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User-generated and brand-generated content as indicators of university brand personality and business strategy

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ABSTRACT

The rising competition and social media usage increased the importance of university brand personality and strategic marketing in higher education. This study explores the interrelationships between brand-generated content (BGC) and user-generated content (UGC) on social media and universities' competitive strategy and brand personality. BGC that included four universities' tweets and UGC that consisted of consumer comments were analyzed by content and correspondence analysis in R programming language. The findings indicated that BGC was in alignment with universities' generic strategies. BGC-UGC dispersions across brand personality were in alignment for the differentiator university, while there was a mismatch between BGC and UGC for low-cost universities. The differentiator university was associated with being prestigious, cosmopolitan, and conscientious, while the low-cost universities were associated with sincerity. The findings supported the applicability of generic business strategies to the higher education context and showed the strategic link between brand personality and the pursued generic strategy.

Introduction

University brands have become integral elements in student decision-making as the competition among universities is increasing (Rutter et al., 2017). According to the 2030 forecasts of the UK's Higher Education Policy Institute, the increase in population and the rising proportion of people who are applying to higher education will lead to increased demand in the sector (Bekhradnia & Beech, 2018). In this competitive environment in which students try to select the best university while universities are trying to attract successful students, brand management has become one of the prominent success factors (Balaji et al., 2016; Hemsley-Brown et al., 2016; Rutter et al., 2017).

Higher education institutions (HEIs) that have traditionally focused on the quality and robustness of their academic programs increasingly engage in marketing activities to attract high-profile students due to the rising number of private universities and high competition (Leng, 2012). Besides conventional marketing activities such as public relations, campus tours, and mass media advertisements, social media marketing has

been added to the marketing programs of HEIs (Brech et al., 2017). Many universities use social media marketing to strengthen their brand positioning and attract students (Bélanger et al., 2014; Constantinides & Stagno, 2011). Since it is essential to develop distinctive identities in the increasingly competitive higher education landscape, universities reflect their brand identity on their social media accounts (Hemsley-Brown et al., 2016; Opoku et al., 2008).

Student-university interactions on social media build and strengthen university brand personality (Simiyu et al., 2020), which is crucial for differentiation (Japutra & Molinillo, 2019) and student loyalty (Retamosa et al., 2020). University brand influences perceptions and improves the effectiveness of marketing activities (Balaji et al., 2016; Dennis et al., 2016). Social media posts of universities constitute brand-generated content (BGC) and disclose clues about university brand personality (Opoku et al., 2008). The digital messages around a brand may originate from the brand manager or user efforts as the distinction between online marketing communication and other brand-related content is becoming increasingly blurred (Lawlor et al., 2016). User-generated content (UGC) may serve as negative or positive word-of-mouth that influences people's attitudes (Sweeney et al., 2014). Therefore, examining both UGC and BGC provides a useful basis for understanding the effectiveness of the marketing strategy by revealing the consumer and managerial perspectives together.

Brand personality is one of the main success factors for the organization's performance in the market, however, most of the studies examined it from a consumer behavior perspective and neglected the managerial perspective (Malär et al., 2012). The increased importance of brand personality in higher education is reflected in research (Rauschnabel et al., 2016; Retamosa et al., 2020; Rutter et al., 2017). Within that context, the current study combines consumer behavior and managerial perspectives by exploring the reflection of university brand personality on UGC and BGC. Examining both perspectives through UGC and BGC is critical for understanding the pursued business strategy and the eventual success of brand management in HEIs, which are increasingly implementing business-like competitive strategies (Mazzarol & Soutar, 2008; Naude & Ivy, 1999). Besides, while social media marketing has increased in university marketing, scholars showed little interest in examining social media marketing in HEIs (Brech et al., 2017).

The generic competitive strategies of Porter (1985) are widely accepted as a strategy-building framework applicable to the higher education context (Allen & Helms, 2006; Kettunen, 2002). The choice of a particular business strategy, such as cost leadership or differentiation, has a significant impact on the successful performance of an organization (Campbell-Hunt, 2000; Kotha & Vadlamani, 1995). Despite the general conceptual prescription that different generic strategies would affect both the marketing strategies and performances of HEIs in a similar vein, the number of empirical studies analyzing the outcomes of generic strategies and the relationships between the marketing and business strategies in higher education context is significantly rare. Thus, the current study aims to fill this gap by exploring how BGC and UGC differ among universities depending on their generic strategy choices and university brand personality dimensions.

For the study, Turkish HEIs are chosen for analysis due to two main reasons. Parallel to the global expansion trend, the number of HEIs in Turkey experienced rapid growth, while the changing competitive landscape has forced the university management staff to adopt a more market-based management approach (Aysen et al., 2012; Karadag, 2016; Sart,

2014). Secondly, social media is very popular among Turkish citizens, in particular, the younger generation as there are 52 million active social media users which represent 63% of the population (We are Social, 2019). Therefore, analyzing UGC and BGC of selected Turkish universities concerning different generic strategies is expected to make an important contribution to the literature.

Literature review

User-generated and brand-generated content

User-generated content (UGC) is the non-commercial online information, photos, or videos created or shared by people with other Internet users (Vickery & Wunsch-Vincent, 2007). UGC includes electronic word-of-mouth; sharing of content among internet users via e-mails, forums, or social networks (Ho & Dempsey, 2010). Students can find information about HEIs, benefit from other students' experiences, and make comparisons between universities easily on social media (Brech et al., 2017; Constantinides & Stagno, 2011). Social media provides a forum for prospective students for evaluating university brands (Simiyu et al., 2020).

On the other hand, the content universities publish on their social media accounts constitutes brand-generated content (BGC), which can be defined as the online content such as text, video, or photos shared by professionals (Geurin & Burch, 2017). Brand owners create and share digital content as BGC to implement their marketing strategy and communicate the intended brand personality (Malär et al., 2012). Many universities use social media to interact with their stakeholders, such as students, who use BGC to reach information about universities (Brech et al., 2017; Constantinides & Stagno, 2011; Leng, 2012). Social media interaction of universities with users has become an important factor in building and strengthening university brand personality (Simiyu et al., 2020). Thus, analyzing both UGC and BGC are crucial since they provide input for the decision-making process of prospective students and signal the brand personality, business strategy, and positioning of the HEI as a corporate brand in the higher education landscape.

Brand personality in higher education institutions

Aaker (1997) has defined brand personality as 'human-like characteristics that are associated with brands'. It helps a brand differentiate from others by providing uniqueness and human-like features (Japutra & Molinillo, 2019; Malär et al., 2012). University brands are associated with symbolic attributes that constitute their brand personalities and differentiate them from other HEIs in consumers' minds (Kaushal & Ali, 2020; Rauschnabel et al., 2016).

Developing a distinctive identity enables effective brand communication with students, faculty, and the public (Hemsley-Brown et al., 2016). Universities must present an appealing brand personality by including cognitive and emotional elements to attract prospective students (Opoku et al., 2008), who use social media as an information source to facilitate their decision-making for university selection. The engagement of students with their peers, alumni, and the university staff on social media influences perceived university brand personality and affects their university selections (Simiyu et al., 2020). Therefore, university branding has become an important topic in strategic

management and is considered a notable success factor for attracting and retaining students (Aysen et al., 2012; Retamosa et al., 2020; Rutter et al., 2017).

Aaker's (1997) seminal brand personality framework identifies a multi-faceted measure for traits, including sincerity, excitement, competence, sophistication, and ruggedness. Researchers have focused on different facets of a brand's personality, such as being responsible and active (Japutra & Molinillo, 2019). Although marketing for higher education has similarities with traditional consumer marketing, applying consumer marketing frameworks on HEIs may require some adjustments (Brech et al., 2017). A brand personality framework adopted to HEIs consisted of six facets; *sincere* (helpful, trustworthy, and friendly), *prestige* (reputable and successful), *appeal* (special, productive, and attractive), *lively* (actively involved in sports, athletic), *conscientious* (organized, structured, and effective), and *cosmopolitan* (international and connected) (Rauschnabel et al., 2016). Using this framework, Kaushal and Ali (2020) showed that university brand personality positively influenced student loyalty. Simiyu et al. (2020) stated that university brand personality partially mediated the impact of social media on students' intentions to enroll. Within that context, the current study used university brand personality (Rauschnabel et al., 2016).

Porter's generic strategies in higher education

The need to apply the principles of business management to higher education has been implied in the literature. Drucker (1997) has dramatically stated that, unless the institutions of higher education make integral changes in their structures and strategies, they will not survive in the coming decades. As stated by Groves et al. (1997, p. 308) 'The cozy and comfortable world of the ivory tower image of a university is probably gone forever and universities have to learn to exist in a world where competition affects all of their activities'. In that respect, the application of business-like strategies became integral for HEIs that aim to survive in the rapidly changing and highly competitive higher education industry (Fumasoli & Lepori, 2011; Mazzarol & Soutar, 2008; Pucciarelli & Kaplan, 2016). The need for adopting a student-centric approach in a digitalized, global, and dynamic educational environment is also addressed (Pucciarelli & Kaplan, 2016). Here, Porter's generic strategies framework is widely accepted as applicable to the context of higher education (Allen & Helms, 2006; Kettunen, 2002; Mazzarol & Soutar, 2008). Bakewell and Gibson-Sweet (1998) argued that universities have to adapt either cost or differentiation-focused positioning for being more effective. However empirical support is still significantly lacking in this field (Fumasoli & Lepori, 2011; Mazzarol & Soutar, 2008). As an exception, Kettunen (2002) investigated the application of each generic strategy of Porter to HEIs and found out that having a low-cost focus in an HEI can be linked with reaching the targets through offering standard and not costly educational programs, whereas an institution pursuing a differentiation strategy mainly seeks to build brand loyalty.

Brand management recently emerged as an integral tool for coping with the increasing competition among HEI's (Hemsley-Brown & Goonawardana, 2007; Rauschnabel et al., 2016). A brand reflects various factors for differentiating between institutions and can be an important success determinant for organizations (Wong & Merrilees, 2005). Scholars, in general, agree that brand personality has an integral role in brand positioning (Goldsmith & Goldsmith, 2012; Van Rekom et al., 2006) and is essential for creating an attachment towards a particular brand (Malar et al., 2011). In that regard, the application

of the brand personality concept to the HEI settings would allow the creation of brand distinctiveness and differentiation which impact the university selection of prospective students (Watkins & Gonzenbach, 2013).

For HEI administrators, the generic institutional strategy and the brand positioning must be in alignment for achieving a successful overall strategy in the long run (Vera, 2016). For instance, an institution pursuing a product or service differentiation strategy would highlight superior quality/performance for creating brand identification and loyal customers with less price sensitivity and thus gain above-average earnings. That way, the institution would gain a favorable position for coping with increasing competition in the industry. On the other hand, choosing an overall cost leadership strategy and offering lower prices than less efficient rivals with undifferentiated brands and basic products and services can also result in strong financial gains, when applied successfully (Banker et al., 2014).

Higher education marketing strategies encompass social media marketing as an important element of university branding since social media is increasingly gaining importance, due to recent developments in digital technologies and both universities and students becoming the main content generators in social media (Bélanger et al., 2014). Social media activities of marketers and users are closely related to the business strategy as social media content influences consumer–brand interactions (Gao et al., 2018) and as such, social media content can be shaped according to business strategy since universities try to attract students in the competitive higher education landscape (Balaji et al., 2016; Hemsley-Brown et al., 2016). Thus, the following research questions are formulated by employing the generic strategies (Geurin & Burch, 2017; Kettunen, 2002; Porter, 1985) as the theoretical framework for empirically testing the relationships between business strategy, UGC, and BGC in the context of HEIs in Turkey:

> RQ1: How does BGC differ among universities depending on their generic strategy choices and university brand personality dimensions?

> RQ2: How does UGC differ among universities depending on their generic strategy choices and university brand personality dimensions?

Methodology

Brand selection

Private universities are more sensitive to changing market conditions and more active in strategic marketing than public universities (Sart, 2014). So, four private universities from Turkey were selected. Three universities that offer standard and low-cost programs were identified as cost leaders, whereas a university with a strong positioning in the market and perceived as high-quality and exclusive was identified as the differentiator (Kettunen, 2002). Two other academic staff with Ph.D. supported the brand selections.

Data collection

BGC on Twitter can be analyzed to examine branding activities (Geurin & Burch, 2017). Twitter is a popular social media platform that signals the marketing strategies and the

elements of university branding (Bélanger et al., 2014). This study used Twitter due to the high participation rate of the universities compared to other social media platforms. BGC was collected by using Twitter API run on RapidMiner Studio 8.1. The tweets for each university shared between 1 January – 31 December 2018 were collected and a total of 4,025 tweets were analyzed. The metrics such as number of tweets, number of followers, and number of retweets were used to measure the effectiveness of social media efforts. The universities examined in this study joined Twitter in different years, therefore follower growth was taken instead of the total number of followers. The measures suggested by Hoffman and Fodor (2010) were employed and the BGC dataset contained the universities' tweets and metadata (follower growth, tweets' retweeting amount).

Three types of tweets can be shared on Twitter. Original tweets are generated by their sender. A user may also join a conversation by '@replying' to other users. 'Retweeting' is also a solid measure of public opinion about the value of the tweets (Sterne, 2010), indicating electronic and social word-of-mouth, as the tweets pass along from one user to another. For this important metric, only the number of retweets of original tweets were examined to conclude how many people had the opportunity to see the universities' Twitter messages.

For the second dataset (UGC), data was taken from Turkey's one of the most popular collaborative social media platforms, eksisozluk.com, because Twitter content was insufficient. Founded in 1999, and visited by approximately 283 million distinct users, www.eksisozluk.com is ranked as the 12th website in Turkey and the 626th global website in terms of user traffic (Alexa, 2019). UGC data (content generated by users on the platform) was obtained with the codes written in Python. All comments ($n = 871$) shared between 2001 and 2018 regarding the examined university brands were collected.

Data analysis method

A content analysis of the BGC and UGC datasets was made to seek answers to the research questions. First, the metrics for both datasets were summarized by descriptive statistics. Second, the datasets were coded across the university brand personality facets (prestige, sincerity, appeal, lively, conscientiousness, and cosmopolitan) (Rauschnabel et al., 2016). Third, correspondence analysis was made in the R programming language to identify the relationships between universities' generic strategies and brand personality dimensions for BGC and UGC datasets separately. FactoMineR and factoextra packages were used for correspondence analysis and data visualization. The analysis methods are further explained in the following subtitles.

Content analysis

Content analysis is a systematic and objective method for comparing online content, which is acceptable in the university brand personality context (Rutter et al., 2017), whereas the original approach of this study is to simultaneously examine the university brand personality dimensions in BGC and UGC. The contents of both datasets (BGC and UGC) were originally Turkish as the selected universities operate in Turkey, so no translations were made. Each item in the data set was coded by matching one or more relevant dimensions of the university brand personality.

Reliability

Each text was coded by two researchers in the relevant dimensions of the university brand personality scale. To check for inter-coder reliability, the researchers coded the same randomly selected data corresponding to approximately 10% of two separate data sets. ReCal statistical program using Scott's Pi (Scott, 1955) was utilized to assess the reliability between two coders. Since the coefficients of reliability measurements were above the acceptable level of 80% for each dataset, the first coder coded the first dataset, and the second coder coded the second dataset separately.

Correspondence analysis

Correspondence analysis represents data as a set of points on two coordinate axes; horizontal (x-axis) and vertical (y-axis) (Greenacre, 2017). In this low-dimensional graphic representation, the categories with similar distributions are located close to each other, while not similar ones are located far from each other. In the analysis, first of all, the profiles and marginal masses of the categories are calculated. Then, the distances between the points are calculated based on the chi-square distance. At the last stage, visualization is made by deciding the appropriate dimension size (Clausen, 1998). The first dimension represents the highest amount of explained inertia or largest deviation from independence; the second dimension, the second-largest, and so on.

Overall summary tables (Appendix 2 for BGC and Appendix 6 for UGC) include the correspondence analysis output statistics relevant to the interpretation of the data. Firstly, chi-square test results were given to evaluate whether there is a significant dependence between row and column categories. Secondly, inertia values (called eigenvalues in R output) were examined to determine the number of axes to be retained. Afterward, the contribution of points to the dimensions and the quality of representation of points were interpreted.

Visualization of the correspondence analysis results

The results were given in contingency plot representations (ballonplot() in gplots package in R) and association plots (assoc() in vcd package in R). Association plots visualize the relationship between categorical variables based on Pearson residuals. Color-shading of the residuals shows associational patterns in the data based on three categories; important (blue color), less important, and unimportant (red color) (see Appendix 1 for BGC and Appendix 5 for UGC) (Meyer et al., 2003). Deviations from independence are colored, a cell with more observed frequency than expected frequency rises above the line and vice versa (Friendly, 1992).

Besides the statistics in the tables, the contribution of points to dimensions is visualized (Appendix 3 for BGC and Appendix 7 for UGC). The dashed line on these graphs indicates the expected average contribution. The row(s) & column(s) with a contribution larger than this threshold could be considered important in contributing to that dimension (Kassambara, 2017). Assessing what column category determines the dimensions can be interpreted as giving names to the dimensions (Alberti, 2013), and the position of the label is determined by the sign of dimensions scores (Kudlats et al., 2014). Since this study's focus is business strategies' positions to the brand personality dimensions, the brand personality dimensions are used to

name the dimensions (Dim1&Dim2). Therefore, this labeling gives a comprehending interpretation of the relative positioning of business strategies as suggested in Kudlats et al. (2014).

The results were presented in symmetric (Figure 4 for BGC and Figure 6 for UGC) and asymmetric (Appendix 4 for BGC and Appendix 8 for UGC) biplots. In symmetric biplots, both variables (row and column, namely business strategies and brand personality dimensions) are represented based on the principal coordinates (Bendixen, 1996). Smaller distances of the data points belonging to the same variable show similar types of profiles. The comparisons between data points of the same variable (row or column) can be interpreted directly from the symmetric biplots (Alberti, 2013; Bendixen, 1996). To assess the association among data points of variables, asymmetric biplots can be presented (Bendixen, 1996; Kassambara, 2017). In asymmetric biplots, 'rows (or columns) points are plotted from the standard coordinates and the profiles of the columns (or the rows) are plotted from the principal coordinates' (Bendixen, 1996). The guidelines and R codes in this study are mostly provided by Kassambara (2017).

Results

Descriptive statistics

The number of tweets shared was the highest for the differentiator university (Table 1). The low-cost universities were labeled as 'Cost1', 'Cost2', and 'Cost3', while the differentiator university was labeled as 'Diff'. Only Diff has shared 'retweets' more than the other tweet types. Among 4025 tweets, original, retweet, and @reply accounted for 53% (2123), 45% (1830), and 2% (72), respectively. The total number of retweets received by universities' tweets was the highest for Diff.

Another important metric, follower growth, is shown in Figure 1. While low-cost universities lost followers, Diff gained new followers.

On the other hand, the total number of comments (UGC) was higher for low-cost universities than Diff (Figure 2) because UGC included all content ever generated by the users, having a range of 18 years (2001–2018). Users mentioned the older universities more as they were established long before Diff.

Results for RQ1

The first research question inquired how BGC differed among universities depending on their generic strategy choices and university brand personality.

Table 1. Tweet frequencies (BGC).

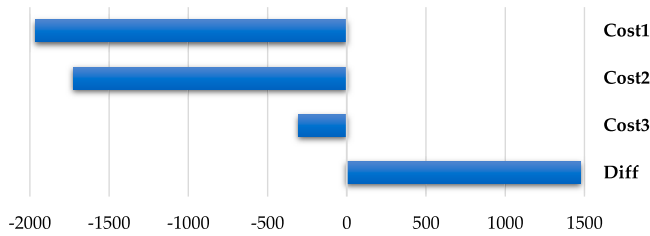| Universities	Original Tweets (1)	Retweet Tweets (2)	@reply Tweets (3)	Tweets Total (4) = (1)+(2)+(3)	Retweets received
Cost1	236	126	15	377	599
Cost2	304	39	9	352	1423
Cost3	295	22	11	328	536
Diff	1288	1643	37	2968	3804
Total	2123	1830	72	4025	6365

Figure 1. Follower Growth on Twitter (Boomsocial, 2019).

There were noticeable differences in tweet dispersions among differentiator and low-cost universities (Figure 3). Another representation, the association plot of BGC in Appendix 1, supported the similarity between low-cost universities and their difference compared to Diff based on university brand personality dimensions. Low-cost universities were related to sincerity and liveliness, whereas Diff was associated with prestige, cosmopolitanism, and conscientiousness. This cross-tabulation was further analyzed with correspondence analysis.

R output of the overall summary table of BGC is given in Appendix 2. The Chi-Square of independence between the two variables (universities' generic strategies and brand personality dimensions) is calculated ($\chi^2(8, N = 5022) = 739.7694, p < .01$). The variables were statistically significantly associated, therefore conducting a correspondence analysis was beneficial. Afterward, the eigenvalues were examined. The first two dimensions were retained due to a very satisfactory proportion of explained inertia (99.53%, see 'Cumulative % of var.' in Appendix 2).

To investigate the contribution of points to the dimensions and quality of representation of points, row and column categories were separately considered. Cost2 was the most important row in the definition of the first dimension with 50.56% (see 'Dim.1-ctr' in Appendix 2), Cost1 was the row that most described the second dimension with 76.50% (see 'Dim.2-ctr' in Appendix 2). When the columns were examined, the columns that contributed the most to the first dimension were sincerity with 38.88% and liveliness with 32.62%. Appeal with 43.45%, prestige with 26.47%, and liveliness with 17.85% contributed to the second dimension.

The quality of representation of the points was investigated based on the squared cosine (cos2) values, comprising between 0 and 1. If a row or column point is well presented by the two dimensions, the sum of the cos2 values should be close to one (Kassambara, 2017). Rows and columns are well-represented by the two dimensions since
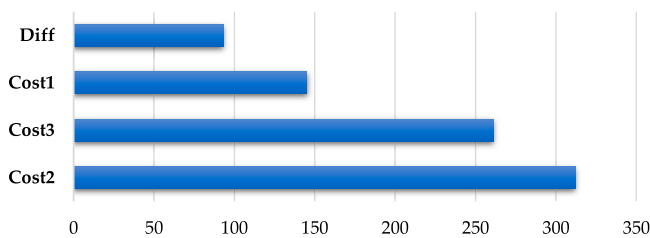

Figure 2. Number of Comments (UGC).

Business Strategies	Cost1	Cost2	Cost3	Diff	
Brand Personality Dimensions					
Prestige	·2	·4	13	336	355
Sincerity	66	108	56	156	386
Appeal	234	206	180	1747	2367
Lively	40	74	45	84	243
Conscientiousness	·6	·5	·3	138	152
Cosmopolitan	66	50	84	1319	1519
	414	447	381	3780	5022

Figure 3. The Frequency Distribution of BGC.

their cos2 values' total was equal to one (see 'Dim.1-cos2' and 'Dim.2-cos2' for rows and columns in Appendix 2).

To label dimensions, the first dimension was named first, since it has the highest proportion of variance. Sincerity and liveliness had positive signs under Dim1 scores (see Columns-Dim.1 scores (0.85, 0.98) in Appendix 2), therefore the right side of the plot was labeled as 'Sincerity and Lively'. On the left side, no brand dimension was significant for labeling. For the second dimension, the highest contribution of column points was given by appeal, prestige, and lively dimensions (see Columns-Dim.2 scores (−0.05, 0.11, 0.11, respectively) in Appendix 2). Since appeal had a negative sign under Dim2, the bottom half of the plot was named 'Appeal', and the top of the plot was 'Prestige and Lively'. Labels were added to the symmetric biplot (Figure 4) based on the guidelines provided by (Kudlats et al., 2014). Lively was plotted on both dimensions since it was identified as significant on both dimensions. The similarity and dissimilarity within row and column categories can be interpreted from Figure 4.

For the brand personality dimensions, cosmopolitan, conscientious, and prestige were plotted close to one another as they shared similar profiles. Besides, lively and sincerity dimensions were in the same quadrant at a close distance. For the business strategies, low-cost universities were located on the right (positive) side of the first dimension, whereas Diff was located far away from them on the negative side of the first dimension. The first dimension separated the BGC based on universities' generic strategies.

To interpret the distance between column and row points, an asymmetric biplot was demonstrated in Appendix 4. In this representation, if the angle between the arrows of a row and column categories is narrow, there is a strong correlation between the corresponding row and column (Kassambara, 2017).
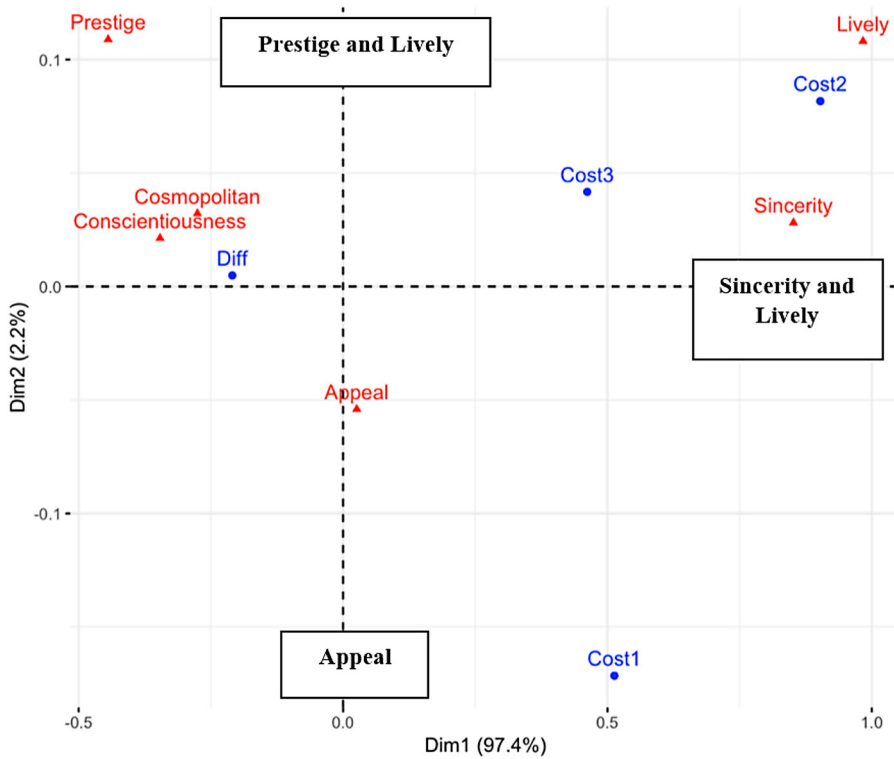
Figure 4. BGC Dispersion Across the Generic Strategies and Brand Personality Dimensions (Symmetric Biplot).

Results for RQ2

The second research question investigated how UGC differs among universities depending on their generic strategy choices and university brand personality dimensions. After the elimination of 114 entries that could not be mapped in any of the dimensions of the university brand personality scale, a total of 758 eligible comments were analyzed. The distribution of UGC among universities depending on their generic strategy choices and university brand personality dimensions is illustrated in Figure 5 (In addition, the association plot is given in Appendix 5).

R output of the overall summary table of UGC is given in Appendix 6. The Chi-Square of independence between the two variables is calculated ($\chi^2(8, N = 1124) = 64.384, p < .01$), and it was concluded that the row and the column variables are statistically significantly associated. Two dimensions were retained due to a very satisfying proportion of explained inertia (93.03, see 'Cumulative % of var.' in Appendix 6).

For the contribution of points to the dimensions, both Appendix 6 and Appendix 7 are given. Cost1 was the most important row in the definition of the first dimension with 81.03% (see Dim.1-ctr in Appendix 7), Diff was the row that describes the most the second dimension with 83.98% (see Dim.2-ctr in Appendix 7). For columns' contributions, sincerity with 35.94%, conscientiousness with 21.18%, and appeal with 18.59% contributed to the first dimension the most. The columns that contributed the most to the second

dimension were cosmopolitanism 48.04% and sincerity 30.83%. All row and column points except liveliness were well-represented by the first two dimensions (the sum of cos2 is 0.39 for Lively, see Dim.1-cos2 and Dim.2-cos2 for columns in Appendix 6). This implied that the position of the 'lively' dimension on the plot should be interpreted with some caution (Kassambara, 2017).

The highest contribution of column points to dimensions was examined to give names to the dispersion plot dimensions. Since sincerity and conscientiousness had positive signs and appeal had a negative sign score under Dim1 scores, the right side of the plot was labeled as 'Sincerity and Conscientiousness' and the left side of the plot was labeled as 'Appeal' (see Columns-Dim.1 scores (0.35, 0.17, −0.17, respectively) in Appendix 6). For the second dimension, the highest contribution of column points was given by cosmopolitan and sincerity (see Columns-Dim.2 scores (0.49, −0.23) in Appendix 2). Since cosmopolitan had a positive sign under Dim2, the top of the plot was named as 'Cosmopolitan', and due to the negative sign under Dim2 of sincerity, the bottom half of the plot was labeled as 'Sincerity'. Figure 6 shows the UGC dispersion across the brand personality dimensions and generic strategies.

The appeal and prestige dimensions shared similar profiles but were mapped in different quadrants due to the differentiator's relation to the prestige (see Appendix 5). For the generic strategies, low-cost universities were located at the bottom half of the second dimension, whereas Diff was located far away on the top half. The second dimension has separated the UGC based on universities' generic strategies. Two low-cost universities were close to each other, whereas Diff was far away from the low-cost universities. The asymmetric biplot is given in Appendix 8 to interpret the distance between column and row points.
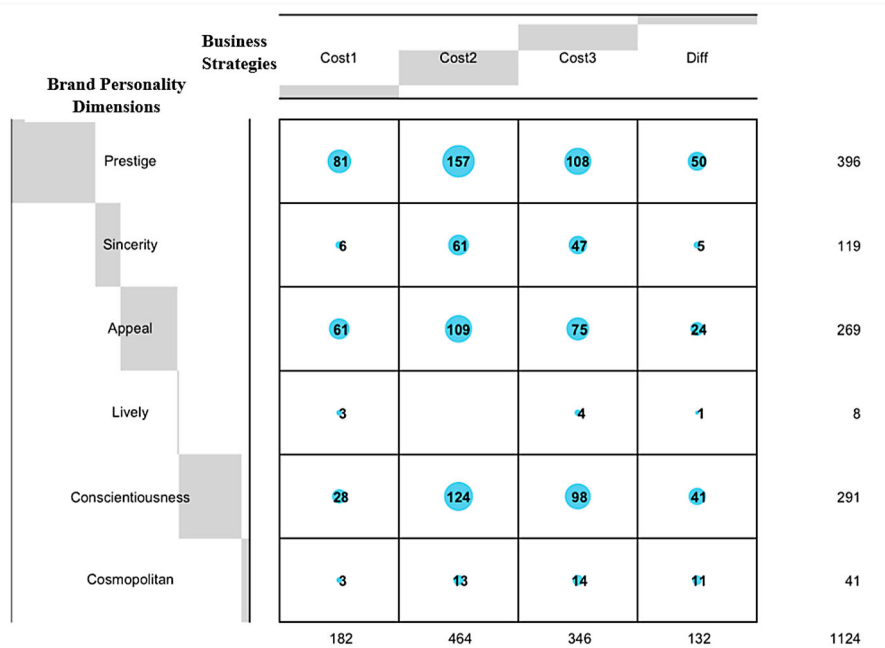

Brand Personality Dimensions	Business Strategies				
	Cost1	Cost2	Cost3	Diff	
Prestige	81	157	108	50	396
Sincerity	6	61	47	5	119
Appeal	61	109	75	24	269
Lively	3		4	1	8
Conscientiousness	28	124	98	41	291
Cosmopolitan	3	13	14	11	41
	182	464	346	132	1124

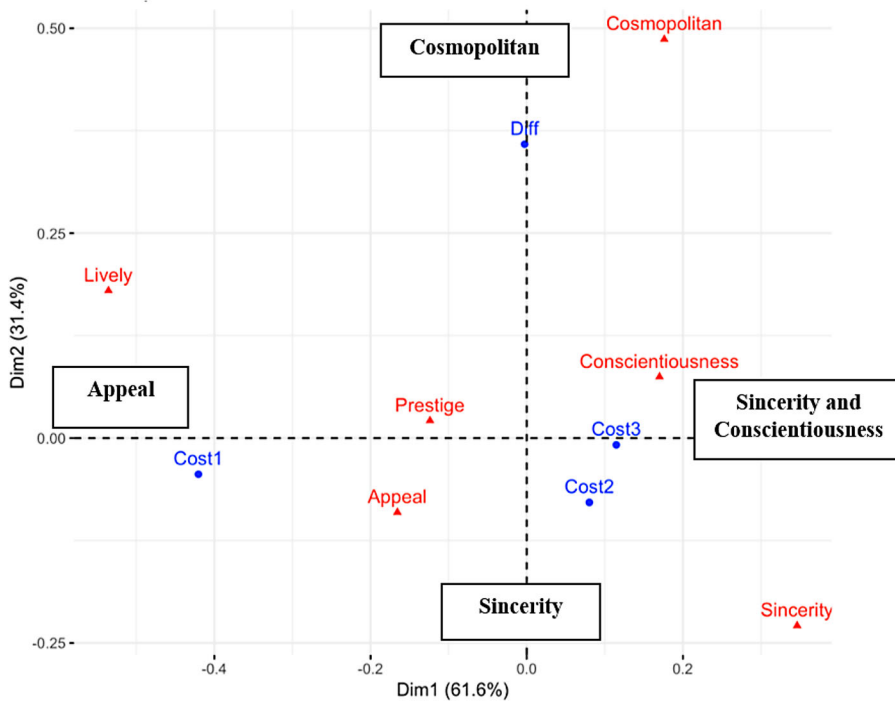**Figure 5.** The Frequency Distribution of UGC.

Figure 6. UGC Dispersion Across the Generic Strategies and Brand Personality Dimensions (Symmetric Biplot).

Discussion

When BGG dispersion was analyzed, cost-leaders were close to liveliness and sincerity due to using a friendlier dialogue in tweets for interacting with students and posting tweets about sports teams. Cost1 was near the appeal dimension since some of the university's Twitter feeds were about their events. Diff was more related to the conscientiousness, cosmopolitan, and prestige dimensions than low-cost universities because it mentioned related items, such as the teaching quality, internship opportunities, and studying abroad.

For UGC, Cost2 and Cost3 were located close to sincerity as people commented about those universities regarding their approach to students and brand image. The comments included complaints due to the unfriendly, unfair, or untrustworthy treatment toward students, and also positive emotions such as the perceived sincerity of the university. This supported Kaushal and Ali (2020) and showed that university brand personality is a critical element of student evaluations. Cost1 had a closer distance to appeal since its physical facilities were discussed more by users. Cost1 was also close to prestige because users commented about low prestige perceptions. On the other hand, Diff showed a moderate relation to prestige since some users mentioned their uncertainty or positive expectations regarding its prestige.

Cost1, Cost2, and Diff had smaller distances to conscientiousness in UGC data. Conscientiousness covered organized administrative processes, perceived teaching quality, and the competence of the academic staff. Some users mentioned their high expectations and positive opinions for the newly established differentiator university since they

distinguished it from the low-cost universities due to the vision of its founders and aca-demic staff. On the other hand, they shared their complaints about the low-cost univer-sities' administrative processes and organization and wrote about the problems the students faced. As a result, UGC and BGC mappings showed a dissimilar dispersion. While users generated a high number of entries about the perceived order and compe-tence of the low-cost universities, HEIs' brand communication did not focus on those issues. On the other hand, conscientiousness had a high frequency in both BGC and UGC for Diff.

Diff was also very close to cosmopolitanism in UGC due to its stronger relationships with the private sector, programs in English, and urban location. That was in alignment with its BGC mapping. This finding supported (Malär et al., 2012), who stated that the fit between the intended and perceived brand personality increases in alignment with its competitive differentiation. Diff's BGC and UGC mappings were also similar for con-scientiousness and prestige as both users and brand owners mentioned the university in those aspects.

The number of user comments regarding liveliness was small. Liveliness was mainly linked with sports teams and facilities of universities, but the universities were not active in any sports. Although low-cost universities shared some content about athletic events, users did not generate much content in the lively dimension, which indicates that liveliness is not among the critical factors for university choice for the majority of stu-dents. Thus, users did not refer to this dimension in their comments. This finding was in parallel with Japutra and Molinillo (2019), who stated that perceived brand responsibility and orderliness lead to higher trust compared to liveliness.

A major finding was that BGC differed according to the business strategy of HEIs. As Palmer (2013) pointed out, universities are using social media marketing for effective brand management. Although the differentiator university had more tweets about being prestigious, cosmopolitan, and conscientious, universities that pursue a cost leader-ship strategy emphasized sincerity, appeal, and liveliness elements more. The differentia-tor university put forward its favorable reputation, international connections, downtown campus location, and strong networking ability with the private sector. Posting such content was appropriate and in alignment with its differentiation strategy since those points were essential elements for its unique positioning. This supported the study of Geurin and Burch (2017), who stated that social media posts of differentiator brands reflect brands' values and differentiated attributes. On the other hand, universities that pursue a cost leadership strategy used sincerity elements in their brand communication. They emphasized their friendliness and helpfulness rather than success and reputation. Within that context, the prestige-related BGC dispersions of the differentiator and low-cost universities were distinct.

UGC and BGC dispersions matched in some dimensions. First, users associated the differentiator university with the cosmopolitan, prestige, and conscientiousness dimen-sions, similar to its BGC. The university had a well-perceived difference and the social media metrics supported the positive impact of this perception. This finding supported Japutra and Molinillo (2019), as the link between brand personality and differentiation. Second, BGC and UGC dispersions of low-cost universities were parallel to each other in the sincerity and appeal dimensions. Cost1 was associated to appeal and Cost2 and Cost3 were associated with sincerity in both UGC and BGC. Cost1 tried to improve its

perceived prestige by posting content in this dimension, while Cost2 and Cost3 emphasized their sincerity. Low-cost universities put more effort to emphasize the student-friendly atmosphere in their social media content.

On the other hand, UGC and BGC differed from each other in the prestige dimension. Although the differentiator university was distinct from low-cost universities in terms of prestige-related content in BGC, such a clear distinction was not observed for UGC. Users commented about the prestige dimension regarding low-cost universities, as prestige-related issues are important in university selection. However, low-cost universities did not share much content about the prestige dimension.

Another finding of this study is that the harmony between the business strategy and brand positioning is reflected in the follower numbers on social media. The differentiator university has increased its followers whereas followers of low-cost universities decreased in 2018 (Boomsocial, 2019). This finding has supported Brech et al. (2017), who stated that universities with a stronger reputation have more followers on social media; and Retamosa et al. (2020), as strong perception of university brand personality is a determinant of loyalty. The differentiator university was more popular and successful in attracting followers on social media (Palmer, 2013; Veirman et al., 2017). This finding also supported the previous prescriptions of strategy scholars stating that differentiation strategy is linked with increased brand loyalty (Kettunen, 2002).

UGC was higher for older universities, because they had more alumni and students, and consequently, a higher number of user comments, whether positive or negative. Although newer brands can use social media marketing to create a follower base through BGC, achieving user engagement can happen over time.

Managerial implications

In the highly competitive higher education industry, attracting high-quality students became the main issue for HEI administrators. In this regard, having an in-depth understanding of the selection criteria of prospective students is more important than ever for competing successfully in this environment. As a result, marketing tools related to brand personality, brand communication, and brand loyalty are increasingly used for carrying out a successful brand management policy. The same approach is now emerging in HEI's, which are closely following private sector strategic management practices. Developing an overall business strategy and carving out an aligned marketing strategy is becoming a priority for university marketing professionals, consultants, and the managers of HEI's. Here, the findings of the current research study present important implications for HEI administrators. One prominent result of our analyses is that BGC differs concerning the chosen business strategy of HEIs. Previous studies have indicated that there should be a close link between generic institutional strategy and brand positioning to achieve an overall successful performance for companies (Geurin & Burch, 2017; Vera, 2016). While this is the case, empirical studies investigating this proposition in the higher education industry have been significantly limited. The findings of this study show that this prescription holds true for higher education sector and currently, administrators of HEI's execute the business and marketing strategies parallel to each other, particularly when social media is used as the main channel of communication. In alignment with Opoku et al. (2008), a pleasant brand

personality is channeled by using relevant messages in social media communication. Another important implication of the findings is about the UGC and generic business strategy relationship. The results of the current study show that the intended communication of the brand identity may not always be aligned with the views and opinions of the potential or existing consumers of the brands. This shows that the managers in HEIs as brand owners should pay extreme attention to the actual reflections of their intended messages about their identities concerning various factors which affect the consumers' selection of that institution (Simiyu et al., 2020). In addition, the findings indicate close association with brand loyalty with pursuing a differentiation strategy, as suggested in previous studies (Kettunen, 2002). Thus, the administrators of differentiator HEI's should allocate necessary resources to their social media communications and strengthen the attachment of current and prospective students with the brand of their universities. Finally, UGC was found to be positively correlated with the age of the university. To overcome this challenge, managers of young brands can plan co-branded activities, such as prestigious conferences or young entrepreneurship summits under the sponsorship of reputable companies to bring together students, academics, and business professionals for increasing the UGC content related with their brand.

Conclusion

The current study extended previous studies on brand personality in higher education, by showing that the social media strategies of brands are in alignment with their generic business strategy choices. The differentiator university's UGC and BGC dispersions in terms of brand personality were similar and focused on prestige, sincerity, and conscientiousness. On the other hand, UGC-BGC dispersions of the low-cost universities were not in parallel for prestige, conscientiousness, and liveliness dimensions. The findings showed the strategic link between brand personality and differentiation. For the differentiator university brand, the intended and perceived brand personalities were in harmony. Furthermore, the results also highlight the importance of social media for reflecting, building, and strengthening the brand personality in higher education institutions. To the best of our knowledge, this study is the first to examine UGC and BGC in the branding activities of HEIs within the theoretical framework provided by Porter (1985).

The most important limitation of this study is the relatively recent foundation dates of the institutions which are taken as the units of analysis. Further research can be conducted for comparing well-established and young universities or for comparing public and private universities. Second, cross-cultural research on UGC and BGC regarding university brand personality would present important findings in the highly competitive global higher education environment. Additionally, sentiment analysis of UGC can be done to detect the distribution of the sentiment depending on the generic strategies and brand personality dimensions.

Disclosure statement

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References

Aaker, J. (1997). Dimensions of brand personality. *Journal of Marketing Research*, *34*(3), 347–356. https://doi.org/10.1177/002224379703400304

Alberti, G. (2013). An R script to facilitate correspondence analysis: A guide to the use and the interpretation of results from an archaeological perspective. *Archeologia e calcolatori*, *24*, 23–53.

Alexa. (2019). *Eksisozluk.com competitive analysis*. https://www.alexa.com/siteinfo/eksisozluk.com

Allen, R. S., & Helms, M. M. (2006). Linking strategic practices and organizational performance to Porter's generic strategies. *Business Process Management Journal*, *12*(4), 433–454. https://doi.org/10.1108/14637150610678069

Aysen, E., Yayli, A., & Helvaci, E. (2012). ÜNiversitelerin marka kişiliği algısının belirlenmesi üzerine bir araştırma. *Journal of Business Research-Turk*, *4*(4), 182–204.

Bakewell, J. C., & Gibson-Sweet, M. F. (1998). Strategic marketing in a changing environment-are the new UK universities in danger of being stuck in the middle? *International Journal of Educational Management*, *12*(3), 108–113. https://doi.org/10.1108/09513549810209095

Balaji, M. S., Kumar Roy, S., & Sadeque, S. (2016). Antecedents and consequences of university brand identification. *Journal of Business Research*, *69*(8), 3023–3032. https://doi.org/10.1016/j.jbusres.2016.01.017

Banker, R. D., Mashruwala, R., & Tripathy, A. (2014). Does a differentiation strategy lead to more sustainable financial performance than a cost leadership strategy? *Management Decision*, *52*(5), 872–896. https://doi.org/10.1108/MD-05-2013-0282

Bekhradnia, B., & Beech, D. (2018). *Demand for higher education to 2030*. https://www.hepi.ac.uk/wp-content/uploads/2018/03/HEPI-Demand-for-Higher-Education-to-2030-Report-105-FINAL.pdf

Bélanger, C. H., Bali, S., & Longden, B. (2014). How Canadian universities use social media to brand themselves. *Tertiary Education and Management*, *20*(1), 14–29. https://doi.org/10.1080/13583883.2013.852237

Bendixen, M. (1996). A practical guide to the use of correspondence analysis in marketing research. *Marketing Research On-Line*, *1*(1), 16–36.

Boomsocial. (2019). *Compare pages-Twitter statistics*. https://www.boomsocial.com

Brech, F. M., Messer, U., Schee, B. A. V., Rauschnabel, P. A., & Ivens, B. S. (2017). Engaging fans and the community in social media: Interaction with institutions of higher education on Facebook. *Journal of Marketing for Higher Education*, *27*(1), 112–130. https://doi.org/10.1080/08841241.2016.1219803

Campbell-Hunt, C. (2000). What have we learned about generic competitive strategy? A meta-analysis. *Strategic Management Journal*, *21*(2), 127–154. https://doi.org/10.1002/(SICI)1097-0266(200002)21:2<127::AID-SMJ75>3.0.CO;2-1

Clausen, S. E. (1998). *Applied correspondence analysis: An introduction*. Sage.

Constantinides, E., & Stagno, M. C. Z. (2011). Potential of the social media as instruments of higher education marketing: A segmentation study. *Journal of Marketing for Higher Education*, *21*(1), 7–24. https://doi.org/10.1080/08841241.2011.573593

Dennis, C., Papagiannidis, S., Alamanos, E., & Bourlakis, M. (2016). The role of brand attachment strength in higher education. *Journal of Business Research*, *69*(8), 3049–3057. https://doi.org/10.1016/j.jbusres.2016.01.020

Drucker, P. F. (1997). Seeing things as they really are. *Forbes*, *159*(5), 122–128.

Friendly, M. (1992). Graphical methods for categorical data. *Proceedings of SAS SUGI*, *17*, 190–200.

Fumasoli, T., & Lepori, B. (2011). Patterns of strategies in Swiss higher education institutions. *Higher Education*, *61*(2), 157–178. https://doi.org/10.1007/s10734-010-9330-x

Gao, H., Tate, M., Zhang, H., Chen, S., & Liang, B. (2018). Social media ties strategy in international branding: An application of resource-based theory. *Journal of International Marketing*, *26*(3), 45–69. https://doi.org/10.1509/jim.17.0014

Geurin, A. N., & Burch, L. M. (2017). User-generated branding via social media: An examination of six running brands. *Sport Management Review*, *20*(3), 273–284. https://doi.org/10.1016/j.smr.2016.09.001

Goldsmith, R. E., & Goldsmith, E. B. (2012). Brand personality and brand engagement. *American Journal of Management*, *12*(1), 11–20.

Greenacre, M. (2017). *Correspondence analysis in practice* (3rd ed.). Chapman and Hall, CRC.

Groves, R. E. V., Pendlebury, M. W., & Stiles, D. R. (1997). A critical appreciation of the uses for strategic management thinking, systems and techniques in British universities. *Financial Accountability & Management*, *13*(4), 293–312. https://doi.org/10.1111/1468-0408.00040

Hemsley-Brown, J., & Goonawardana, S. (2007). Brand harmonization in the international higher education market. *Journal of Business Research*, *60*(9), 942–948. https://doi.org/10.1016/j.jbusres.2007.01.019

Hemsley-Brown, J., Melewar, T. C., Nguyen, B., & Wilson, E. J. (2016). Exploring brand identity, meaning, image, and reputation (BIMIR) in higher education: A special section. *Journal of Business Research*, *69*(8), 3019–3022. https://doi.org/10.1016/j.jbusres.2016.01.016

Ho, J. Y. C., & Dempsey, M. (2010). Viral marketing: Motivations to forward online content. *Journal of Business Research*, *63*(9), 1000–1006. https://doi.org/10.1016/j.jbusres.2008.08.010

Hoffman, D. L., & Fodor, M. (2010). Can you measure the ROI of your social media marketing? *MIT Sloan Management Review*, *52*(1), 41–49.

Japutra, A., & Molinillo, S. (2019). Responsible and active brand personality: On the relationships with brand experience and key relationship constructs. *Journal of Business Research*, *99*, 464–471. https://doi.org/10.1016/j.jbusres.2017.08.027

Karadag, N. (2016). Examining the branding of Turkish universities in the context of socio-economic development of their cities. *International Journal of Higher Education*, *5*(4), 173–183. https://doi.org/10.5430/ijhe.v5n4p173

Kassambara, A. (2017). *Practical guide to principal component methods in R: PCA, M (CA), FAMD, MFA, HCPC, factoextra*. STHDA.

Kaushal, V., & Ali, N. (2020). University reputation, brand attachment and brand personality as antecedents of student loyalty: A study in higher education context. *Corporate Reputation Review*, *23*(4), 254–266. https://doi.org/10.1057/s41299-019-00084-y

Kettunen, J. (2002). Competitive strategies in higher education. *Journal of Institutional Research*, *11*(2), 38–47.

Kotha, S., & Vadlamani, B. L. (1995). Assessing generic strategies: An empirical investigation of two competing typologies in discrete manufacturing industries. *Strategic Management Journal*, *16*(1), 75–83. https://doi.org/10.1002/smj.4250160108

Kudlats, J., Money, A., & Hair Jr, J. F. (2014). Correspondence analysis: A promising technique to interpret qualitative data in family business research. *Journal of Family Business Strategy*, *5*(1), 30–40. https://doi.org/10.1016/j.jfbs.2014.01.005

Lawlor, M. A., Dunne, A., & Rowley, J. (2016). Young consumers' brand communications literacy in a social networking site context. *European Journal of Marketing*, *50*(11), 2018–2040. https://doi.org/10.1108/EJM-06-2015-0395

Leng, H. K. (2012). The use of Facebook as a marketing tool by private educational institutions in Singapore. *International Journal of Technology and Educational Marketing*, *2*(1), 14–25. https://doi.org/10.4018/ijtem.2012010102

Malar, L., Krohmer, H., Hoyer, W. D., & Nyffenegger, B. (2011). Emotional brand attachment and brand personality: The relative importance of the actual and the ideal self. *Journal of Marketing*, *75*(4), 35–52. https://doi.org/10.1509/jmkg.75.4.35

Malär, L., Nyffenegger, B., Krohmer, H., & Hoyer, W. D. (2012). Implementing an intended brand personality: A dyadic perspective. *Journal of the Academy of Marketing Science*, *40*(5), 728–744. https://doi.org/10.1007/s11747-011-0251-8

Mazzarol, T. W., & Soutar, G. N. (2008). Strategy matters: Strategic positioning and performance in the education services sector. *International Journal of Nonprofit and Voluntary Sector Marketing*, *13*(2), 141–151. https://doi.org/10.1002/nvsm.313

Meyer, D., Zeileis, A., & Hornik, K. (2003). Visualizing independence using extended association plots. In K. Hornik, F. Leisch, & A. Zeileis (Eds.), *Proceedings of the 3rd international workshop on DSC*.

Naude, P., & Ivy, J. (1999). The marketing strategies of universities in the United Kingdom. *International Journal of Educational Management*, *13*(3), 126–136.

Opoku, R. A., Hultman, M., & Saheli-Sangari, E. (2008). Positioning in market space: The evaluation of Swedish universities' online brand personalities. *Journal of Marketing for Higher Education*, *18*(1), 124–144. https://doi.org/10.1080/08841240802100386

Palmer, S. (2013). Characterisation of the use of Twitter by Australian universities. *Journal of Higher Education Policy and Management*, *35*(4), 333–344. https://doi.org/10.1080/1360080X.2013.812029

Porter, M. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.

Pucciarelli, F., & Kaplan, A. (2016). Competition and strategy in higher education: Managing complexity and uncertainty. *Business Horizons*, *59*(3), 311–320. https://doi.org/10.1016/j.bushor.2016.01.003

Rauschnabel, P. A., Krey, N., Babin, B. J., & Ivens, B. S. (2016). Brand management in higher education: The university brand personality scale. *Journal of Business Research*, *69*(8), 3077–3086. https://doi.org/10.1016/j.jbusres.2016.01.023

Retamosa, M., Millán, Á, & Moital, M. (2020). Does the type of degree predict different levels of satisfaction and loyalty? A brand equity perspective. *Corporate Reputation Review*, *23*(2), 57–77. https://doi.org/10.1057/s41299-019-00073-1

Rutter, R., Lettice, F., & Nadeau, J. (2017). Brand personality in higher education: Anthropomorphized university marketing communications. *Journal of Marketing for Higher Education*, *27*(1), 19–39. https://doi.org/10.1080/08841241.2016.1213346

Sart, G. (2014). Strategic model and strategic planning in higher education. *International Journal of Social and Economic Sciences*, *1*, 34–37.

Scott, W. A. (1955). Reliability of content analysis: The case of nominal scale coding. *Public Opinion Quarterly*, *19*(3), 321–325. https://doi.org/10.1086/266577

Simiyu, G., Bonuke, R., & Komen, J. (2020). Social media and students' behavioral intentions to enroll in postgraduate studies in Kenya: A moderated mediation model of brand personality and attitude. *Journal of Marketing for Higher Education*, *30*(1), 66–86. https://doi.org/10.1080/08841241.2019.1678549

Sterne, J. (2010). *Social media metrics: How to measure and optimize your marketing investment*. Wiley.

Sweeney, J., Soutar, G., & Mazzarol, T. (2014). Factors enhancing word-of-mouth influence: Positive and negative service-related messages. *European Journal of Marketing*, *48*(1/2), 336–359. https://doi.org/10.1108/EJM-06-2012-0336

Van Rekom, J., Jacobs, G., & Verlegh, P. W. J. (2006). Measuring and managing the essence of a brand personality. *Marketing Letters*, *17*(3), 181–192. https://doi.org/10.1007/s11002-006-5362-5

Veirman, M., Cauberghe, V., & Hudders, L. (2017). Marketing through Instagram influencers: The impact of number of followers and product divergence on brand attitude. *International Journal of Advertising*, *36*(5), 798–828. https://doi.org/10.1080/02650487.2017.1348035

Vera, J. (2016). Two paths to customer loyalty: The moderating effect of the differentiation level strategy in the performance-satisfaction-value-intentions relationship. *Journal of Product & Brand Management*, *25*(2), 171–183. http://dx.doi.org/10.1108/JPBM-01-2015-0789

Vickery, G., & Wunsch-Vincent, S. (2007). *Participative web and user-created content: Web 2.0 wikis and social networking*. OECD.

Watkins, B. A., & Gonzenbach, W. J. (2013). Assessing university brand personality through logos: An analysis of the use of academics and athletics in university branding. *Journal of Marketing for Higher Education*, *23*(1), 15–33. https://doi.org/10.1080/08841241.2013.805709

We are Social. (2019). *Digital 2019 in Turkey*. https://www.slideshare.net/DataReportal/digital-2019-turkey-january-2019-v01

Wong, H. Y., & Merrilees, B. (2005). A brand orientation typology for SMEs: A case research approach. *Journal of Product & Brand Management*, *14*(3), 155–162. https://doi.org/10.1108/10610420510601021
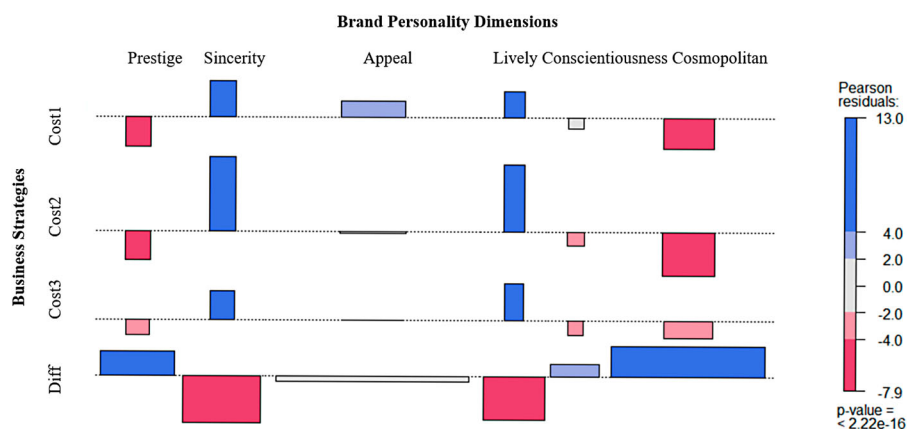
Appendices

Appendix 1

Figure A1. The association plot of BGC.

Appendix 2

Table A1. Overall summary of the correspondence analysis of BGC.

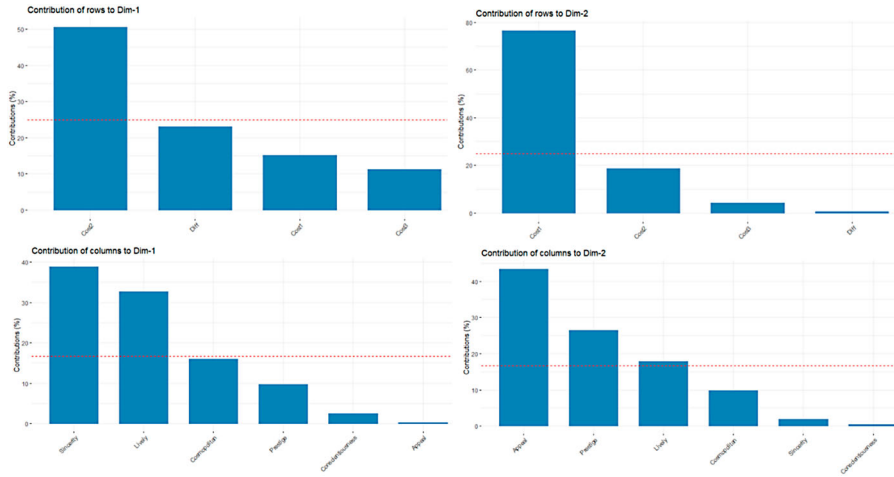| The chi square of independence between the two variables is equal to 739.7694 (p-value = 6.152977e-148).						
Eigenvalues						
	Dim.1	Dim.2	Dim.3			
Variance	0.14	0	0			
% of var.	97.37	2.15	0.47			
Cumulative % of var.	97.37	99.53	100			
Rows						
	Iner*1000	Dim.1	ctr	cos2	Dim.2	ctr	cos2
Cost1	24.13	0.51	15.13	0.9	−0.17	76.5	0.1
Cost2	73.26	0.9	50.56	0.99	0.08	18.76	0.01
Cost3	16.85	0.46	11.28	0.96	0.04	4.17	0.01
Diff	33.06	−0.21	23.03	1	0	0.57	0
Columns						
	Iner*1000	Dim.1	ctr	cos2	Dim.2	ctr	cos2
Prestige	14.82	−0.44	9.73	0.94	0.11	26.47	0.06
Sincerity	56	0.85	38.88	1	0.03	1.92	0
Appeal	1.7	0.03	0.22	0.19	−0.05	43.45	0.81
Lively	47.49	0.98	32.62	0.99	0.11	17.85	0.01
Conscientiousness	3.97	−0.35	2.53	0.91	0.02	0.44	0
Cosmopolitan	23.33	−0.28	16.01	0.98	0.03	9.89	0.01

Appendix 3

Figure A2. Contribution of points to Dim1&Dim2 of BGC.
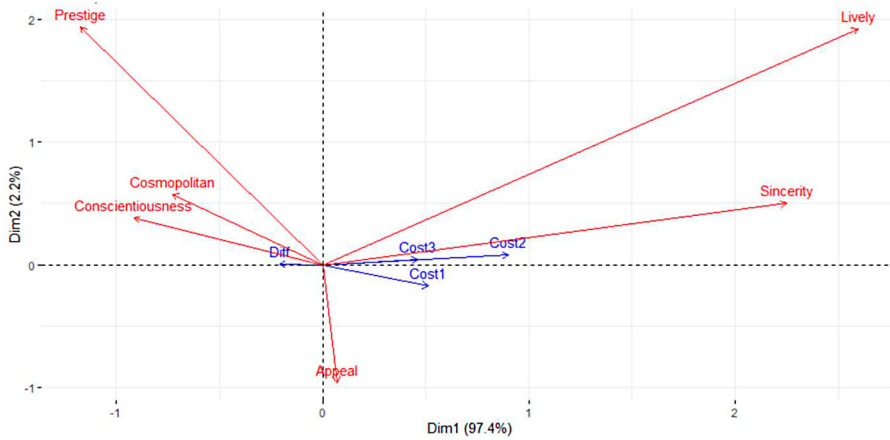
Appendix 4

Figure A3. BGC dispersion across the generic strategies and brand personality dimensions (Asymmetric Biplot).
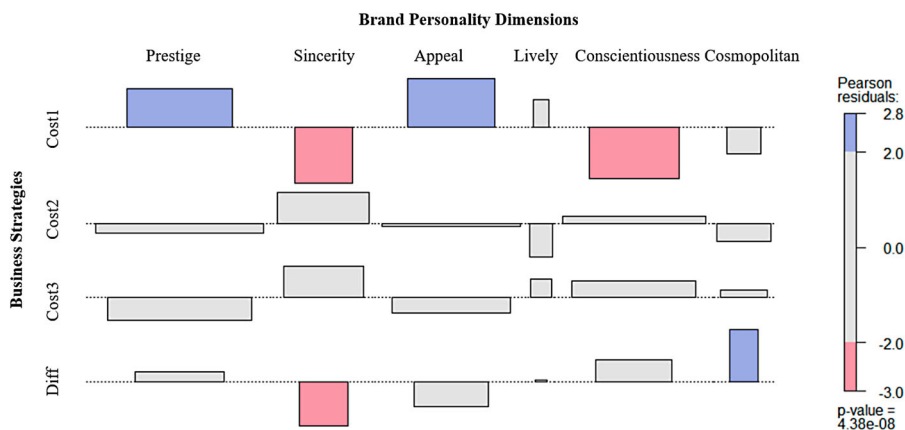
Appendix 5

Figure A4. The association plot of UGC.

Appendix 6

Table A2. Overall summary of the correspondence analysis of UGC.

The chi square of independence between the two variables is equal to 64.384 (*p*-value = 4.379984e-08).

Eigenvalues

	Dim.1	Dim.2	Dim.3
Variance	0.04	0.02	0
% of var.	61.65	31.39	6.97
Cumulative % of var.	61.65	93.03	100

Rows

	Iner*1000	Dim.1	ctr	cos2	Dim.2	ctr	cos2
Cost1	28.97	−0.42	81.03	0.99	−0.04	1.75	0.01
Cost2	6.67	0.08	7.51	0.4	−0.08	14.15	0.38
Cost3	6.37	0.11	11.46	0.64	−0.01	0.12	0
Diff	15.27	0	0	0	0.36	83.98	0.99

Columns

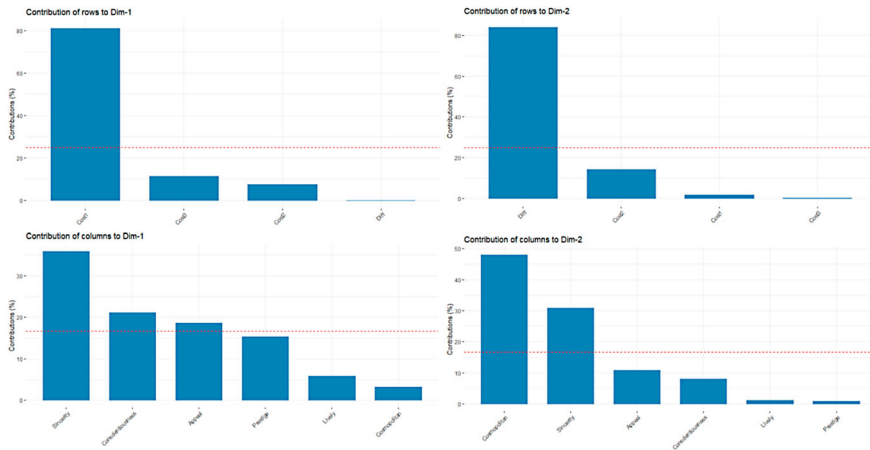|	Iner*1000	Dim.1	ctr	cos2	Dim.2	ctr	cos2
Prestige	5.82	−0.12	15.31	0.93	0.02	0.89	0.03
Sincerity	18.42	0.35	35.94	0.69	−0.23	30.83	0.3
Appeal	8.53	−0.17	18.59	0.77	−0.09	10.91	0.23
Lively	5.79	−0.54	5.78	0.35	0.18	1.28	0.04
Conscientiousness	8.93	0.17	21.18	0.84	0.07	8.05	0.16
Cosmopolitan	9.79	0.18	3.2	0.12	0.49	48.04	0.88

Appendix 7

Figure A5. Contribution of points to Dim1&Dim2 of UGC.
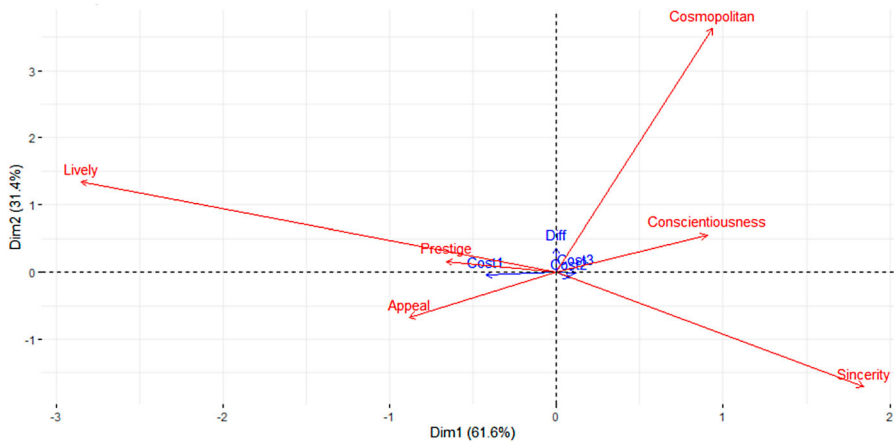
Appendix 8

Figure A6. UGC dispersion across the generic strategies and brand personality dimensions (Asymmetric Biplot).