard website co-creation as a crucial part of their brand-building and reputation enhancing strategy.

Limitations and future research directions

This study represents an initial attempt to conceptualize co-creating brand image and reputation through an internal stakeholder's social network in a UK-based university context. However, the findings retrieved have some limitations that may relate to future research. The research pertains to a single HEI in the UK and it thus needs to be more widely spread. Though the research item measurements were adopted from previous studies and different settings, the distinctive characteristics of a UK-based University could have affected, to a greater or lesser degree, some aspects of the concepts examined. Hence, future studies could replicate this study in other contexts or countries in order to test the outcome generalizability.

Another limitation of the present study is associated with the type of logo and website employed by the university, which may lead to reservations concerning the generalizability of the research findings; as a result, future empirical research should be conducted to repeat this study in diverse settings. Although this study employed a mixed methods analysis, a more comprehensive study would help increase knowledge of the relationships between the constructs. Preferably, a probability sampling method should be opted for in future to allow researchers to evaluate the amount of sampling error present and eliminate any potential bias in terms of validity and generalizability of the scales.

Given that some of the results of this study were not anticipated, e.g. the direct effect of information, usability, and customisation on website, and they could relate to the type of business that the case company belongs to, future studies might usefully repeat this research in another sector or country in order to confirm the generalisability of the findings.

This research conceptualised co-creating brand reputation through internal stakeholder's social network in a UK-based university context. A future study may yield different findings from the same research scales and constructs. The increasing globalization of HEI and stakeholder markets provides a compelling reason for exploring the influence of culture on stakeholders' value co-creation behaviour. In addition, in this study researchers collected data from students and employees in higher education; it can also be recommended to collect data from other parties involved such as suppliers, owners, communities, government and other groups that can impact firm behaviour. In summary, this study focuses on value co-creation behaviour from internal-stakeholders' point of view as value creation is a collaborative work between students and employees.

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Table I: The details of participants in interview and focus groups

Number of participants	Interview occupation	Age range	Gender	Interview approx. length
8	UK marketing and communication university managers and experts	45-62	6 men 2 women	90 min.
6	Employees	25-48	2 men 4 women	56 min
7	Employees	27-56	4 men 3 women	49 min
6	Doctoral researchers	25-35	5 men 1 women	74 min
8	MBA students	23-37	4 men 4 women	92 min

Table II: Exploratory factor analyses and reliability of measures

Construct	Item	Fac. loading	Mean	S. Deviation	Cronb. alpha	Item	Fac. loading	Mean	S. Deviation	Cronb. alpha
			Employees					**Students**		
University logo					0.961					0.949
	L1	0.755	5.2681	1.62786		L3	0.819	5.3804	1.38870	
	L3	0.776	5.3403	1.59315		L5	0.771	5.1350	1.49697	
	L4	0.800	5.2914	1.64244		L6	0.784	5.1534	1.50547	
	L7	0.783	5.2774	1.65054		L8	0.826	5.4908	1.37602	
	L8	0.804	5.4639	1.56233		L9	0.815	5.4294	1.35158	
	L11	0.789	5.3543	1.54386						
Typeface					0.980					0.980
	LT1	0.841	5.5804	1.64947		LT2	0.803	5.9387	1.39529	
	LT4	0.850	5.5385	1.62818		LT3	0.791	5.8282	1.39042	
	LT5	0.839	5.4988	1.63293		LT4	0.823	5.9141	1.29290	
	LT6	0.846	5.4685	1.68890		LT6	0.820	5.7914	1.38088	
	LT7	0.853	5.4965	1.71118		LT7	0.836	5.9141	1.39399	
Design					0.961					0.956
	LD2	0.764	5.4336	1.55833		LD1	0.734	5.6871	1.39009	
	LD3	0.766	5.6993	1.55297		LD3	0.775	5.9571	1.36241	
	LD5	0.771	5.5804	1.54563		LD4	0.797	5.7055	1.43988	
	LD6	0.764	5.2960	1.54935		LD5	0.738	5.3558	1.43450	
	LD7	0.773	5.4406	1.54204		LD7	0.829	5.6074	1.44203	
Colour					0.936					0.909
	LC1	0.723	5.6270	1.44553		LC1	0.765	5.9877	1.18628	
	LC2	0.779	5.5268	1.46049		LC2	0.820	5.8712	1.33401	
	LC3	0.793	5.3520	1.54515		LC4	0.830	5.6871	1.42518	
	LC5	0.782	5.2727	1.46381		LC5	0.684	5.4601	1.34827	
Name					0.978					0.981
	LN1	0.725	5.4802	1.68631		LN1	0.855	5.5583	1.51982	
	LN2	0.757	5.4965	1.68365		LN2	0.853	5.5031	1.57282	
	LN3	0.775	5.5291	1.66105		LN3	0.869	5.5828	1.51460	
	LN4	0.769	5.5221	1.66957		LN4	0.873	5.5521	1.52814	
University website					0.994					0.992
	W2	0.857	5.3450	1.98295		W1	0.925	5.5521	1.92499	

	Item	Loading	Mean	SD	Rel.	Item	Loading	Mean	SD	Rel.
	W3	0.859	5.3450	1.98649		W3	0.926	5.5460	1.92194	
	W4	0.857	5.3193	1.98078		W4	0.924	5.4969	1.91928	
	W5	0.857	5.3310	1.98063		W5	0.923	5.4908	1.91926	
	W6	0.816	5.2797	1.97912		W6	0.872	5.4969	1.90637	
Navigation design					0.991					0.991
	WND1	0.868	5.5221	1.71786		WND1	0.875	5.6503	1.51345	
	WND2	0.865	5.4755	1.71782		WND2	0.852	5.5767	1.50676	
	WND3	0.859	5.5385	1.71757		WND3	0.850	5.6564	1.50874	
	WND4	0.857	5.5548	1.69107		WND4	0.849	5.6012	1.50530	
	WND8	0.867	5.4779	1.71377		WND6	0.852	5.6135	1.52480	
	WND10	0.874	5.4709	1.72318		WND9	0.860	5.5890	1.53450	
	WND13	0.830	5.4336	1.76635		WND11	0.865	5.5276	1.54885	
Visual identity/design					0.990					0.973
	WV2	0.830	5.4639	1.88990		WV1	0.865	5.7055	1.50691	
	WV3	0.839	5.4779	1.89505		WV2	0.892	5.7975	1.51600	
	WV4	0.838	5.4918	1.88651		WV4	0.895	5.8160	1.49170	
	WV5	0.830	5.5128	1.87157		WV5	0.877	5.8344	1.50006	
	WV6	0.836	5.5245	1.90118		WV6	0.888	5.7239	1.58421	
Information					0.990					0.989
	WI8	0.814	5.4755	1.83743		WI8	0.886	5.6196	1.65630	
	WI4	0.821	5.4499	1.84706		WI1	0.880	5.5828	1.68441	
	WI17	0.792	5.5315	1.83223		WI16	0.859	5.6871	1.65373	
Usability					0.979					
	WU3	0.805	5.3217	1.91868		WU2	0.833	5.5890	1.62439	
	WU6	0.815	5.2984	1.92852		WU5	0.835	5.5583	1.64466	
	WU9	0.797	5.3380	1.91037		WU9	0.789	5.6503	1.54574	
Customisation					0.860					0.951
	WCU3	0.732	5.4802	2.89903		WCU2	0.891	5.5215	1.45015	
	WCU4	0.668	5.3776	1.64119		WCU4	0.796	5.4969	1.46302	
	WCU5	0.702	5.3263	1.66064		WCU5	0.900	5.5276	1.45853	
	WCU6	0.701	5.3939	1.63948		WCU6	0.893	5.5521	1.45786	
Security					0.985					0.969
	WS1	0.830	5.3520	1.91395		WS1	0.805	5.4847	1.77206	
	WS2	0.841	5.3147	1.93982		WS2	0.814	5.3558	1.84485	
	WS3	0.847	5.2681	1.94802		WS3	0.800	5.3497	1.86433	
Availability					0.990					0.974

	WA3	0.892	5.3916	1.90928		WA3	0.886	5.6564	1.63820	
	WA4	0.884	5.4079	1.91868		WA4	0.878	5.6810	1.64694	
	WA5	0.889	5.3497	1.93078		WA5	0.883	5.6319	1.65536	
Stak. co-creation behaviour										
Information seeking					0.960					0.989
	CPOI	0.822	5.3170	1.80659		CPOI	0.801	5.7362	1.34636	
	CPO2	0.839	5.3916	1.82545		CPO2	0.855	5.7423	1.32212	
	CPO3	0.848	5.1422	1.83955		CPO3	0.845	5.5644	1.42308	
Information sharing					0.935					0.923
	CPIS1	0.798	5.5967	1.54620		CPIS1	0.864	5.9509	1.29006	
	CPIS2	0.814	5.4918	1.61710		CPIS2	0.896	5.9141	1.39841	
	CPIS3	0.808	5.4452	1.48510		CPIS3	0.864	5.8282	1.26976	
Responsible behaviour					0.963					0.932
	CPRB1	0.841	5.5175	1.65558		CPRB1	0.879	5.8221	1.32367	
	CPRB2	0.842	5.4779	1.68905		CPRB2	0.892	5.8098	1.34050	
	CPRB3	0.820	5.4499	1.71318		CPRB3	0.832	5.6994	1.33858	
Personal interaction					0.973					0.946
	CPPI1	0.838	5.4476	1.65201		CPPI1	0.837	5.9448	1.28741	
	CPPI2	0.838	5.5548	1.64627		CPPI2	0.840	6.0798	1.19144	
	CPPI3	0.865	5.5385	1.60796		CPPI3	0.836	6.0061	1.22976	
	CPPI4	0.858	5.4592	1.63956		CPPI4	0.862	5.9018	1.32504	
	CPPI5	0.865	5.5221	1.63564		CPPI5	0.856	5.9877	1.32864	
Feedback					0.955					0.965
	CCF1	0.838	5.4149	1.68289		CCF1	0.822	6.0000	1.23228	
	CCF2	0.838	5.4569	1.57407		CCF2	0.809	5.8957	1.28435	
	CCF3	0.833	5.3497	1.59259		CCF3	0.843	5.9080	1.30908	
Advocacy					0.933					0.951
	CCA1	0.853	5.5361	1.57276		CCA1	0.800	5.8160	1.31581	
	CCA2	0.884	5.6527	1.54167		CCA2	0.837	5.9264	1.31261	
	CCA3	0.852	5.4825	1.59227		CCA3	0.787	5.8098	1.35424	
Tolerance					0.927					0.940
	CCT1	0.804	5.3590	1.43611		CCT1	0.856	5.5460	1.50391	
	CCT2	0.834	5.4196	1.46651		CCT2	0.868	5.5337	1.50834	
	CCT3	0.819	5.3520	1.54515		CCT3	0.855	5.5031	1.56889	
Helping					0.963					0.943
	CCH1	0.856	5.0956	1.63281		CCH1	0.729	5.4847	1.28791	

	CCH2	0.856	5.0093	1.68831		CCH2	0.805	5.4356	1.38349	
	CCH3	0.888	4.9883	1.64270		CCH3	0.817	5.3742	1.41022	
	CCH4	0.891	5.1189	1.64270		CCH4	0.832	5.4785	1.37139	
University reputation					0.979					0.927
	R1	0.827	5.5408	1.49026		R1	0.801	5.7730	1.29720	
	R2	0.853	5.7226	1.51626		R2	0.869	6.0675	1.31059	
	R3	0.860	5.7273	1.50629		R3	0.894	6.0798	1.31460	
	R4	0.851	5.6970	1.51519		R4	0.874	6.0798	1.29091	
	R5	0.829	5.6200	1.52017		R5	0.858	6.0123	1.32398	

Table III: Desciminant validity, AVE, and CR (Students)

	CR	AVE	MSV	Feedback	Name	Logo	Website	Rep.	Design	Colour	Navigation D.	Visual I.	Information	Usability	Custom.	Security	Availability	Info. Seeking	Info. Sharing	Responsible B.	Personal I.	Helping	Tolerance	Advocacy	Typeface
Feedback	0.956	0.877	0.303	**0.937**																					
Name	0.979	0.921	0.406	0.215	**0.960**																				
Logo	0.960	0.799	0.386	0.174	0.621	**0.894**																			
Website	0.993	0.964	0.360	0.196	0.354	0.512	**0.982**																		
Reputation	0.980	0.907	0.245	0.363	0.423	0.384	0.348	**0.952**																	
Design	0.959	0.824	0.471	0.251	0.546	0.551	0.457	0.472	**0.908**																
Colour	0.939	0.794	0.471	0.249	0.588	0.601	0.500	0.392	0.686	**0.891**															
Navigation D.	0.991	0.942	0.406	0.179	0.637	0.599	0.523	0.359	0.462	0.574	**0.971**														
Visual I.	0.989	0.948	0.360	0.169	0.439	0.411	0.600	0.438	0.491	0.507	0.535	**0.974**													
Information	0.990	0.972	0.347	0.183	0.433	0.486	0.520	0.398	0.445	0.499	0.491	0.589	**0.986**												
Usability	0.980	0.941	0.347	0.213	0.488	0.535	0.498	0.383	0.446	0.464	0.509	0.497	0.466	**0.970**											
Customisation	0.929	0.773	0.398	0.198	0.586	0.553	0.487	0.470	0.631	0.592	0.580	0.475	0.500	0.538	**0.879**										
Security	0.985	0.957	0.299	0.200	0.488	0.500	0.466	0.339	0.477	0.474	0.547	0.475	0.452	0.428	0.463	**0.978**									
Availability	0.990	0.970	0.347	0.223	0.422	0.546	0.520	0.340	0.400	0.412	0.573	0.546	0.533	0.589	0.486	0.446	**0.985**								
Info. Seeking	0.961	0.891	0.335	0.463	0.181	0.184	0.234	0.399	0.178	0.225	0.201	0.205	0.216	0.166	0.162	0.198	0.207	**0.944**							
Info. Ssharing	0.936	0.831	0.245	0.436	0.241	0.287	0.308	0.495	0.338	0.278	0.184	0.429	0.342	0.256	0.307	0.244	0.308	0.414	**0.911**						
Responsible B.	0.964	0.899	0.303	0.550	0.195	0.200	0.171	0.409	0.184	0.142	0.168	0.206	0.200	0.126	0.193	0.195	0.155	0.549	0.485	**0.948**					
Personal I.	0.974	0.881	0.335	0.500	0.218	0.254	0.225	0.454	0.310	0.274	0.189	0.255	0.223	0.247	0.264	0.241	0.230	0.579	0.434	0.495	**0.939**				
Helping	0.962	0.864	0.257	0.469	0.180	0.181	0.131	0.327	0.196	0.123	0.128	0.107	0.156	0.194	0.141	0.121	0.158	0.428	0.414	0.462	0.507	**0.929**			
Tolerance	0.930	0.816	0.251	0.374	0.368	0.378	0.304	0.445	0.501	0.472	0.345	0.305	0.306	0.398	0.454	0.278	0.345	0.291	0.298	0.262	0.433	0.314	**0.903**		
Advocacy	0.928	0.810	0.315	0.510	0.287	0.258	0.309	0.371	0.358	0.361	0.268	0.296	0.216	0.240	0.252	0.250	0.222	0.392	0.421	0.370	0.561	0.427	0.460	**0.900**	
Typeface	0.978	0.901	0.358	0.311	0.519	0.493	0.407	0.446	0.598	0.595	0.427	0.367	0.359	0.380	0.484	0.349	0.285	0.249	0.361	0.256	0.294	0.321	0.350	0.313	**0.949**

* p<.05. ** p<.01.

Table IV: Desciminant validity, AVE, and CR (Employees)

	CR	AVE	MSV	Helping	Typeface	Design	Colour	Name	Logo	Navigation D.	Visual I.	Information	Usability	Customisation	Security	Availability	Website	Info. Seeking	Info.Sharing	Responsible B.	CPPI	CCF	Advocacy	Tolerance	Rep
Helping	0.910	0.771	0.218	**0.878**																					
Typeface	0.985	0.956	0.261	0.014	**0.978**																				
Design	0.956	0.814	0.205	0.215	0.449	**0.902**																			
Colour	0.924	0.803	0.207	0.023	0.323	0.327	**0.896**																		
Name	0.980	0.925	0.212	0.051	0.460	0.350	0.441	**0.962**																	
Logo	0.929	0.766	0.325	0.140	0.511	0.357	0.253	0.332	**0.875**																
Navigation D.	0.992	0.943	0.325	0.105	0.460	0.453	0.455	0.346	0.570	**0.971**															
Visual I.	0.973	0.879	0.194	0.079	0.195	0.388	0.252	0.283	0.179	0.352	**0.938**														
Information	0.990	0.970	0.205	0.156	0.309	0.316	0.222	0.136	0.284	0.453	0.404	**0.985**													
Usability	0.952	0.869	0.239	0.036	0.318	0.268	0.436	0.363	0.198	0.489	0.441	0.275	**0.932**												
Customisation	0.972	0.897	0.176	0.145	0.406	0.362	0.414	0.420	0.284	0.379	0.154	0.257	0.294	**0.947**											
Security	0.975	0.928	0.194	0.110	0.327	0.441	0.267	0.223	0.215	0.391	0.409	0.309	0.349	0.233	**0.963**										
Availability	0.989	0.967	0.233	0.148	0.227	0.275	0.192	0.181	0.309	0.483	0.435	0.298	0.307	0.174	0.265	**0.983**									
Website	0.992	0.960	0.231	0.144	0.254	0.343	0.220	0.091	0.351	0.481	0.247	0.350	0.394	0.216	0.433	0.318	**0.980**								
Info. Seeking	0.925	0.806	0.190	0.426	0.065	0.151	0.026	-0.026	0.054	0.163	0.155	0.082	0.103	-0.012	0.116	0.144	0.175	**0.898**							
Info.Sharing	0.933	0.823	0.109	0.297	0.057	0.247	-0.039	0.066	0.034	0.115	0.330	0.214	0.154	0.036	0.211	0.314	0.110	0.264	**0.907**						
Responsible B.	0.949	0.860	0.218	0.467	0.181	0.240	0.048	0.066	0.080	0.094	0.101	0.217	0.078	0.082	0.118	0.068	0.107	0.389	0.236	**0.928**					
CPPI	0.966	0.848	0.190	0.329	0.149	0.332	0.200	0.269	0.049	0.170	0.264	0.223	0.120	0.188	0.235	0.149	0.151	0.436	0.323	0.333	**0.921**				
CCF	0.952	0.868	0.182	0.388	0.113	0.338	0.285	0.143	0.083	0.230	0.163	0.134	0.180	0.034	0.117	0.184	0.184	0.339	0.107	0.324	0.427	**0.932**			
Advocacy	0.942	0.845	0.183	0.393	0.118	0.304	0.207	0.091	0.107	0.116	0.136	0.088	0.116	0.119	0.096	0.132	0.154	0.327	0.173	0.415	0.428	0.403	**0.919**		
Tolerance	0.944	0.850	0.163	0.222	0.214	0.332	0.348	0.293	0.179	0.249	0.213	0.161	0.205	0.221	0.174	0.102	0.240	0.277	0.091	0.260	0.372	0.372	0.404	**0.922**	
Rep	0.976	0.889	0.227	0.185	0.476	0.440	0.198	0.257	0.214	0.326	0.292	0.234	0.289	0.155	0.216	0.203	0.182	0.266	0.209	0.125	0.355	0.204	0.159	0.291	**0.943**

Table IV: Structural Equation Model Result

	Hypothesized relationships			Employees					Students				
				Estimate	S.E	C.R	p	Hypothesis	Estimate	S.E	C.R	p	Hypothesis
H1a	Colour	--->	University logo	1.203	.410	2.933	.003	Supported	0.137	0.052	2.644	0.008	Supported
H1b	Typeface	--->	University logo	.646	.086	7.471	***	Supported	0.106	0.043	2.48	0.013	Supported
H1c	Name	--->	University logo	.474	.100	4.724	***	Supported	0.337	0.042	8.009	***	Supported
H1d	Design	--->	University logo	.416	.084	4.947	***	Supported	0.215	0.055	3.906	***	Supported
H2a	Navigation design	--->	University website	.377	.055	6.825	***	Supported	0.091	0.061	1.499	0.134	Not- Supported
H2b	Visual identity/design	--->	University website	.197	.057	3.477	***	Supported	0.313	0.052	5.98	***	Supported
H2c	Information	--->	University website	.308	.065	4.746	***	Supported	0.115	0.051	2.224	0.026	Supported
H2d	Usability	--->	University website	.307	.059	5.224	***	Supported	0.089	0.05	1.794	0.073	Not- Supported
H2e	Customization	--->	University website	.159	.058	2.735	.006	Supported	0.064	0.06	1.06	0.289	Not- Supported
H2f	Security	--->	University website	.389	.065	5.998	***	Supported	0.102	0.045	2.252	0.024	Supported
H2e	Availability	--->	University website	.272	.065	4.216	***	Supported	0.103	0.044	2.343	0.019	Supported
H3	University logo	--->	University website	.718	.084	8.586	***	Supported	0.186	0.069	2.702	0.007	Supported
H4	University logo	--->	Co-creation behaviour	.059	.059	.998	.318	Not- Supported	1.657	.684	2.421	.015	Supported
H5	University website	--->	Co-creation behaviour	.099	.038	2.605	.009	Supported	0.603	0.25	2.417	0.016	Supported
H6	Co-creation behaviour	--->	University reputation	.561	.157	3.564	***	Supported	.153	.036	4.226	***	Supported

Notes: Path=relationship between independent variable on dependent variable; β=standardized regression coefficient; S.E.=standard error; p=level of significance.
***p <0.05.

Appendix: Item measurements

UNIVERSITY LOGO (L)		
The University logo is recognizable	Foroudi *et al.* (2014)	L1
The University logo is appropriate		L2
The University logo is familiar		L3
The University logo communicates what the University stands for		L4
The University logo evokes positive effect		L5
The University logo makes me have positive feelings towards the University		L6
The University logo is distinctive		L7
The University logo is attractive		L8
The University logo is meaningful		L9
The University logo is memorable		L10
The University logo is visible		L11
The University logo is high quality		L12
The University logo communicates the University's personality		L13
The University logo is interesting		L14
I like the University logo		L15
TYPEFACE (LT)		
The University's typeface is attractive	Foroudi *et al.* (2014)	LT1
The University's typeface is interesting		LT2
The University's typeface is artistic		LT3
The University's typeface is potent		LT4
The University's typeface is honest		LT5
The University's typeface communicates with me when the logo is simply not feasible		LT6
The University's typeface is immediately readable		LT7
The University's typeface makes me have positive feelings towards the University		LT8
DESIGN (LD)		

The design of the logo is familiar	Foroudi *et al.* (2014); Henderson and Cote (1998)	LD1
The design of the logo is meaningful		LD2
The design of the logo communicates the University's identity		LD3
The design of the logo reflects the personality of the University		LD4
The design of the logo is distinct		LD5
The design of the logo helps memorability		LD6
The design of the logo communicates clear meanings		LD7
The design of the logo communicates the University message		LD8
I like the design of the logo		LD9

COLOUR (LC)

The colour of the logo affects my judgments and behaviour	Aslam (2006); Foroudi *et al.* (2014); Tavassoli (2001)	LC1
The colour of the logo is recognizable		LC2
The colour of the logo is unique		LC3
The colour of the logo affects my mood		LC4
The colour of the logo is pleasant		LC5
The colour of the logo is meaningful		LC6

UNIVERSITY NAME (LN)

The University's name is easy to remember	Foroudi *et al.* (2014); Klink (2003); McCarthy and Perreault (1987)	LN1
The University's name is unique versus the competition		LN2
The University's name is always timely (does not get out of date)		LN3
The University's name communicates about the University and the product's benefits and qualities		LN4
The University's name is short and simple		LN5
The University's name is promotable and advertizable		LN6
The University's name is pleasing when read or heard and easy to pronounce		LN7
The University's name is recognizable		LN8
The University's name is easy to recall		LN9
I like the University name		LN10

UNIVERSITY WEBSITE (W)

The University website portrays University's identity	Alwi (2009); Argyriou *et al.* (2006); Argyriou *et al.* (2006); Halliburton and Ziegfeld (2009); Robbins and Stylianou (2002)	W1
The University website allow businesses to convey a socially desirable and "managed" impression of their companies		W2
The University website a status symbol for the organization		W3
The University website projects the image that organization		W4

	wants to portray		
	The University website provides accurate information		W5
	The University website is a virtual storefront of the University		W6
	The University website is a means to strengthen the image of the brand		W7
Navigation design (WND)			
	I can easily navigate the University website	Cyr (2008 and 2013); Harris and Goode (2010); Tarafdar and Zhang (2005 and 2008)	WND1
	I find the University website easy to use		WND2
	The University website provides good navigation facilities to information content		WND3
	The University website provides directions for using the website		WND4
	Navigation through the University website is intuitively logical		WND5
	There are useful navigational aids on the University website		WND6
	There are meaningful hyperlinks on the University website		WND7
	The links are consistent		WND8
	I can easily know where I am at the University website		WND9
	This University website provides useful cues and links for me to get the desired information		WND10
	It is easy to move around at the University website by using the links or back button of the browser		WND11
	The links at the University website are well maintained and updated.		WND12
	Placement of links or menu is standard throughout the University website and I can easily recognize them		WND13
Visual identify/design (WV)			
	The degree of interaction (video, demos selected by the user) offered by the University website is sufficient	Cyr (2008 and 2013)	WV1
	This University website allowed me to efficiently tailor the information for my specific needs		WV2
	This University website looks professionally designed		WV3
	The screen design (i.e. colours, images, layout, etc.) is attractive		WV4
	The University website animations are meaningful		WV5
	The University website displays visually pleasing design		WV6

The University website is visually appealing		WV7

Information design (WI)		
The information provided at the University website is complete	Cyr (2008 and 2013); Kim and Stoel (2004); Tarafdar and Zhang (2005 and 2008)	WI1
The information provided at the University website is sufficient		WI2
The information provided at the University website is effective		WI3
The University website adequately meets my information needs		WI4
The information on the University website is pretty much what I need to carry out my tasks		WI5
The University website produces the most current and up-to-date information		WI6
The information provided by the University website is accurate		WI7
In general, the University website provides me with high-quality information		WI8
The range of information is high		WI9
The information is applicable to the University website's activities		WI10
The information is detailed		WI11
The information is current		WI12
It is easy to locate the information		WI13
The information is useful		WI14
The information is systematically organized		WI15
The meaning of the information is clear		WI16
The layout of the information is easy to understand		WI17

Usability (WU)		
It is easy to move within the University website	Casalo *et al.* (2008); Flavian *et al.* (2006); Tarafdar and Zhang (2005 and 2008)	WU1
The organization of the contents of the University website makes it easy for me to know where I am when navigating it		WU2
When I am navigating the University website, I feel that I am in control of what I can do		WU3
Downloading pages from the University website is quick		WU4
The University website is entertaining (it's fun to use)		WU5
The University website is exciting and interesting		WU6

The University website is easy to use		WU7
The use of multimedia is effective for my tasks at the University website		WU8
The University website has an attractive layout		WU9
Customization (WCU)		
The University website customizes information to match my needs	Kabadayi and Gupta (2011); Srinivasan *et al.* (2002); Tarafdar and Zhang (2005 and 2008)	WCU1
The University website offers information that is tailor made to my needs		WCU2
The University website makes me feel that I am a unique consumer		WCU3
I believe that the University website is customized to my needs		WCU4
The University website has personalization characteristics		WCU5
The University website offers customized information		WCU6
The University website has provisions for designing customized products		WCU7
Security (WS)		
I feel safe in my transactions with the University website.	Wolfinbarger and Gilly (2003); Tarafdar and Zhang (2005 and 2008);	WS1
The University website has adequate security features.		WS2
The University to which the website belongs has a well-known brand		WS3
The University website has provisions for a secure monetary transaction		WS4
The University website has an information policy		WS5
The University website has provisions for user authentication		WS6
Availability of secure models for transmitting information		WS7
Provision for alternate, non-online models for financial transactions		WS8
Opportunity to create individual account with logon-id and password		WS9
Overall concern about security of transactions over the Internet		WS10
Availability (WA)		
The University website is always available for business	Alwi and Ismail (2013); Tarafdar and Zhang (2008)	WA1
The University website launches and runs right away		WA2
The University website does not crash		WA3

	Pages at this website do not freeze after I enter my order information		WA4
	It is easy to read off the contents of the University website.		WA5
	The University website is well-maintained so that the information is easy to acquire (no dead links, for example).		WA6
	The University website is available		WA7
CUSTOMER CO-CREATION BEHAVIOUR			
Customer participation behaviour			
Information seeking (CPO)			
	I have asked others for information on what the University service offers.	Foroudi et al. (2019); Yi and Gong (2013)	CPOI
	I have searched for information on where this service is located.		CPO2
	I have paid attention to how others behave to use this service well		CPO3
Information sharing (CPIS)			
	I clearly explained what I wanted the University's employee to do.	Foroudi et al. (2019); Yi and Gong (2013)	CPIS1
	I gave the University's employee proper information.		CPIS2
	I provided necessary information so that the University's employee could perform his or her duties.		CPIS3
	I answered all the University's employee's service-related questions.		CPIS4
Responsible behaviour (CPRB)			
	I performed all the tasks that are required.	Foroudi et al. (2019); Yi and Gong (2013)	CPRB1
	I adequately completed all the expected behaviours		CPRB2
	I fulfilled responsibilities to the University's.		CPRB3
	I followed the University's employee's directives or orders.		CPRB4
Personal interaction (CPPI)			
	I was friendly to the University's employee.	Foroudi et al. (2019); Yi and Gong (2013)	CPPI1
	I was kind to the University's employee.		CPPI2
	I was polite to the University's employee.		CPPI3
	I was courteous to the University's employee.		CPPI4
	I didn't act rudely to the University's employee.		CPPI5
Customer citizenship behaviour			
Feedback (CCF)			
	If I have a useful idea on how to improve the University's service, I let the employee know.	Foroudi et al. (2019); Yi and Gong (2013)	CCF1

	When I receive good service from the University's employee, I comment about it.		CCF2
	When I experience a problem, I let the University's employee know about it.		CCF3
Advocacy (CCA)			
	I said positive things about the University and the employee to others.	Foroudi et al. (2019); Yi and Gong (2013)	CCA1
	I recommended the University and the employee to others.		CCA2
	I encouraged friends and relatives to attend the University.		CCA3
Tolerance (CCT)			
	If the University's service is not delivered as expected, I would be willing to put up with it.	Foroudi et al. (2019); Yi and Gong (2013)	CCT1
	If the University's employee makes a mistake during service delivery, I would be willing to be patient.		CCT2
	If I have to wait longer than I normally expected to receive the service, I would be willing to adapt.		CCT3
Helping (CCH)			
	I assist other colleagues if they need my help.	Foroudi et al. (2019); Yi and Gong (2013)	CCH1
	I help other colleagues if they seem to have problems.		CCH2
	I teach other colleagues to use the service correctly.		CCH3
	I give advice to other colleagues.		CCH4
UNIVERSITY REPUTATION (R)			
	I have a good feeling about the University	Chun (2005); Fombrun *et al.* (2000); Foroudi *et al.* (2014); Helm (2007)	R1
	I admire and respect the University		R2
	The University offers products and services that are good value for money		R3
	The University has excellent leadership		R4
	The University is a well-managed		R5
	The University is an environmentally responsible University		R6
	I believe the University offers high quality services and products		R7
	I trust the University	Chun (2005); Fombrun *et al.* (2000); Foroudi *et al.* (2014); Helm (2007); Kharouf et al. (2015)	R8

Figure I: researfch conceptual model