Geliş Tarihi:
13.07.2020
Kabul Tarihi:
02.06.2021
Yayımlanma Tarihi:
25.06.2021

Kaynakça Gösterimi: Yildiz, O. (2021). Is there a relationship between the institutional success of universities in webometric ranking system and their popularity on Facebook? A holistic case of Turkish universities. *İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi*, 40(20), 310-330. doi: 10.46928/iticusbe.768930

IS THERE A RELATIONSHIP BETWEEN THE INSTITUTIONAL SUCCESS OF UNIVERSITIES IN WEBOMETRIC RANKING SYSTEM AND THEIR POPULARITY ON FACEBOOK? A HOLISTIC CASE OF TURKISH UNIVERSITIES

Araştırma

Orkun Yildiz
Sorumlu Yazar (Correspondence)
Izmir Democracy University
yildiz.orkun@gmail.com

Orkun Yildiz is a faculty member in the Department of Management Information Systems at Izmir Democracy University, Turkey. He teaches and publishes scientific research in the fields of business value chain digital transformation, e/m commerce, enterprise business systems, and human-computer interaction.

IS THERE A RELATIONSHIP BETWEEN THE INSTITUTIONAL SUCCESS OF UNIVERSITIES IN WEBOMETRIC RANKING SYSTEM AND THEIR POPULARITY ON FACEBOOK? A HOLISTIC CASE OF TURKISH UNIVERSITIES

Orkun Yildiz
yildiz.orkun@gmail.com

ABSTRACT

Purpose: Social media is among the most important digital platforms that bring individuals and institutions together. In the digital age, universities use social media to share news and updates about the institution, research, teaching and social activities. Perhaps, one of the most critical indicators of success in the university account management process in social media might be the number of followers. Hence, this study examined whether there is a relationship between universities' Facebook official account follower counts and universities' position in the Webometrics university success ranking scale, which is an indicator of universities' institutional success.

Method: The present study focused on 161 universities located in Turkey. The official Facebook accounts of these institutions and ranking success position in Webometrics were examined by using two different secondary data sets from 2017.

Findings: The assumed relationships were tested through correlation analyses by using SPSS 20 statistical software. The results showed that there was a significant relationship between universities' follower counts on Facebook pages and Webometrics ranking scores.

Originality: This study would be a pioneering research that can contribute to the literature on the relationship between the success of higher education institutions in Webometric ranking and the popularity of official accounts in a social media channel. Considering the results of this research, it is expected that the top managers of higher education institutions and universities will contribute to institutional value management.

Keywords: Institutional Ranking Success, Social Media Popularity, Universities, Webometrics
JEL Classification: M10, M15, M31

WEBOMETRİK SIRALAMA SİSTEMİNDEKİ ÜNİVERSİTELERİN KURUMSAL BAŞARILARI İLE FACEBOOK POPÜLERİTELERİ ARASINDA BİR İLİŞKİ VAR MIDIR? TÜRK ÜNİVERSİTELERİNİN BÜTÜNSEL ÖRNEĞİ

ÖZET

Amaç: Sosyal medya bireyleri ve kurumları bir araya getiren en önemli dijital platformlar arasındadır. Dijital çağda, üniversiteler sosyal medyayı haberler ve kurumları, araştırmaları, öğretim ve sosyal faaliyetleri hakkında güncel bilgileri paylaşmak için kullanmaktadırlar. Sosyal medyada başarılı bir üniversite hesabı yönetim sürecinin belki de en önemli göstergelerinden bir tanesi takipçi sayısıdır. Bu nedenle, bu çalışmada üniversitelerin kurumsal başarılarının bir göstergesi olan üniversitelerin Facebook resmi hesap takip sayıları ile üniversitelerin Webometrics üniversite başarı sıralaması ölçeği arasındaki ilişki arasında bir ilişki olup olmadığını incelenmiştir.

Yöntem: Çalışmada Türkiye'de bulunan 161 üniversiteye odaklanılmıştır. Bu kurumların resmi Facebook hesaplarının takipçileri ile Webometrics'de yer aldıkları başarı sıraları 2017 yılında iki farklı ikincil veri seti kullanılarak gerçekleştirilmiştir.

Bulgular: Varsayılan ilişkiler korelasyon analizleri ve SPSS 20 istatistik yazılımı kullanılarak test edilmiştir. Sonuçlar, üniversitelerin Facebook sayfalarındaki takipçi sayıları ile Webometrics sıralama puanları arasında anlamlı bir ilişki olduğunu göstermiştir.

Özgünlük: Bu çalışma, elde ettiği bulgularla yükseköğretim kurumlarının Webometrik sıralamasındaki başarısı ile bir sosyal medya kanalındaki resmi hesap popülerlikleri arasındaki ilişkiye yönelik literatürde katkı sağlayabilecek öncü bir araştırma olacaktır. Bu araştırma sonuçları dikkate alındığında yükseköğretim kurumlarının üst yöneticileri ve üniversitelerin kurumsal değer yönetimi için katkı sağlayacağı beklenmektedir.

Anahtar Kelimeler: Kurumsal Başarı Sıralaması, Sosyal Medya Popülerliği, Üniversiteler, Webometriks

JEL Sınıflandırması: M10, M15, M31

INTRODUCTION

Information exchange grows incrementally due to technological developments and globalization all over the world. Therefore, the impact and importance of information management are better understood these days than ever before. A significant number of technological developments have taken place in many sectors. One of these sectors is the communication sector. This sector is crucial to understanding the functioning mechanisms for private and public sectors because communication is vital to business processes. Communication technologies, public institutions, and private sector memberships have used communication channels to conduct appropriate political, commercial, public relational, and social responsibility activities to meet their goals.

Many different communication channels have been developed to help these aforementioned activities, but some of their impact on these activities are stronger than others. Social media tools such as Facebook, Twitter, Instagram, and Blogs are some of these channels. Social media tools gain a significant role among the new communication channels, and PR messages can reach millions of people with less effort than before, thanks to social media tools in recent years. It is possible to say that social media tools are unique media channels to make public relations activities for the private and public sectors because these tools provide the opportunity to announce their business and social activities. These announcements can be made with less cost, fewer persons, and shorter time than other communication channels. It is seen that social media tools may be of great importance to render communication activities not only for the private but also for the public sector to do public relations activities. After reviewing the literature, it seems that no study has investigated public institutions' public relations managed through social media tools. This gap is the most crucial driver for conducting the present study. This study aims to understand the link between universities' Facebook popularity and their position in the Webometrics ranking system.

LITERATURE REVIEW AND HYPOTHESES

Public Relations and Higher Education Institutions

Public relations (PR) are a fascinating research area for various academic disciplines such as management, sociology, journalism, and others. This research area has been developing for over 40 years as a relatively young discipline with a theoretical and research basis (Childers, 1989). PR practitioners managed narrow traditional communicational channels to promote organizations (Lahav, 2014). However, this method must be changed by the enormous impact of the internet age. One–the way traditional activities have evolved into two–way communication between organizations and key populations such as governments, news media, clients, employees, investors, and contributors (Avidar, 2011; Esrock & Leichty, 1998). The population that has access to the internet has incredibly grown in the last decade.

These days more than one-third of the world's population have an internet connection (Internetworldstats, 2015). Dialogue and dissent/protest PR concepts have gained increasing significance. Public relations affect new sources, and this fact can be seen in countries that have close economic and/or gaps on freedom of speech, such as China, North Korea, the Middle East countries (Avidar, 2011; Chen, Chen & Chen, 2012; Hou et al., 2013; Lahav, 2014). On the other hand, many studies have been conducted to understand internet use and its impact on public relations (PR) activities. Most of these studies focus on website communication as a tool of public relation activities on the internet (Adi, 2015; Basil & Erlandson, 2008; Curtis, Edward, Fraser, Gudelsky, Holmquist, Thornton & Sweetser, 2010; Esrock & Leichty, 2000; Lovejoy, Waters & Saxton, 2012; McAllister-Spooner, 2009; Sommerfeldt, Kent & Taylor, 2012). These studies have revealed that many groups' success in public relations (PR) activities have been achieved through website communication. Some of these studies have focused on understanding these activities and providing solutions for public activities between corporations and target groups (Adi, 2015; Adi & Miah, 2011; Adi & Moloney, 2012; Callison, 2003), while others have examined how the response of institutions should be to achieve success activism in public relation (Adi, 2015; Hallahan, 2001; Jun, 2011; Lee, Park, Sun, Lee, & Cameron., 2010; Van Leuven, Deprez & Raeymaeckers, 2013; Zietsma &Winn, 2007).

Social Media and Higher Education Institutions

Social media tools are among the most used channels for consumers, companies, and institutions to communicate, advertise, and manage public relations activities. If this popularity continues, social media will be a leader channel for many communication activities. Social media channels reshape all rules in traditional public relations methods (DiStaso, McCorkindale & Wright, 2011) and are likely to be the main channels of PR practices. However, a few studies have focused on these tools in the field of public relations, and also, they have claimed that social media tools are essential for many organizations. Some researchers argue that social media provides benefits for non-profit and profit institutions that cannot be used effectively (Allagui & Breslow 2016; Valentini, 2015), while others claim the opposite (DiStaso et al., 2011; Dougall, 2006). Nevertheless, some studies aim to determine the quality requirements for achieving success PR works by non-profit institutions (Kent, 2010; Sanderson, Barnes, Williamson & Kian, 2016).

Social media channels will be key players to achieve well-organized public relations' (PR) works for organizations in the future, thanks to increasing communication relations. Social media tools enhance communication between organizations (Lee, Xiong & Hu, 2012; Myers, 2015; Shin, Carithers, Lee, Graham & Hendricks, 2013; Valentini & Kruckeberg, 2012). PR professionals use social media tools to speak directly to their followers and stakeholders without any interruptions nowadays (Verhoeven, Tench, Zerfass, Moreno & Verčič,, 2012), and for instance, the campaigns of social media PR have potential for success during election campaigns (Kilic & Ataberk, 2012; Allagui & Breslow, 2016; De Busy & Wolf, 2009; Eyrich, Padman & Sweetser, 2008; Frame & Brachotte, 2015; Momoc, 2013).

Campaign tactics of social media and traditional media channels such as television, radio, and newspapers are different, which has been investigated in many articles. Human rights advocacy groups emphasize the link between free speech and human rights (Adi & Miah, 2011). Social media tools provide facilities for freedom speeches on public relations activities. The symmetry of communication is powerful effectiveness, and it has been an important fact to understand the evolution of academic studies on public relations in the last decade (Chen & Chan, 2014; Chen et al., 2012).

Many case studies also have focused on the effects of public relation activities and/or social media tools on communication for social happenings and public and voluntary sectors in the PR literature (Adi & Moloney, 2012; Lee et al., 2012; Lovejoy, Waters, & Saxton, 2012; Moore & Carlson, 2013; Paek, Hove, Jung & Cole, 2013). In addition to this, social media researchers have investigated communication strategies and protesters' actions and PR perspectives of online media communication tools (Adi, 2015; Sommerfeldt et al., 2012; Van Der Meer , Verhoeven, Beentjes & Vliegenthart, 2014). Also, studies have discussed social media tools' impact on organizations.

Since social media tools affect society, evaluating social media PR works in line with ethic rules, and presenting its power on access and effect on millions is another subject in the literature (Rubin, 2011; Toledano & Avidar, 2016; Toledano & Wolland, 2011). Ethical rules for social media tools are not taken into consideration. Also, ethical rules may not be controlled as much as required by supervisor institutions so that governments may support the number of volunteer public organizations to increase them. Therefore, the number of social media tools users are increasing by applying ethical rules on social media. Organization's adoption of social media tools (SMT) to achieve PR works through social media channels and factors that impact organizations' adoption of social media tools (SMT) is a study field for a few researchers (Triantafillidou & Yannas, 2014; Valentini & Kruckeberg, 2012; Waters, Burnett, Lamm & Lucas, 2009; Willis, 2015; Xifra & Huertas, 2008). These studies have aimed to understand the essential factors that increase social media tools usage and reveal how organizations can be successful while adopting social media tools to carry out public relations activities. Therefore, it is understood that PR practitioners heavily use social media channels, NGOs, and corporations to achieve their goals.

Higher education institutions are among the bodies that use social media for PR activities. After conducting a literature review for this study, it was found out that few studies existed on the higher education institutions and their social media and PR management strategies in the literature. There are many negative and positive findings of the relationship between social media and higher education public relations in scientific studies. For instance, the use of social media network channels could negatively affect the image of higher education institutions (Anisimova, Vasylenko, & Fedushko, 2019). Because higher education institutions need to involve with two-way communication, dialogue and engagement on social media, but some universities do not engage with such activities in an

efficient way. These higher education institutions have used social media as only broadcasting channels or advertising platforms (Constantinides & Stagno, 2012). To illustrate, it has been found that social media channel of universities have been the last visited source of information among candidate students in the Netherlands since most of the higher education institutions do not have official social media accounts or have good content management (Constantinides & Stagno, 2012).

On the other hand, there is an ample evidence for institutional branding activities that focus on the use of social media in higher education. Furthermore, these activities impact the development of the relationship between an institution and the public and gain students' brand loyalty towards the institution (Eger, Egerova, & Kryston, 2019). Moreover, universities' promotional campaigns can be done transparently on social media and this situation could increase institutional trust thanks to communication activities with users on social media channels (Maresova, Hruska, & Kuca, 2020). Besides, positive comments may positively affect candidate students' university selections, while negative comments may cause results vice versa (Desai & Han, 2019). Thus, it can be concluded that universities' activities on social media may have a direct impact on today's generation (Desai & Han, 2019).Altogether, it can be said that updated and creative content production, professional channel management, and top managers support to institutional social media channel are essential to managing the institutional image of universities on social media channels.

In other words, higher education institutions should reconsider how they use social media tools and explore ways to influence positive change in education communities and society at large by using these tools more effectively (Kimmons, Veletsianos, & Woodward, 2017). If these issues are considered carefully, it would become possible for higher education institutions to use social media channels effectively.

In this study, we focus on the higher education institutions in Turkey. After the literature was comprehensively examined, we determined a few studies with a similar target population, the higher education institutions in Turkey and their social media presence. One of these works was carried out by Futurearts, a research company. This company collected data about official social media use from 106 public and 55 foundation higher education institutions from Turkey in 2011. It can be said that this study only focused on the existence of universities' official social media sites, which are Facebook, Twitter, Friendfeed, Linkedin, Formspring, Foursquare, Youtube, Dailymotion, Vimeo, Flickr, Blogger and Tumblr social media networks. According to this study results, 21% of public and 73% of foundation universities have one official social media channel (Futurearts, 2011). On the other hand, another scientific research has been conducted on how university students follow their universities' social media accounts (Gümüş, Türkel & Gözde, 2015). According to this study, 75 public and 61 foundation universities had an official social media accounted in 2014. Also, Seçkiner & Tahtalioglu (2017) have contributed to another scientific research consisting of higher education institutions and their usage of social media channels in the literature. According to this study results

that 96% of public universities (108 to 113) had a Facebook or Twitter official account. Thereby, after doing a comparative evaluation of public universities' social media presence in Turkey from 2014 to 2017, it is understood that there is a highly increasing ratio of official social media channel presence (from 80% to 96). Furthermore, as understood from this comparable statistical result, the number of social media followers indicate continuously varying, dynamic, and numerical data that are based on time. Hence, we determined a specific time point suitable for our research aims.

METHODOLOGY

Research Questions

This study investigates the relationship between the popularity of universities' official Facebook accounts and their ranked position success in WEBO ranking in 2017. Also, it focuses on the state and foundation universities having an official Facebook account and the position in Webometrics' ranking in the last quarter of 2017.

The relation between universities' follower counts on official Facebook pages, and ranking success has not been investigated in the literature. Hence, this study aims to complete this gap in the literature. Specifically, the study's research question is, "Is there a relationship between the number of followers on universities' official Facebook account and their ranked position achievement in Webometrics?"

To determine whether there is a relationship between the dependent variable (the position in Webometrics ranking) and the independent variable (The number of followers on official Facebook account). On the other hand, research and sampling design have been conducted following the research question by considering the time and financial constraints. The hypothesis of this study are presented below:

H_o= There is no relationship between official Facebook account popularity and Webometric ranking achievement for Turkey's higher education institutions.

H_1= There is a relationship between official Facebook account popularity and Webometric ranking achievement for Turkey's higher education institutions.

Detailed information about the research and sampling design is presented below.

Data Collection and Analysis Methods

In this study, secondary data sets were used from two different sources. Secondary data collection is such a valuable strategy to conduct different research aim by using the exact data for researchers to provide cost, time and effort savings (Hox & Boeije, 2005). Of course, some critical factors should be considered regarding the original research from which the data was taken. The factors in question are the purpose of the research, the sampling structure, the limitations of the study, the time it was conducted, and the research content (Doolan & Froelicher, 2009; Magee, Lee, Giuliano & Munro,

2006). Hence, we used the data provided by Seçkiner and Tahtalioglu (2017) on Turkish universities' follower counts on official Facebook pages (dated 06.07.2017).

On the other hand, secondary data set from the Webometric rankings of universities in Turkey is another vital resource for this study aim. According to the official definition of Webometric, "Since 2004, the Ranking Web (or Webometrics Ranking) has been published twice a year (data is collected in the first weeks of January and July to be available to the public at the end of every two months) and covers more than 31,000 Higher Education Institutions worldwide. The purpose of the ranking is to motivate both institutions and academics to have a web presence that accurately reflects their activities" (Webometrics, 2017).

Webometrics is designed to show the individual performance of higher education institutions. Table 1 below details its current methodology:

Table 1. Current Method of Webometrics Ranking of World Universities

Indicators	Meaning	Methodology	Source	Weight
Presence	Public knowledge shared	Discontinued		
Visibility	Web contents Impact	Number of external networks (subnets) linking to the institution's webpages (normalized and then the maximum value is chosen)	Ahrefs Majestic	50%
Transparency (or Openness)	Top cited researchers	Number of citations from Top 210 authors (excl. top 20 outliers) See Transparent Ranking for additional info	Google Scholar Profiles	10%
Excellence (or Scholarly)	Top cited papers	Number of papers amongst the top 10% most cited in each one of all 27 disciplines of the whole database (Data for the five years: 2015-2019)	Scimago	40%

Sources: Webometrics, 2021a

Stewart and Kamins (1993) claim that evaluation follows steps such as research appropriately and relevance, quality of the preliminary study, and the resulting data set matching data sets to research. We have examined the data set by taking into account the aforementioned evaluation suggestions, respectively.

Firstly, the Webometrics ranking of the world universities is suitable for our research aim because it has a comprehensive university ranking system, and it does not just include the ranking web of universities. On the contrary, it has all webometric and bibliometric research missions. This ranking system is the most significant academic ranking of the higher education system with independent, objective, free, open scientific exercise inclusive of each six month periods (Webometrics, 2021b).

Secondly, the primary purpose on which the ranking methodology of higher education institutions is based, Web indicators, are accepted as proxies in the accurate, comprehensive, and in-depth evaluation of the university's global performance, taking into account their activities and outputs and their relevance and effects.

Thirdly, it can be said that the webometric ranking makes a difference with the top-quality higher education institutions around the world and the coverage of the ranking indicators. In other words, webometrics is a ranking system covering all universities in the world. Besides, higher education institutions whose standards are on a world scale are generally not small or highly specialized institutions, and finally, webometrics continually researches to improve rankings, change or refine indicators and weighting model to provide a better classification (Webometrics, 2021c).

After carrying out these evaluation stages, it was determined that the webometric ranking data set of 2017 is suitable for our research. After researching these universities, we detected that 96 public, and 51 private universities are ranked in the Webometric in 2017 with the official Facebook account. Hence, we have analyzed the relationship between the number of official Facebook account followers and their Webometrics ranking position.

The official accounts of the universities were visited, and the latest figures were determined and used. As seen below, Table 2. shows detailed information about the WEBO ranking positions and Facebook follower numbers of universities in Turkey. The top 10 universities that have the highest positions of ranking in Webometric are Middle East Technical University (473), Istanbul Technical University (604), Boğaziçi University (626), Hacettepe University (641), Istanbul University (738), Ankara University (752), Iskenderun Technical University (757), Mardin Artuklu University (884), Gazi University (941), and Marmara University (1041). Therefore, it could be said that public universities have better positions than foundation universities in Turkey in the top 10 list of Weboranking. Consequently, these universities are ranked based on the follower numbers on the official Facebook account as the following: Eskişehir Anadolu University (194.103), Uskudar University (128.186), Istanbul Commerce University (126.625), Istanbul University (120.186), Middle East Technical University (119.625), Atılım University (116.502), Adnan Menderes University (110.185), Bahçeşehir University (107.692), Karadeniz Technical University (101.718), Ordu University (95.617). Therefore, it may be said that some of the foundation universities have a good position in the top 10 in the number of followers on the official account.

Table 2. The Ranking Positions and the Number of Social Media Followers of Universities in Turkey in 2017

The High. Education Institutions	World Ranking	N of Followers	The High. Ed. Institutions	World Ranking	N of Followers
Abant Izzet Baysal University	2153	7.161	Beykoz University	11429	11.026
Abdullah Gül University Kayseri	3071	17.324	Bezm-i Alem University	3230	1.643
Acıbadem Mehmet Ali Aydınlar University	3167	16.662	Bilecik Şeyh Edebali University	5928	1.939
Adana Science and Technology University	3961	2.887	Bingöl University	2770	2.879
Adiyaman University	2223	3.541	Biruni University	3920	37.039
Adnan Menderes University	2071	110.185	Bitlis Eren University	4862	2.004
Afyon Kocatepe University	2169	3.422	Boğaziçi University	626	14.323
Ahi Evran University	2951	1.383	Bozok University	2791	12.786
Akdeniz University	1409	12.096	Bursa Teknik University	3283	1.038
Alanya Alaaddin Keykubat University	12507	3.562	Cappadocia University	7832	26.901
Alanya Hamdullah Emin Pasa University	15371	4.562	Cumhuriyet University	1953	8.032
Amasya University	4693	7.319	Çağ University	3066	13.303
Ankara Sosyal Bilimler University	7846	1.934	Çankiri Karatekin University	3006	8.025
Ankara University	752	68.719	Çankaya University	1763	5.906
Ankara Yıldırım Beyazıt University	3743	13.692	Çanakkale On Sekiz Mart University	1750	11.050
Antalya Akev University	17784	3.076	Çukurova University	1927	17.197
Artvin Çoruh University	3844	8.038	Dicle University	2150	30.318
Atatürk University	1091	104.249	Doğuş University	2104	24.496
Atilim University	2089	116.502	Dokuz Eylül University	1033	46.803
Avrasya University	11651	2.630	Dumlupinar University	2550	58.607
Bahçeşehir University	1735	107.692	Düzce University	3250	26.583
Balikesir University	2183	41.026	Ege University	1430	30.777
Bandirma University	7221	5.055	Erciyes University	1863	23.915
Bartin University	3185	17.554	Erzincan Binali Yıldırım University	3916	2.285
Başkent University	1812	14.477	Erzurum Teknik University	3826	3.983
Batman University	3661	155	Eskişehir Anatolia University	1719	194.103
Bayburt University	3724	3.549	Eskişehir Osmangazi University	1485	14.837
Beykent University	2752	78.571	Fırat University	1600	10.887
Gumushane University	3216	15.583	Hacettepe University	641	80.033
Hakkâri University	9789	2.425	Izmir Economy University	2354	58.965
Haliç University	5955	10.869	Izmir Kâtip Celebi University	3776	10.718
Harran University	1880	12.268	Izmir Institute of Technology	1437	8.485
Hasan Kalyoncu University	3339	33.709	Kadir Has University	2580	101.718
Health Sciences University Istanbul	4003	8.705	Kah. Sutcu Imam University	2437	45.162

Table 2. The Ranking Positions and the Number of Social Media Followers of Universities in Turkey in 2017 (Cont.1)

The High. Ed. Institutions	World Ranking	N of Followers	The High. Ed. Institutions	World Ranking	N of Followers
Hitit University	2737	6.471	Karabük University	2405	10.660
Iğdır University	3726	781	Karadeniz Technical University	1371	5.845
Işık University	3099	24.451	Karamanoğlu Mehmetbey University	3181	1.921
İbn Haldun University	6358	4.378	Kars Kafkas University	1988	10.151
İhsan Doğramacı Bilkent University	757	69.452	Kirikkale University	1981	15.960
İnönü University	1960	6.073	Kirklareli University	4003	2.806
Iskenderun Technical University	3901	13.648	Kilis 7 Aralık University	6767	12.004
Istanbul 29 Mayıs University	11916	7.919	Kocaeli University	1770	4.823
Istanbul Arel University	3343	70.538	Koç University	884	87.625
Istanbul Aydin University	1631	126.625	KTO Karatay University	3547	31.035
İstanbul Ayvansaray University	15415	9.931	Maltepe University	3486	18.384
Istanbul Bilgi University	1416	200.656	Manisa Celal Bayar University	3470	35.379
Istanbul Commerce University	3833	50.253	Mardin Artuklu University	6600	2.971
Istanbul Esenyurt University	13829	25.908	Marmara University	1041	89.891
Istanbul Gedik University	6925	22.561	Mehmet Akif Ersoy University	3177	10.827
İstanbul Kent University	16705	185	Mersin University	3616	9.443
Istanbul Kültür University	3494	57.085	Middle East Technical University	473	119.625
İstanbul Medeniyet University	2580	8.706	Mimar Sinan Fine Arts University	2365	5.142
Istanbul Medipol University	2430	85.745	Muğla Sıtkı Koçman University	2116	40.998
İstanbul MEF University	4610	13.493	Munzur University	9075	3.187
Istanbul Sabahattin Zaim University	3872	13.511	Mustafa Kemal University	2513	7.285
Istanbul Şehir University	5392	64.413	Muş Alparslan University	3920	4.764
Istanbul Technical University	604	78.696	Namik Kemal University	2424	8.777
Istanbul University	738	120.186	Necmettin Erbakan University	2463	12.089
Istanbul Yeni Yüzyıl University	7901	13.772	Nevşehir Haci Bekt. Veli University	3143	10.876
Istinye University	7525	10115	Niğde Ömer Halisdemir University	2662	28.162

Table 2. The Ranking Positions and the Number of Social Media Followers of Universities in Turkey in 2017 (Cont.2)

The High. Ed. Institutions	World Ranking	N of Followers	The High. Ed. Institutions	World Ranking	N of Followers
Özyeğin University	1700	59.456	Turkish-German University	7682	172
Pamukkale University	1310	70.359	Ufuk University	4480	4.040
Piri Reis University	3274	8.641	Uludağ University	1317	1.846
Recep Tayyip Erdoğan University	2842	3.905	Uşak University	3110	1.793
Sabanci University	1045	64.902	Uskudar University	3480	128.186
Sakarya University	1409	44.219	Yalova University	3675	9.440
Sanko University	14299	3.048	Yaşar University	2477	64.422
Selçuk University	1381	83.793	Yeditepe University	1841	40.942
Siirt University	3644	8.201	Yildiz Technical University	1097	60.722
Sinop University	2899	13.141	Turkish-German University	7682	172
Suleyman Demirel University	1593	21.902	Ufuk University	4480	4.040
Şırnak University	5015	8.127	Uludağ University	1317	1.846
TED University	2762	18.139	Uşak University	3110	1.793
TOBB Economy and Technology University	1512	33.837	Uskudar University	3480	128.186
Toros University	8568	7.249	Yüksek Ihtisas University	16788	327
Trakya University	2205	11.930	Yüzüncü Yil University	1826	19.311
Turkish Aeronautical Association University	11281	38.354	Zonguldak Bülent Ecevit Univ.	2372	23.771

Sources: Seçkiner & Tahtalioğlu, 2017, pp. 2412-2415

DATA ANALYSIS

Firstly, descriptive statistics were computed in order to obtain detailed information about the data. The values obtained from these tests are given in Table 3. The number of official Facebook account followers ranged from 155 (min) to 200656 (max) for 161 higher education institutions. Moreover, Webometrics rankings varied between 473 and 17784.

Table 3. Descriptive Statistics for Universities in Turkey

Facebook-Followers	*Mean*	*Std. Dev.*	*Median*	*Min.*	*Max.*
	28970.14	36673.57	28970,14	155	200656
Webometrics Ranking	*Mean*	*Std. Dev.*	*Median*	*Min.*	*Max.*
	3976.37	3520,15	2951	473	17784

Secondly, a statistical correlation test was applied in order to understand the relationship between official Facebook account popularity and Webometric ranking achievement for 161 higher education institutions in Turkey, as seen in Table 4.

Table 4. Correlation Test Results

Spearman's rho	***Webometrics Ranking***	Correlation Coefficient	1.000	.487**
		Sig. (2-tailed)	-	.000
		N	161	161
	Facebook Follows	Correlation Coefficient	1.000	.487**
		Sig. (2-tailed)	-	.000
		N	161	161

**Correlation is found to be significant at p <.001.

Before correlation test analysis was conducted, necessary arrangements were made in the data so that the university with the highest success ranking in Webometrics would have the highest score by weighing the ranking success of the universities. Since the data were not normally distributed, a Spearman correlational test was applied to the data. The correlational analysis revealed a significant positive correlation between Webometrics ranking and Facebook follower counts (r = .487, p < .001) This result indicates that there exists a positive relationship between "Webometrics Ranking" and "Facebook-Follower counts."

As a result, according to Spearman's rho and significance values, the hypothesis Ho (There is no relationship between official Facebook account popularity and Webometric ranking achievement for higher education institutions in Turkey.) is not accepted at a significance level of .01 (2-tailed). Therefore, it can be said that the H_1 hypothesis (H_1= There is a relationship between official Facebook account popularity and Webometric ranking achievement for higher education institutions in Turkey.) is accepted at .001 significance levels according to statistical analysis results in this study.

RESULTS AND DISCUSSION

There are many different institutions that focus on doing the ranking of international higher education, and their reports are highly taking care of higher education institutions and their partners as an indicator of institutional achievement. Therefore, the high governance of the higher education institutions implication different strategies for being a better position in these ranking for their institutions. Publicity and brand awareness could be one of these unique strategies. For this reason, it is seen that institutional public relations activities are given more importance day by day by higher education institution administrators.

Social media tools are going to be pioneer channels to conduct public relations (PR) practices. Such applications can be seen in many different sectors such as media, politics, business, advertisement, and even the sports sector use social media tools for doing PR activities. At this point, it is essential to understand that they are relevant to social media tools for doing public relations activities by higher education institutions. In other words, public relations (PR) literature may be enlarged by conducting academic studies on social media tools.

This study is critical because it contributes to the PR literature on universities' PR practices. Universities are priority institutions to have a million members, such as students, instructors, and external followers from different points in society. These institutions are one of society's building blocks. However, the PR literature has some gaps related to universities' PR works. This study's contributions should be discussed concerning the progress made in knowledge about the relationship between the successes in Webometrics ranked achievement and the number of followers on universities' official Facebook sites in Turkey. The results obtained from the Spearman correlation analysis indicate that there exists a positive relationship between Webometrics ranked achievement position, and Facebook follower counts for the higher education institutions in Turkey. Of course, it cannot be said that the official Facebook account popularity has a direct effect on the success ranking position in the Webometrics, but there is a positive relation. Put differently, it seems that social media presence and activities of higher education institutions are valuable. Hence, it can be claimed that higher education institutions should try to meet the requirements for gaining popularity on social media channels. Furthermore, universities' social media channels should be managed through effective and informed corporate governance plans that are formulated by decision-makers and top managers in higher education institutions.

SUGGESTIONS

Universities should make a master plan for PR practices on their official pages and social media channels. This plan should have a structure that includes the social media programs of the universities. Then, the university's services and activities should be planned to cover all steps to meet users' demands on social media. Moreover, rectories in universities should encourage people of interest who are students, administrative staff, and academicians to be active on social media tools. During this period, technical personnel can aid these parties to effectively use social media. The members of the universities' institutional management hierarchy need to support the use of social media tools. Studies on product deployment across

the enterprise, enhancing staff qualities, search for cooperation, and innovation should all be encouraged in universities. It should not be forgotten that a good database is the most significant advantage of the social media process. This study addresses the relationship between Turkish Universities' success in the Webometrics ranking and their public relations practices by social media channels. Future research may sample with universities that have been on the list of Webometrics rankings from different countries as well. Also, studies may have both different variables and ranking systems to understand how the effect of PR practices by social media tools might be better positioned in international ranking systems.

REFERENCES

Adi, A. (2015). Occupy PR: An analysis of online media communications of occupy Wall Street and occupy London. *Public Relations Review*, *41*(4), 508-514. doi:10.1016/j.pubrev.2015.06.001.

Adi, A., Miah, A. (2011). Open source protest: Human rights, online activism and the Beijing 2008 Olympic Games. In Lester, L., Cottle, S. (Eds.), *Transnational protest and the media: Toward global civil society* (pp. 213-224). New York, NY: Peter Lang.

Adi, A., & Moloney, K. (2012). The importance of scale in occupy movement protests: A case study of a local occupy protest as a communication tool through public relations and social media. *Revista Internacional De Relaciones Públicas*, *4*(2), 97-122.

Allagui, I., & Breslow, H. (2016). Social media for public relations: Lessons from four effective cases. *Public Relations Review*, *42*(1), 20-30. doi:10.1016/j.pubrev.2015.12.001

Anisimova O., Vasylenko V., Fedushko S. (2019). Social networks as a tool for a higher education institution image creation. *CEUR Workshop Proceedings*, *2392*, 54-65. http://ceur-ws.org/Vol-2392/paper5.pdf

Avidar, R. (2011). Israeli public relations and the internet. *Israel Affairs*, *17*(3), 401-421.

Basil, D. Z., & Erlandson, J. (2008). Corporate social responsibility website representations: A longitudinal study of internal and external self-presentations. *Journal of Marketing Communications*, *14*(2), 125-137. doi:10.1080/13527260701858497

Callison, C. (2003). Media relations and the internet: How fortune 500 company web sites assist journalists in news gathering. *Public Relations Review*, 29(1), 29-41. doi:10.1016/S0363-8111(02)00196-0

Chen, K., & Chan, A. H. S. (2014). Predictors of geotechnology acceptance by older Hong Kong Chinese. *Technovation*, 34(2), 126-135. doi:10.1016/j.technovation.2013.09.010

Chen, X., Chen, O, & Chen, N. (2012). How public relations functions as news sources in China. *Public Relations Review*, *38*(5), 697-703. doi:10.1016/j.pubrev.2012.04.007

Childers, L. (1989). J. Grunig's asymmetrical and symmetrical models of public relations: Contrasting features and ethical dimensions. *IEEE Transactions on Professional Communication*, *32*(2), 89-93.

Constantinides, E., & Stagno, M. C. Z. (2012). Higher education marketing: A study on the impact of social media on study selection and university choice. *International Journal of Technology and Educational Marketing (IJTEM)*, *2*(1), 41-58.

Curtis, L., Edwards, C., Fraser, K. L., Gudelsky, S., Holmquist, J., Thornton, K., & Sweetser, K. D. (2010). Adoption of social media for public relations by non-profit organizations. *Public Relations Review*, *36*(1), 90-92. doi:http://dx.doi.org/10.1016/j.pubrev.2009.10.003

De Bussy, N. M., & Wolf, K. (2009). The state of Australian public relations: Professionalization and paradox. *Public Relations Review*, *35*(4), 376-381. doi:10.1016/j.pubrev.2009.07.005

Desai, S., & Han, M. (2019, April). Social media content analytics beyond the text: A case study of university branding in Instagram. Proceedings of the 2019 ACM Southeast Conference, 94-101.

DiStaso, M. W., McCorkindale, T., & Wright, D. K. (2011). How public relations executives perceive and measure the impact of social media in their organizations. *Public Relations Review*, *37*(3), 325-328.

Doolan, D. M., & Froelicher, E. S. (2009). Using an existing data set to answer new research questions: A methodological review. *Research and Theory for Nursing Practice*, *23*(3), 203-215.

Dougall, E. K. (2006). Tracking organization public relationships over time: A framework for longitudinal research. *Public Relations Review*, *32*(2), 174-176. doi:10.1016/j.pubrev.2006.02.012

Ridley, D. (2017). How today's colleges and universities are using social media. *Retrieved from Vital Design* https://vtldesign.com/digital-marketing/social-media/how-todays-colleges-and-universities-are-using-social-media.

Eger, L., Egerova, D., & Kryston, M. (2019). Facebook and public relations in higher education. *Romanian Journal of Communication and Public Relations*, *21*(1), 7-30.

Esrock, S. L., & Leichty, G. B. (1998). Social responsibility and corporate web pages: Self-presentation or agenda setting? *Public Relations Review*, *24*(3), 305-319.

Esrock, S. L., & Leichty, G. B. (2000). Organization of corporate web pages: Publics and functions. *Public Relations Review*, *26*(3), 327-344.

Eyrich, N., Padman, M.L., & Sweetser, K. D. (2008). PR practitioners' use of social media tools and communication technology. *Public Relations Review*, *34*(4), 412-414. doi:10.1016/j.pubrev.2008.09.010.

Frame, A., & Brachotte, G. (2015). Le tweet stratégique: Use of Twitter as a PR tool by French politicians. *Public Relations Review*, *41*(2), 278-287. doi:10.1016/j.pubrev.2014.11.005.

FUTURARTS (2011). Üniversitelerin sosyal medya kullanımı, Retrieved from: https://futurarts.wordpress.com/ (Access Date: August 24, 2017).

Gümüş, N., Türkel, E. ve Gözde, Ş. E. N. (2015). Üniversite tercihlerinde öğrencilerin yararlandıkları bilgi kaynaklarının belirlenmesine yönelik kastamonu üniversitesi öğrencileri üzerinde bir araştırma. *İstanbul Gelişim Üniversitesi Sosyal Bilimler Dergisi*, *2*(2), 43-67.

Hallahan, K. (2001). Improving public relations web sites through usability research. *Public Relations Review*, *27*(2), 223-239. doi:10.1016/S0363-8111(01)00082-0.

Hox, J.J., & Boeije, H.R. (2005). *Data collection, primary versus secondary*. Encyclopedia of Social Measurement, 593-599.

Hou, Z., Zhu, Y., & Bromley, M. (2013). Understanding public relations in China: Multiple logics and identities. *Journal of Business and Technical Communication*, *27*(3), 308-328. doi:10.1177/1050651913479926.

Internet World Stats. (2015). Retrieved from https://www.internetworldstats.com/. (Access Date: June 13, 2020).

Jun, J. (2011). How climate change organizations utilize websites for public relations. *Public Relations Review*, *37*(3), 245-249. doi:10.1016/j.pubrev.2011.04.001.

Kent, M. L. (2010). Directions in social media for professionals and scholars. In R. L. Heath (Ed.), *Handbook of Public Relations (2nd ed)*, pp. 643-656. Thousand Oaks, CA: Sage

Kilic, A, O., & Ataberk, U. (2012). Social media adoption among Turkish public relations professionals: A survey of practitioners. *Public Relations Review*, *38*(1), 56-63. doi:10.1016/j.pubrev.2011.11.002.

Kimmons, R., Veletsianos, G., & Woodward, S. (2017). Institutional uses of Twitter in US higher education. *Innovative Higher Education*, *42*(2), 97-111

Lahav, T. (2014). Public relations activity in the new media in Israel 2012: Changing relationships. *Public Relations Review*, *40*(1), 25-32. doi:10.1016/j.pubrev.2013.12.007.

Lee, H.-Y., Ahn, H., Kim, H. K., & Lee, J. (2014). Comparative analysis of trust in online communities. *Procedia Computer Science*, 31, 1140-1149. doi:10.1016/j.procs.2014.05.370.

Lee, H., Park, Sun- A., Lee, Young Ah., & Cameron, G.T. (2010). Assessment of motion media on believability and credibility: An exploratory study. *Public Relations Review*, *36*(3), 310-312. doi:10.1016/j.pubrev.2010.04.003.

Lee, W., Xiong, L., & Hu, C. (2012). The effect of Facebook users' arousal and valence on intention to go to the festival: Applying an extension of the technology acceptance model. *International Journal of Hospitality Management*, *31*(3), 819-827. doi:10.1016/j.ijhm.2011.09.018.

Lovejoy, K., Waters, R. D., & Saxton, G. D. (2012). Engaging stakeholders through twitter: How non-profit organizations are getting more out of 140 characters or less. *Public Relations Review*, *38*(2), 313-318. doi:http://dx.doi.org/10.1016/j.pubrev.2012.01.005.

Magee, T., Lee, S.M., Giuliano, K.K., & Munro, B. (2006). Generating new knowledge from existing data: The use of large data sets for nursing research. *Nursing Research*, *55*(2), 50-56.

Maresova, P., Hruska, J., & Kuca, K. (2020). Social media university branding. *Education Sciences*, *10*(3), 74.

McAllister-Spooner, S. M. (2009). Fulfilling the dialogic promise: a ten-year reflective survey on dialogic internet principles. *Public Relations Review*, *35*(3), 320-322.

Momoc, A. (2013). Social media-PR tools for Romanian politicians? *Procedia Social and Behavioral Sciences*, *81*, 116-121. doi:10.1016/j.sbspro.2013.06.398.

Moore, J.H., & Carlson, A. (2013). Reaching the audience: New communication technology practices in college sports public relations. *Journal of Global Scholars of Marketing Science*, *23*(1), 109-126. doi:10.1080/21639159.2012.744515.

Myers, C. (2015). An analysis of social media ownership litigation between organizations and PR practitioners. *Public Relations Review*, *41*(4), 515-522. doi:10.1016/j.pubrev.2015.05.003.

Paek, H.-J., Hove, T., Jung, Y., & Cole, R. T. (2013). Engagement across three social media platforms: An exploratory study of a cause-related PR campaign. *Public Relations Review*, *39*(5), 526-533. doi:10.1016/j.pubrev.2013.09.013.

Rubin, A. (2011). Living in the age of emotional rationality: Wendell bell, social media and the challenges of value change. *Futures*, *43*(6), 583-589. doi:10.1016/j.futures.2011.04.006.

Sanderson, J., Barnes, K., Williamson, C., & Kian, E. T. (2016). 'How could anyone have predicted that #askjameis would go horribly wrong?' Public relations, social media, and hashtag hijacking. *Public Relations Review*, *42*(1), 31-37. doi:10.1016/j.pubrev.2015.11.005.

Seçkiner, E. B., & Tahtalioğlu, H. (2017). Türkiye'de üniversitelerin sosyal medya kullanimi: Gazi Üniversitesi örneği. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakülte Dergisi*, 22(Kayfor 15 özel sayısı), 2405-2423.

Shin, J.-H., Carithers, H., Lee, S., Graham, M., & Hendricks, N. (2013). The current trends in social media usage at corporations: analysis of Facebook fan pages of fortune 500 companies. In Al-Deen, H. S. N. & Hendricks, J. A. (Eds.), Social media and strategic communications (pp. 62-79). London: Palgrave Macmillan UK.

Stewart, D. W., & Kamins, M.A. (1993). Secondary research: Information sources and methods, 2nd ed. Newbury Park, CA: Sage.

Sommerfeldt, E. J., Kent, M. L., & Taylor, M. (2012). Activist practitioner perspectives of website public relations: Why aren't activist websites fulfilling the dialogic promise? *Public Relations Review*, *38*(2), 303-312. doi:http://dx.doi.org/10.1016/j.pubrev.2012.01.001.

Toledano, M., & Avidar, R. (2016). Public relations, ethics, and social media: A cross-national study of PR practitioners. *Public Relations Review*, *42*(1), 161-169. doi:10.1016/j.pubrev.2015.11.012.

Toledano, M., & Wolland, L. (2011). Ethics 2.0: Social media implications for professional communicators. ethical space: *The International Journal of Communication Ethics*, *8*(3-4), 43.

Triantafillidou, A., & Yannas, P. (2014). How public relations agencies in Greece respond to digital trends. *Public Relations Review*, *40*(5), 815-817. doi:10.1016/j.pubrev.2014.09.004.

Valentini, C. (2015). Is using social media "Good" for the public relations profession? A critical reflection. *Public Relations Review*, *41*(2), 170-177. doi:http://dx.doi.org/10.1016/j.pubrev.2014.11.009.

Valentini, C., & Kruckeberg, D. (2012). New media versus social media: A conceptualization of their meanings, uses, and implications for public relations. In S. Duhe (Ed.), *New Media and Public Relations*, (pp.3-12). Newyork: Peter Lang.

Van Der Meer., T. G. L. A., Verhoeven, P., Beentjes, H., & Vliegenthart, R. (2014). When frames align: the interplay between PR, news media, and the public in times of crisis. *Public Relations Review*, *40*(5), 751-761. doi:10.1016/j.pubrev.2014.07.008.

Van Leuven, S., Deprez, A., & Raeymaeckers, K. (2013). Towards more balanced news access? a study on the impact of cost-cutting and web 2.0 on the mediated public sphere. *Journalism*, *15*(7), 850-867. doi:10.1177/1464884913501837.

Verhoeven, P., Tench, R., Zerfass, A., Moreno, A., & Verčič, D. (2012). How European PR practitioners handle digital and social media. *Public Relations Review*, *38*(1), 162-164. doi:10.1016/j.pubrev.2011.08.015.

Waters, R.D., Burnett, E., Lamm, A., & Lucas, J. (2009). Engaging stakeholders through social networking: how non-profit organizations are using Facebook. *Public Relations Review*, *35*(2), 102-106. doi:10.1016/j.pubrev.2009.01.006.

Webometrics. (2017). *Ranking web of universities in Turkey*. Retrieved from http://www.webometrics.info/en/Asia/Turkey (Access Date: June 10, 2020).

Webometrics. (2021a, January). *Current calculation of indicators. Ranking web of universities*. Retrieved from http://www.webometrics.info/en/Methodology. (Access Date: June 10, 2020).

Webometrics. (2021b, January). *Methodology. Ranking web of universities*. Retrieved from http://www.webometrics.info/en/Methodology. (Access Date: June 10, 2020).

Webometrics. (2021c, January). *Philosophy and justification*. ranking web of universities. Retrieved from http://www.webometrics.info/en/Methodology. (Access Date: June 10, 2020).

Willis, P. (2015). Preach wine and serve vinegar: public relations, relationships, and doublethink. *Public Relations Review*, *41*(5), 681-688. doi:10.1016/j.pubrev.2014.02.004.

Xifra, J., & Huertas, A. (2008). Blogging PR: An exploratory analysis of public relations weblogs. *Public Relations Review*, *34*(3), 269-275. doi:10.1016/j.pubrev.2008.03.022.

Ufuk, M. Üniversitelerin yeni yıldızı sosyal medya. Retrieved from http://www.Yeniakit.Com.Tr/Haber/Universitelerin-Yeni-Yildizi-Sosyal-Medya-11993.Html (Access date: February 24, 2021).

Zietsma, C., & Winn, M. I. (2007). Building chains and directing flows: Strategies and tactics of mutual influence in stakeholder conflicts. *Business & Society*. *47*(1), 68-101.