





Abant Sosyal Bilimler Dergisi
Journal of Abant Social Sciences

2023, 23(1): 646-660, doi: 10.11616/asbi.1219714



Some Findings Regarding the Use of Social Media as a Public Relations Tool: Example of TR 42 Region Municipalities

Sosyal Medyanın Halkla İlişkiler Aracı Olarak Kullanımına İlişkin Bazı Tespitler: TR 42 Bölgesi Belediyeleri Örneği

Hasan TUTAR¹ , İsmail Hakkı PARLAK² 

Geliş Tarihi (Received): 15.12.2022

Kabul Tarihi (Accepted): 31.01.2023

Yayın Tarihi (Published): 30.03.2023

Abstract: Developments in information and communication technologies accelerate the transition from traditional management to e-governance. In this process, social media expands institutions' communication and interaction opportunities through highly accessible communication tools and platforms. Social media plays a vital role in municipalities' communication, interaction, recognition, and promotion activities, accelerating the transition from a traditional metropolis to an e-municipality. This study it is aimed to determine the social media usage levels of TR 42 region municipalities. The study analyzed the use of social media in the service delivery of the municipalities in the TR 42 region. The research data were obtained from the web pages of the municipalities forming the sample. Research findings show that municipalities actively use social media in the context of e-governance, but they need to make more progress in this area.

Keywords: E-Governance, E-Government, E-Municipality, Social Media.

&

Öz: Bilgi ve iletişim teknolojileri alanındaki gelişmeler geleneksel yönetimden e-yönetişime doğru bir geçişi hızlandırmaktadır. Bu süreçte sosyal medya, yüksek erişilebilir iletişim araçları ve platformlar üzerinden kurumların iletişim ve etkileşim imkanını genişletmektedir. Belediyelerin iletişim, etkileşim tanıtma ve tanıtma faaliyetlerinde sosyal medya önemli işlev görmektedir, bu durum geleneksel belediyeçilikten e-belediyeçiliğe doğru bir geçişi hızlandırmaktadır. Bu çalışmada TR 42 bölgesi belediyelerin sosyal medyayı kullanım düzeylerinin belirlenmesi amaçlanmıştır. Araştırmada TR 42 bölgesindeki belediyelerin hizmet sunumunda sosyal medya kullanım biçimleri analiz edilmiştir. Araştırmanın verileri örneklemi oluşturan belediyelerin web sayfalarından elde edilmiştir. Araştırma bulguları, belediyelerin e-yönetişim bağlamında sosyal medyayı aktif olarak kullandıkları, ancak bu alanda yeterince ilerleme göstermediklerini göstermektedir.

Anahtar Kelimeler: E-Yönetişim, E-Devlet, E-Belediyeçilik, Sosyal Medya.

Atıf/Cite as: Tutar, H., Parlak, İ. H. (2023). Some Findings Regarding the Use of Social Media as a Public Relations Tool: Example of TR 42 Region Municipalities. *Abant Sosyal Bilimler Dergisi*, 23(1), 646-660. doi: 10.11616/asbi.1219714

İntihal-Plagiarizm/Etik-Ethic: Bu makale, en az iki hakem tarafından incelenmiş ve intihal içermediği, araştırma ve yayın etiğine uyulduğu teyit edilmiştir. / This article has been reviewed by at least two referees and it has been confirmed that it is plagiarism-free and complies with research and publication ethics. <https://dergipark.org.tr/tr/pub/asbi/policy>

Copyright © Published by Bolu Abant İzzet Baysal University, Since 2000 – Bolu

¹ Prof. Dr., Hasan Tutar, Bolu Abant İzzet Baysal Üniversitesi, hasantutar@ibu.edu.tr. (Sorumlu Yazar).

² Dr. Öğr. Üyesi, İsmail Hakkı Parlak, Bolu Abant İzzet Baysal Üniversitesi, ismail.parlak@ibu.edu.tr.

1. Introduction

Based on the interaction and cooperation of social actors, the understanding of governance based on the effective delivery of public services transforms the knowledge of public administration and local government with the opportunities provided by information and communication technologies. Governance includes mechanisms to ensure capability, transparency, and systems and processes to make decisions and allocate resources (Graham and Elizabeth, 2013: 13; Yates and Paquette, 2011: 9; Mergel, 2013: 331). Governance is developing as a model based on information and communication technologies in forming and presenting public policies. Local governance refers to the systems and processes used to manage and direct local governments. Corporate governance is to ensure decision-making processes and resource allocation, as well as accountability and transparency in local governments and organizations (Gordon, 2012: 5; Skoric et al., 2016: 1825; Demirel, 2010: 68). Due to developments in the field of information and communication technologies, social media is becoming an essential channel of online interactive participation, and local governments allow for the social and political involvement of citizens. Social media, which has become a crucial element of governance, provides a moist layer to both the patch of bureaucratic work and the resentment of democracy on the ground as the digital literacy rate of the citizens increases.

Governance, which has gained importance with the transition to the information society, represents the understanding of managing together based on the participation of service providers and service recipients. It is based on the fact that governance, management, and decision-making processes in the public sector are carried out with the cooperation and participation of all stakeholders. It requires managers to act in a compromising, transparent, accountable, effective, and responsible management approach. E-governance, which has started to be implemented by taking advantage of the opportunities provided by the information and communication technologies of governance, is a network-based governance understanding and application. To increase the functionality of e-governance, it should be supported by information and communication technologies. The use of social media technologies in municipalities, which are among the most important representatives of public service delivery at the local level, increases the functionality of e-governance applications (Demirel, 2010: 5; Graham and Elizabeth, 2013: 13; Henden, 2015: 4). The importance of e-governance for the citizen is to provide easy access to the public services offered at any time of the day and from anywhere, to reduce the cost of services and to increase citizen satisfaction.

Citizens can reach public institutions and organizations with no difference in time and space thanks to e-governance in general and social media in particular also provides the opportunity to participate in policy-making processes. This opportunity contributes to the strengthening of local democracy and the development of participatory governance. Governance, which has principles such as openness, participation, accountability, effectiveness, and compliance (economic and social), forms the basis of e-government and e-municipality practices. E-governance, which reflects the new public management approach, transforms the way the public organizes and conducts business with the opportunities offered by information and communication technologies (Tejasvee et al., 2010: 299; Riley and Law, 2005; Gordon, 2012: 5). Some of the expressions in the definitional framework on the concept of e-governance are shaped by municipal-citizen interaction and free distribution of information based on information and communication technologies. Social media, which has become an integral part of e-government in recent years, provides the opportunity to act with common wisdom and contributes to increasing the accuracy of decisions and making faster decisions. One of the main benefits of active use of well-designed web tools and social media is reduced service costs (Chen and Gant, 2001: 344; Şahin, 2007; Çoruh, 2009; Archer (2007: 303-304). For municipalities to actively benefit from social media in e-municipalism, they should have sufficient expert personnel, and municipal web tools should be well designed; citizens' knowledge and skills in e-government and digital literacy rate should be high.

The indispensability of social media in governance and e-governance is that it provides two-way and simultaneous information and information. Applications such as Facebook, Twitter, and Instagram,

which are social media tools that express the platforms where people can communicate and share, and various institutions in the internet environment increase the possibility of e-municipalism. The fact that local governments are units that directly serve the public increases the importance of public relations activities in local governments. Thanks to e-Municipalism, the opportunity to benefit from web tools and social media applications in recognition and promotion activities, which are public relations activities, is expanding (Tarhan, 2007). This study aims to determine in which areas and at what level of activity social media is used in e-municipality in the TR 42 region. For this purpose, the research's main question was "what is the level of use of social media by the municipalities constituting the research sample." The study, planned as deterministic/descriptive research, analyzes the service delivery forms and interaction situations with the citizens in the context of e-governance of the municipalities constituting the sample through social media platforms.

2. Literature Review and Background

The concept of governance, which has started to be used with the transition to the information society, reflects an understanding and practice that radically changes state-citizen relations. Governance refers to the processes and mechanisms that govern and oversee the functioning of an organization. The concept of governance encompasses decision-making and implementation processes in institutions and organizations and is generally based on a democratic management approach. Governance aims to bring to the fore a fair and accountable management approach that respects human rights. Governance; With the active use of information and communication technologies, it is transparent and responsible management responsible among stakeholders such as the public, local government, citizens, non-governmental organizations, and the private sector. E-governance is a management approach based on transferring services offered in the public sector to digital environments and the direct participation of stakeholders in management processes. E-governance is based on the understanding and practice of actively using the internet and social media tools to provide public services and access information (Graham and Elizabeth, 2013: 13; Kanungo (2004; Demirel, 2010: 71). E-governance is of great importance not only in terms of the execution of services but also in terms of strengthening local democracy. While the form of service delivery changes due to the development in information and communication technologies, Concepts such as participation, e-government, and e-democracy gain importance as content (Demirel, 2010; Yıldırım, 2010: 43). Beyond the transfer of e-governance service delivery to the electronic environment; different managerial actors in the forming, implementation and supervision of public policies; It is a model adapted to the information age of the governance approach based on the introduction of online connections. Thanks to e-governance, citizens have increased access to online services.

Within the framework of the public policies of local governments in Turkey, YERELNET and YERELBİLGİ projects were implemented after the 1990s to develop e-government applications. The Local Governments Knowledge Base Project (YERELBİLGİ) aims to collect all data on local governments in Turkey in an electronic database and to use these data in decision-making mechanisms through analytical analysis. The YERELNET project functions as an information pool aiming at the sharing of knowledge and experience of autonomous local governments at the country level (Güler, 2001: 3; Nohutçu and Demirel, 2005: 46). The primary purpose of this model is to establish two-way and interaction-oriented communication with the public (Tarhan and Minister, 2013: 26; Yatkın, 2006: 371). Informing the public about the works of the municipality and reflecting the people's views of the administration requires two-way communication and interaction. Social media tools offer management an excellent opportunity to meet this need. In public relations practices, web pages can be used as a corporate mass communication tool as well as bureaucratic procedures (Tarhan and Minister, 2013: 26; Guçdemir, 2012: 83). When websites, which are used as public relations tools in municipalities, are supported by social media and mobile applications, the interaction between the public and the municipality increases.

Municipal activities that use web tools, mobile applications, and social media as public relations tools are analyzed within the framework of four models. These models are the press agency, promotion, general

information, two-way asymmetrical communication, and two-way symmetrical communication (Grunig and Hunt, 1984: 13).

Press agency/publicity model: This public relations model was implemented between 1850 and 1900. This model functions as one-way propaganda. Practitioners generally aim to disseminate the information of the relevant organization to the target audience through incomplete information. Complete informal optional for communication to be forwarded e-way from organization to destination. Since this model is for propaganda and persuasion, no feedback is expected in messages sent to the public (Grunig and Hunt, 1984: 21; Seitel, 2004: 55-56). This model is preferred when it is desired to create a positive effect in public relations, especially in mass media. (Grunig and Hunt, 1984: 25; Varol, 2002: 60). Municipalities prefer to use this model to influence the public in their election campaigns.

Public information model. The primary purpose of this model is to disseminate information about the organization and promote the organization without worrying about persuasion. In this model, announcements are made one way to inform and enlighten the public. The primary purpose of this model is to provide information about the public entity. The main thing here is to educate the public briefly. The public information model reflects the conditions of the first world war years 1900-1920. In this model, communication is a one-way process. The general information model is still widely used in places where there is an antidemocratic management approach (Varol, 2002: 58; Grunig and Hunt, 1984: 21). In municipalities, the public information model is applied in its general form, announcing information about the decisions taken by the municipalities and the activities they carry out. Since the public information model aims to provide unilateral details, it does not attach importance to the public's demands, complaints, and opinions.

Two-way asymmetrical model. Although the primary purpose of the two-way asymmetric communication model is based on the technique of persuasion, it is actually to win the support of the target audience, even to manipulate it. In this node, communication is bidirectional but asymmetrical. The goal is to create a positive change of mind in the target audience. The two-way asymmetric model was widely used between 1960 and 1970 (Grunig and Hunt, 1984: 25). In this period, when there were cold war conditions and social media was not used yet, there was a remarkable symmetry difference between institutions and organizations and citizens. The citizen is a passive receiver facing authoritarian and domineering states and institutions. Communication flows unidirectionally from the state and institutions to the citizen. In this model, the information given on any subject is for manipulation purposes, not for a democratic management approach.

Two-way symmetrical communication model: The two-way symmetrical model is a public relations model that includes negotiation techniques to change the attitudes and behaviors of institutions, organizations, and target groups. In two-way symmetrical communication, there is a symmetrically balanced situation between the public and the institutions, not hierarchical organizations. In this model, public relations specialists act as mediators between institutions and are in a symmetrical position for both parties. This model is based on being on the same plane, duality, mutual understanding, and symmetry (Grunig and Hunt, 1984: 25). The two-way symmetrical model aims to be two-way and interaction-oriented in communication with citizens in terms of municipalities. The primary purpose is to include the citizens' requests, suggestions, complaints, and opinions and to ensure the participation of the people in the decisions (Tarhan, 2008: 137). Unlike asymmetrical communication, which is based only on informing the public and is established as one-way, it reflects an understanding that enables the public's participation in decisions based on the feedback and dialogues received from the public's media. One of the most important features of internet technology and mobile applications is that they allow two-way interaction. Recently, the possibility of two-way symmetrical communication has been increasing to the extent of the prevalence of social media.

In a process where applications such as e-government, e-municipality, internet technologies, and social media are used as public relations tools, only two-way symmetrical communication among the communication models mentioned above remains valid (Graham and Avery, 2013: 5). ; Yates and

Paquette, 2011). Internet-based applications and developments in communication technologies in online public relations in municipalities bring many innovations to public relations practices today. Municipalities can use these new technologies to inform the public about the services they offer, to determine the people's opinions, and to ensure their participation in democratic processes. Internet-based and mobile applications they use in e-municipality, and public relations activities in municipalities are briefly explained below:

Corporate websites. Corporate websites are usually run by an organization or company and are created to provide information about that organization or company. Such sites promote the organization's products and services, provide contact information, and facilitate citizens' transactions. The Internet is one of the most preferred data relations tools to ensure that data is transferred to a familiar environment quickly and effectively. In municipalities, corporate websites are an essential medium where public relations fulfill the function of recognition and promotion (Çakmak and Kilci, 2011: 247; Rainy, 2011: 7). Supporting this channel with social media increases the possibility of two-way symmetrical communication with citizens.

Recognition tools: The primary purpose of the promotional tools on the corporate websites of municipalities is to learn the opinions, suggestions, complaints, and wishes of the public. Corporate websites, which are a tool directly under the municipality's control, can easily access first-hand information from mobile applications and web pages. In this way, municipalities have the opportunity to direct their services and policies thanks to the feedback they receive from the public. The tools and methods used by municipalities to be recognized on their websites are telephones, fax and e-mail addresses, messages to the president, request and complaint line, surveys, and guest books.

Promotional tools: The tools and methods used to promote on municipal websites are as follows; municipality administration, promotion and announcement of services, information about social and cultural events, city council decisions, promotion and access opportunities of the units within the municipality, corporate news about the municipality, basic information about the province where the municipalities are located, and their cultural values, touristic places, and accommodation facilities are essentially promotional tools.

In e-municipalism, the tools and methods used in recognition and promotion consist of moving the traditional administrations to the web page and social media. Municipalities receive the requests, complaints, and opinions of the public through the applications on their corporate websites. On the other hand, they can inform the public about the activities they have carried out or will perform. E-municipality, press, and public relations units should use mobile and social media application feedback as recognition tools.

Press agency and public relations unit: The existence of the team is to ensure that public relations activities occur within a system. Especially metropolitan municipalities establish a separate press and public relations unit with the status of a directorate to increase interaction with the public. The use of web tools that make it possible to access these units on websites increases the functionality of this unit.

Mobile applications: A hairy is a software application developed for phones, tablet computers, and other mobile devices. With the inclusion of corporate applications on mobile devices, various information, maps, and visual and audio contents of the institutions are used as public relations tools in these applications (mobilsiad.org). In the e-municipality, mobile applications can promote services and receive citizens' requests, complaints, suggestions, and opinions. In this way, municipalities can receive first-hand and direct information. Integrating e-municipality services into this mobile application and introducing them facilitates the citizens' transactions and makes the municipality more accessible.

Social media. Social media is a platform of information, ideas, and thoughts that people share by communicating over the Internet. These platforms often consist of websites such as social networking sites, forums, and blogs. Social media creates a network where people can connect and interact worldwide. Social media can be used functionally in e-municipalism, which enables municipalities to provide their services more effectively by using the Internet and other digital technological tools (Jarvis,

2012: 165; Hrdinová et al., 2010: 12). Thanks to this method, municipalities become more easily accessible and can meet the needs of citizens more quickly. While social media makes the services of municipalities more efficient, it also allows citizens to benefit from services more efficiently. Social media tools can be used in an integrated manner for corporate web pages. Thanks to social media tools, in contrast to unidirectionality, bi-directionality and instant communication can be provided between institutions and the target audience. Municipalities can announce their activities and create their community through Facebook, Twitter, Instagram, LinkedIn, and other social networks.

There are some negative and positive aspects of using social media in municipalities. However, the excess of positive aspects ensures the active use of social media (Dorris, 2007; Graham and Avery, 2013: 11; Haro-de-Rosario, 2018: 33). The negative aspects of using social media can be in the form of information pollution, addiction, security problems and cyberbullying. The positive aspects of using social media and mobile devices in e-municipality applications are high. The benefits of social media in e-municipalism are, first and foremost, the availability of access, sharing of news and information, developing of a participatory and democratic management approach, ensuring transparency, effectiveness in the delivery of public services, saving on the cost of services, campaign creation, transparency, and accountability, ensuring the effective management participation of citizens, quick and effective solution of crises. Effective execution of e-government services can include providing citizen participation through social media.

3. Materials and Method

3.1. Research Design

Content analysis is the scientific analysis and technique of all kinds of content frequently used in the field of social sciences and has the quality of secondary data (Loomis et al., 2021; Neuendorf, 2002: 47; Ültay, 2017). Content analysis, as a statistical semantic science of social sciences, is a scientific reporting technique that classifies all kinds of content and signs and presents what these signs contain together with the judgments of the researcher. Content analysis is aimed to show any content systematically and quantitatively, and an unbiased, systematic, and quantitative description of any symbolic content is made. In this analysis technique, the results of a series of valid interpretations extracted from the text are interpreted using quantitative expressions, tables, and graphs. Content analysis, frequently used in social sciences, is presented systematically by summarizing any text, such as books, book chapters, letters, historical documents, newspaper headlines, and articles, with coding based on specific rules. Content analysis is used to quantitatively analyze all kinds of data with the visual appearance of a document, picture, photograph, logo, banner, emblem, or web page, which are examined as secondary sources (Cohen et al., 2007: 57; Cleave et al., 2017; López-Bonilla et al., 2020). The general purpose of content analysis studies is to guide future studies and identify general content trends. Thus, the general tendency is shown to researchers who want to work in the relevant field (Cohen et al., 2007: 78; Tutar & Erdem, 2022, 345; Jayarajah et al., 2014; Lin et al., 2014). In the analysis process, the researcher includes verifiable, transferable, and reliable data related to the research problem. The data used in the content analysis are secondary and should be produced independently of the researcher, "unresponsive" and documented (Geray, 2006: 183; Bengtsson, 2016). This research is designed as a content analysis because of the problem and research question. This study aimed to determine the social media usage status of the Kocaeli Sub-region (TR42), Kocaeli Metropolitan Municipality, Sakarya Metropolitan Municipality, Düzce Municipality, Bolu Municipality, and Yalova municipalities, which is one of the 26 statistical sub-regions of Turkey.

3.2. Sample of Research

The study sample consists of the region-coded TR 42 in the Statistical Classification of Regional Units of Turkey (NUTS). The primary purpose of these regional units is to collect statistics on a regionally based basis, to conduct socio-economic analyses, and to create the framework of regional policies for society.

For this purpose, the sample of the research consists of the social media accounts of the Metropolitan Municipalities and Provincial Municipalities in the provinces (Sakarya Metropolitan Municipality, Düzce Municipality, Bolu Municipality, and Yalova Municipality) that have sub-regions besides Kocaeli Metropolitan Municipality, which is one of the 26 statistical sub-regions of in Turkey and affiliated to TR42. The study data were collected from the official Instagram, Twitter, and Facebook pages of the inspected municipalities between December 1, 2022, and December 10, 2022, by several runs of automated Python scripts. Official social media account addresses of all inspected municipalities are taken from their official websites. The sources of collected data are given in Table 1.

Table 1: Official social media account addresses of Municipalities in the TR 42 Region

Municipality	Instagram account	Twitter account	Facebook account
Kocaeli	instagram.com/kocaelibld	twitter.com/kocaelibld	facebook.com/kocaelibld
Sakarya	instagram.com/sakaryabld	twitter.com/kocaelibld	facebook.com/sakaryabld
Düzce	instagram.com/duzcebld	twitter.com/duzcebld	facebook.com/duzcebld
Bolu	instagram.com/ bolubelediyesi	twitter.com/ bolu_belediyesi	facebook.com/ bolubelediyesi
Yalova	instagram.com/yalovabld	twitter.com/yalovabld	facebook.com/yalovabld

3.3. Data Collection and Data Collection Tools

Instagram, Twitter, and Facebook accounts of the municipalities located in the Kocaeli sub-region (TR42) were examined by sending various queries to the endpoints of social media platforms with Python scripts. These queries cover municipalities' last 200 posts on their social media accounts as of December 12, 2022. A total of three thousand ($3 \times 5 \times 200 = 3000$) post data was collected and analyzed for five municipalities from three social media platforms. According to TURKSTAT data ("Address Based Population Registration System Results," 2021), the total population numbers of the provinces in the TR42 region as of 2021 are as follows from large to small: Kocaeli 2.033.441, Sakarya 1.060.876, Düzce 400.976, Bolu 320.014 and Yalova 291.001. Considering the total population number in the analyses is essential in understanding the data more accurately.

4. Results

4.1. Instagram analytics

In addition to being a social media platform where individuals share photos and post texts to express themselves, Instagram is also a tool where institutions and organizations can communicate with the public ("Instagram for Politics & Government," n.d.). With a "Creator" account, organizations operating on Instagram can benefit from the advanced user statistics that Instagram offers for this account type ("Siyaset ve Devlet için Instagram," 2022). Thanks to this feature, Instagram is a useful social media platform for municipalities in terms of better following their target audiences. Municipalities in the TR 42 region actively announce their projects, works, and events to the public from their Instagram accounts.

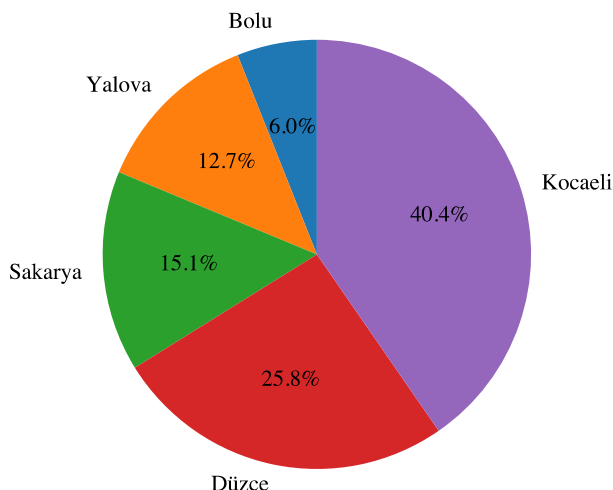
In the study, the posts (shares) of the municipalities in the TR 42 region on Instagram and the data of these shares were examined. The total number of Instagram posts made by the municipalities in the TR 42 region is given in Table 2.

Table 2: The Total Number of Posts Made by Municipalities in the TR 42 Region on Instagram

Municipality	Number of posts
Kocaeli	11,757
Sakarya	4,400
Düzce	7,506
Bolu	1,757
Yalova	3,703
Total	29,123

As can be seen in Figure 1, when the number of shared posts made by the municipalities on Instagram is compared, it is seen that Kocaeli Municipality shares the most and Bolu Municipality shares the least number of seats.

Figure 1: Total Instagram Sharing Rates of Municipalities in the TR42 Region



A total of 1000 queries were sent to Instagram endpoints for the five municipal accounts examined, 38 failed, and the remaining 962 succeeded. Some of the data from successful queries are given in Table 3.

Table 3: Temporal Data of the Last 200 Instagram Posts of Municipalities in the TR42 Region

Municipality	Last post date	First post date	Number of days between first and last posts	The average number of posts per day
Kocaeli	10.12.2022	21.11.2022	18	11,11
Sakarya	10.12.2022	6.11.2022	33	6,06
Düzce	10.12.2022	3.11.2022	36	5,56
Bolu	8.12.2022	22.04.2022	230	0,87
Yalova	1.12.2022	19.10.2022	42	4,76

When Table 3 is examined, it can be seen that the municipality that makes the most frequent Instagram posts is Kocaeli Metropolitan Municipality, with an average of 11.11 posts per day. The municipality with the minor share is Bolu Municipality, with 0.87 posts per day. Based on these data, it can be seen that the municipality that uses the Instagram account most actively is Kocaeli Municipality.

Table 4 shows information about the last 200 Instagram posts made by municipalities in the TR 42 region. The Total number of posts column indicates the number of successful query responses from Instagram endpoints. In the columns of the total number of comments and the total number of likes, the number of words and likes received by the municipalities for their posts are shown.

Table 4: Total Number of Comments and Likes on Instagram Posts Made by Municipalities in the TR 42 Region

Municipality	Total number of posts	Total number of comments	Total number of likes
Kocaeli	199	3.245	248.080
Sakarya	200	665	54.359
Düzce	200	2.078	157.811
Bolu	164	3.523	172.343
Yalova	199	1.309	66.142

When Table 4 is examined, it is seen that the municipality that received the most comments for the last 200 posts is Bolu Municipality. The municipality that gets the most likes is Kocaeli Municipality. The number of words and preferences can be interpreted as an indicator of the extent to which the municipalities that make up the sample interact with the public through likes and comments. However, considering the populations of the provinces in the TR 42 region will be essential to achieve more realistic results.

Considering the population numbers in the provinces, the number of comments and likes on the last 200 Instagram posts by the examined municipalities is shown in Table 5 by dividing them by 1000 people.

Table 5: Number of Instagram Comments and Likes Relative to the Population

Municipality	Comments	Number of likes
Kocaeli	1,60	122,00
Sakarya	0,63	51,24
Düzce	5,18	393,57
Bolu	11,01	538,55
Yalova	4,50	272,29

When the data in Table 5 is examined, it can be seen that the municipality with the highest number of comments and likes per 1000 inhabitants is the Municipality of Bolu, and the municipality with the minor comments and likes is Sakarya Municipality. This table shows that the municipality where the public participates the most in communication via Instagram compared to the population is Bolu Municipality. The municipality where the public participates the least in touch is Sakarya Municipality.

In Table 6, the number of comments sent by the public, the number of likes, and the like-comment ratio are given per share made by the municipalities. Like – comment ratio is calculated by: (total likes) / (full comments).

Table 6: Proportional Comment and Like Statistics

Belediye	Number of comments per post	Number of likes per post	Like – comment ratio
Kocaeli	16,31	1246,63	76,45
Sakarya	3,33	271,80	81,74
Düzce	10,39	789,05	75,94
Bolu	21,48	1050,87	48,92
Yalova	6,58	332,37	50,53

When the data in Table 6 is examined, it is seen that the municipalities that receive the most comments and likes per post are Bolu Municipality and Kocaeli Municipality. In contrast, the municipality that receives minor comments and likes per post is Sakarya Municipality. These numbers again show the extent to which the public is interacting with the sharing made by their municipalities. The high rate of the *like-comment ratio* indicates that the public clicks on the "like" button on the Instagram interface rather than writing comments. The low rate of the *like-comment balance* means that the public is not satisfied with just clicking the "like" button and commenting on the post. In line with this view, it is revealed that the people of Bolu, who have the lowest rate of *like-comment ratio*, want to express themselves more clearly in the posts made by the Municipality of Bolu; in other words, they take a more active role in the municipality-public dialogue compared to other provinces.

4.2. Twitter Analytics

For Twitter analysis, as in Instagram analysis, the last 200 shares made by each municipality in the TR 42 region were obtained, and the statistics of these shares were calculated. In addition to the number of comments and likes found in Instagram data, the number of "Retweets" and "Citations" on the Twitter platform was also used in the calculations. Information on how often municipalities post on Twitter is given in Table 7.

Table 7: Temporal Data of the last 200 Twitter Posts of the Municipalities in the TR 42 Region.

Municipality	Last post date	First post date	Number of days between first and last posts	The average number of posts per day
Kocaeli	12.12.2022	17.11.2022	25	8
Bolu	8.12.2022	2.03.2022	281	0,71
Yalova	12.12.2022	14.10.2022	58	3,45
Düzce	12.12.2022	17.11.2022	25	8
Sakarya	12.12.2022	9.11.2022	32	6,25

From Table 7, the municipalities that use Twitter most frequently, with an average of 8 posts per day, are Kocaeli and Düzce; It is observed that the municipality that uses it the most infrequently is Bolu Municipality with an average of 0.71 posts per day. The number of comments, likes, retweets, and citations to the shares made by the municipalities from their Twitter accounts is shown in Table 8. Since a total of 1000 queries sent to Twitter were all successful, all the values in Table 8 were compiled from the last 200 shares made by the municipalities.

Table 8: The Total Number of Comments, Likes, Retweets, and Citations to the Twitter Posts Made by the Municipalities in the TR 42 Region

Municipality	Total comments	Total likes	Total retweets	Total quotes	Total reactions
Kocaeli	501	15.727	1.441	50	17.719
Bolu	559	20.314	1.738	90	22.701
Yalova	87	3.838	265	32	4.222
Düzce	146	4.497	484	31	5.158
Sakarya	222	11.132	2.317	27	13.698

According to the data in Table 8, the municipality that receives the most comments, likes, and citations on Twitter is Bolu, and the municipality with the most retweets is Sakarya municipality. The last column in the table shows the sum of the number of comments, likes, retweets, and citations municipalities have received. In other words, this column shows the total amount of reactions by the public to municipals Twitter posts. Looking at this table, it is observed that the municipality where the public gives the most feedback via Twitter with various tools such as comments, likes, etc., is Bolu, and the municipality where the minor feedback is given is Yalova Municipality. Since the total populations of the provinces where the municipalities are located vary greatly, the picture in Table 9 emerges when the average public reaction for every 1000 people is calculated, as in the Instagram data analysis. The total number of responses shown in the last column of Table 9 was obtained by summing the average number of comments, likes, retweets, and citations for every 1000 people.

Table 9: The Number of Twitter Comments, Likes, Retweets, and Quotes as Proportional to the Population

Municipality	Comments	Likes	Retweets	Citations	Total reactions
Kocaeli	0,25	7,73	0,71	0,02	8,71
Bolu	1,75	63,48	5,43	0,28	70,94
Yalova	0,30	13,19	0,91	0,11	14,51
Düzce	0,36	11,22	1,21	0,08	12,87
Sakarya	0,21	10,49	2,18	0,03	12,91

When the Twitter data in Table 9 are examined, it is seen that Bolu is in first place and Kocaeli Municipality is in last place in the public reactions proportional to the population. According to the data in this table, the people of Bolu participate in the Twitter shares made by their municipalities more than others. In other words, the province where the dialogue between the municipality and the people is the highest in Bolu.

4.3. Facebook Analytics

According to January 2022 data, Facebook is the social media platform with the most users worldwide, with 2,910,000,000 ("Biggest social media platforms," 2022). The fact that it is such a popular application emphasizes the importance of using Facebook effectively in the municipality-public dialogue. For Facebook analysis, as in Instagram and Twitter analyses, the last 200 shares made by each municipality in the TR 42 region were obtained, and statistics of these shares were extracted. Table 10 shows how often municipalities post on Facebook.

Table 10: Temporal Data of the Last 200 Facebook Posts of Municipalities in the TR42 Region

Municipality	Last post date	First post date	Number of days between first and last posts	The average number of posts per day
Kocaeli	12.12.2022	15.11.2022	26	7,69
Bolu	12.12.2022	14.06.2022	181	1,1
Yalova	1.12.2022	17.10.2022	44	4,55
Düzce	12.12.2022	10.11.2022	32	6,25
Sakarya	12.12.2022	24.10.2022	49	4,08

When the data in Table 10 are examined, it is revealed that in parallel with the use of Instagram and Twitter, the municipality with the most daily sharing is Kocaeli, and the municipality with the least sharing is Bolu Municipality. When a post is shared, Facebook offers followers the functionality to comment on the post, like the post, and share the post. The total number of comments, likes, and shares of the last 200 posts related to the examined accounts is given in Table 11.

Table 11: The Total Number of Comments, Likes, and Shares on Facebook Posts Made by Municipalities in the TR42 Region

Municipality	Total comments	Total likes	Total Sharing	Total Reactions
Kocaeli	1.792	40.385	1.797	43.974
Bolu	2.377	60.788	2.357	65.522
Yalova	446	11.573	438	12.457
Düzce	950	22.068	3.515	26.533
Sakarya	38	15.594	1.432	17.064

As can be seen in Table 11, the municipality that receives the most reaction from the public to its Facebook posts is Bolu, and the municipality that receives the minor response is Yalova Municipality. The total reaction numbers in the last column were obtained by summing the number of comments, likes, and shares.

Similar to the Instagram and Twitter analysis, when the number of comments, likes, and shares from the public to the municipality posts is proportioned for every 1000 people, the result is shown in Table 12. According to these data, when the population of the provinces is compared, the people of Bolu were the community that reacted the most to the Facebook posts. In contrast, the people of Sakarya were the community that showed the most negligible reaction to the Facebook posts of their municipalities. By looking at the data in Table 12, it can be seen that the people of Bolu are the people most interested in the Facebook posts of their municipalities.

Table 22: Number of Facebook Comments, Likes, and Shares in Proportion to the Population

Municipality	Comments	Likes	Shares	Total reactions
Kocaeli	0,88	19,86	0,88	21,62
Bolu	7,43	189,95	7,37	204,75
Yalova	1,53	39,77	1,51	42,81
Düzce	2,37	55,04	8,77	66,18
Sakarya	0,04	14,7	1,35	16,09

Finally, in Table 13, the number of comments made by the public, the number of likes, and the number of shares per Facebook post made by the municipalities are given. The people of Bolu establish the most

muscular dialogue with their municipalities by commenting on the Facebook posts made by their municipalities at the highest rate. The people who commented the least per share on the Facebook posts made by their municipalities were found to be the people of Sakarya.

Table 33: Number of Comments, Likes, and Shares Per Facebook Post

Municipality	Number of comments per post	The number of likes per post	The number of shares per post
Kocaeli	8,96	201,93	8,98
Bolu	11,88	303,94	11,79
Yalova	2,23	57,87	2,19
Düzce	4,75	110,34	17,57
Sakarya	0,19	77,97	7,16

5. Discussion and Conclusion

In the study, the corporate social media accounts of the municipalities constituting the sample were analyzed regarding their usage patterns and levels. All source code for collecting and analyzing the social media data and the collected data is publicly accessible from <https://github.com/ihpar/tr42>. The analysis findings show the formal characteristics of corporate social media accounts and their features for recognition and promotion in public relations. When the results of the research are evaluated in terms of corporate social media accounts, it has been observed that there are significant differences up to 12 times between the frequencies of the posts made by the municipalities in the TR42 region. Municipalities generally benefit from social media tools such as Twitter, Facebook, and Instagram, but from social media tools such as LinkedIn, Myspace, Flickr, Pinterest, Vine, and Foursquare, none of the municipalities in the sample benefited.

When the number of posts made by municipalities on Instagram, Twitter, and Facebook accounts and the reactions from the public to these posts are evaluated, it has been observed that municipalities that share a small number of posts may receive more responses from the crowd. In contrast, municipalities that share a large number of posts receive few reactions from the public. From this, it is concluded that the examined municipalities cannot establish symmetrical communication with their people, and there needs to be consistency between municipalities regarding social media usage efficiency. These results significantly influence social media political participation and the new management approach. Society sees political participation as influencing political decisions and is considered a determined will to solve many problems in a common consensus regarding political forces, local governments, and bureaucracy. The interactive communication opportunity of social media has elevated the individual from being passive to an active position in his relations with the society and the state in which he lives (Mayfield, 2008; Veysel and Aydın, 2014: 198; Bonsón et al., 2017: 324) This situation has disrupted the traditional codes of individual-family, individual-society, individual-state relations and reshaped these relations into an individual-centered one.

Municipalities' low number of social responsibility activities in social media causes no sharing for projects to be implemented in municipal activities (Yeşildal, 2019: 384). Another problem is the inadequacy of the satisfaction surveys for the work of the municipalities and the lack of criticism of the municipalities on social media. In addition, the fact that they are generally insensitive to demands from their parents causes social media to be dysfunctional. Municipalities' emphasis on social media-oriented practice will increase citizen satisfaction and strengthen local democracy. In addition, security and privacy issues related to the mobile applications of municipalities may also contribute to the spread of e-municipality activities for preventive purposes. For this reason, it is of great importance for corporate administrations to use social media effectively, to provide opportunities for people who want to present their thoughts, and to encourage interactive participation.

Social media and mobile applications significantly facilitate citizens' participation in local governments. Social media and mobile applications enable data collection, crime and security warnings, crisis

management, and participation in the work of the municipality in the e-municipality. In addition, it is necessary to use social media more functionally in areas such as increasing transparency and trust in municipalities, cost savings, media relations, and news dissemination. This requirement can only be met by increasing the digital literacy rate of the citizens. It is essential to expand mobile applications and social media use and increase the possibility of real-time communication by saving time and cost. Establishing the appropriate human resources infrastructure, increasing the number of IT personnel, and improving their qualifications are other essential issues to strengthen local democracy in local governments and increase efficiency and effectiveness in public services.

Finansman/ Grant Support

Yazar(lar) bu çalışma için finansal destek almadığını beyan etmiştir.

The author(s) declared that this study has received no financial support.

Çıkar Çatışması/ Conflict of Interest

Yazar(lar) çıkar çatışması bildirmemiştir.

The authors have no conflict of interest to declare.

Yazarların Katkıları/Authors Contributions

Çalışmanın Tasarlanması: Yazar-1 (%50), Yazar-2 (%50)

Conceiving the Study: Author-1 (%50), Author-2 (%50)

Veri Toplanması: Yazar-1 (%50), Yazar-2 (%50)

Data Collection: Author-1 (%50), Author-2 (%50)

Veri Analizi: Yazar-1 (%50), Yazar-2 (%50)

Data Analysis: A Author-1 (%50), Author-2 (%50)

Makalenin Yazımı: Yazar-1 (%50), Yazar-2 (%50)

Writing Up: Author-1 (%50), Author-2 (%50)

Makale Gönderimi ve Revizyonu: Yazar-1 (%50), Yazar-2 (%50)

Submission and Revision: Author-1 (%50), Author-2 (%50)

Açık Erişim Lisansı/ Open Access License

This work is licensed under Creative Commons Attribution-NonCommercial 4.0 International License (CC BY NC).

Bu makale, Creative Commons Atıf-GayriTicari 4.0 Uluslararası Lisansı (CC BY NC) ile lisanslanmıştır.

References

Adrese Dayalı Nüfus Kayıt Sistemi Sonuçları. (2021). Retrieved December 10, 2022, from

<https://data.tuik.gov.tr/Bulten/Index?p=45500>

Bengtsson, M. (2016). How to Plan and Perform a Qualitative Study Using Content Analysis. *NursingPlus Open*, 2, p.8-14, <https://doi.org/10.1016/j.npls.2016.01.001>

Most extensive Social Media Platforms 2022. (2022). Retrieved December 13, 2022, from

<https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>

Bonsón, E., Royo, S., & Ratkai, M. (2017). Facebook practices in Western European municipalities: An Empirical Analysis of Activity and Citizens' Engagement. *Administration & Society*, 49(3), p. 320-347. <https://doi.org/10.1177/0095399714544945>

Çakmak, A. F., & Kilci, S. (2011). Kamu Yönetiminde Halkla İlişkilerin Yeri ve Önemi. *Kamu-iş*, 11(4), p. 219-270..

Chen, Y. C., & Gant, J. (2001). Transforming e-Government Services: The Use of Application Service Providers in US Local Governments. *AMCIS 2001 Proceedings*, 308. P. 341-355

[https://doi.org/10.1016/S0740-624X\(01\)00090-9](https://doi.org/10.1016/S0740-624X(01)00090-9)

Cleave, E., Arku, G., & Chatwin, M. (2017). Cities' Economic Development Efforts in a Changing Global Economy: Content Analysis of Economic Development Plans in Ontario, Canada. *Area*, 49(3),p. 359-368. <https://doi.org/10.1111/area.12335>

Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education* (6th ed.). New York, NY: Routledge.

- Çoruh, M. (2009). Türkiye'de e-Belediye Araştırma Sonuçları. XIV. Türkiye'de İnternet Konferansı, 12, 13.
- Demirel, D. (2010). Yönetimde Yeni Bir Boyut: e-Yönetişim. *Türk İdare Dergisi*, 466, p. 65-94.
- Dorris, M. (2007). Service Transformation in Government. *Public Manager*, 36(4), 29.
- Geray, H. (2006). *Toplumsal Araştırmalarda Nicel ve Nitel Yöntemlere Giriş*. Ankara: Siyasal Kitabevi. p.183
- Gordon, T. (2004). eGovernance and its Value for Public Administration. eGovernment Competence center. *Fraunhofer Institute for Open Communications Systems (FOKUS) Berlin*. [http://www. F Gordon. de/publications/Gordon2004a. Pdf](http://www.F.Gordon.de/publications/Gordon2004a.Pdf) Abruf, 08-12.
- Graham, M., & Avery, E. (2013). Government Public Relations and Social Media: An Analysis of the Perceptions and Trends of Social Media Use at the Local Government Level. *Public Relations Journal*, 7(4), p. 1-21.
- Güler, B. A. (2001). Yerel yönetimler ve İnternet. *HABİTAT II İstanbul*, 5.
- Haro-de-Rosario, A., Sáez-Martín, A., & del Carmen Caba-Pérez, M. (2018). Are you using social media to enhance citizen engagement with local government: Twitter or Facebook? *New media & society*, 20(1), p. 29-49. <https://doi.org/10.1177/1461444816645652>
- Henden, B. (2011). Katılımcı Yerel Yönetim Anlayışında E-Belediyeciliğin Yeri ve Önemi. *Journal of Human Sciences*, 8(1).
- Hrdinová, J., Helbig, N., & Peters, C. S. (2010). *Designing social media policy for government: Eight essential elements*. Albany, NY: Center for Technology in Government, University at Albany. p. 1-19
http://www.mobiliad.org.tr/img/ebulten/eb10/eb80_milli_uygulama_pazari_raporu.pdf, (Erişim Tarihi: 12.09.2015), p.1-15.
- Instagram for Politics & Government (n.d.). Retrieved December 11, 2022, from <https://about.instagram.com/civic>
- Jarvis, J., & Kök, Ç. (2012). *E-sosyal Toplum: Dijital Çağda Sosyal Medyanın İş Ve Gündelik Hayata Etkisi*. MediaCat Kitapları.
- Jayarajah, K., Saat, R. M., & Rauf, R. A. A. (2014). A Review of Science, Technology, Engineering & Mathematics (STEM) Education Research from 1999–2013: A Malaysian Perspective. *Eurasia Journal of Mathematics, Science and Technology Education*, 10(3), p. 155-163. <https://doi.org/10.12973/eurasia.2014.1072a>
- Kanungo, S. (2004). On the Emancipatory Role of Rural Information Systems. *Information Technology & People*. 17(4): p. 407-422. <https://doi.org/10.1108/09593840410570267>
- Lin, T. C., Lin, T. J., & Tsai, C. C. (2014). Research Trends In Science Education From 2008 To 2012: A Systematic Content Analysis of Publications in Selected Journals. *International Journal of Science Education*, 36(8),p. 1346-1372. <https://doi.org/10.1080/09500693.2013.864428>
- Loomis, A., Davis, A., Cruden, G., Padilla, C., & Drazen, Y. (2022). Early Childhood Suspension and Expulsion: A Content Analysis of State Legislation. *Early childhood education journal*, 50(2), p. 327-344. <https://doi.org/10.1007/s10643-021-01159-4>
- Mayfield, A. (2008). What is Social Media? iCrossing. Retrieved July 17, 2015. <https://doi.org/10.4324/9781315884172-7>
- Mergel, I. (2013). A Framework for Interpreting Social Media Interactions in the Public Sector. *Government Information Quarterly*, 30(4), p. 327-334. <https://doi.org/10.1016/j.giq.2013.05.015>
- Neuendorf, K. A. (2002). Defining Content Analysis. *Content Analysis Guidebook*. Thousand Oaks, CA: Sage.

- Nohutçu, A., & Demirel, D. (2005). E-Devlet: Genel Bir Çerçeve ve Teorik Bir Yaklaşım. *Türk İdare Dergisi*, 1, p. 35-56.
- Riley, C. G. (2003). The Changing Role of the Citizen in the E-governance and E-democracy Equation. *Commonwealth Center for e-Governance*.
- Şahin, A. (2007). *Kamu Çalışanlarının E-Devleti Algılayış Biçimleri: Beklentiler ve Sorunlar*. Eryılmaz Bilal., Musa Eken ve Mustafa Lütfi Şen, 1, 514-541. Ed.: Eryılmaz, B., Eken, M. ve Şen, M. Ankara: Nobel Yayın Dağıtım.
- Siyaset ve Devlet için Instagram. (2022). Retrieved December 11, 2022, from https://scontent.fesb7-1.fna.fbcdn.net/v/t39.8562-6/10000000_652434165783923_4376448086945592269_n.pdf?_nc_cat=111&ccb=1-7&_nc_sid=ad8a9d&_nc_ohc=S4dPfqFm0uQAX-kXaFM&_nc_ht=scontent.fesb7-1.fna&oh=00_AfAwQ7UDieVA2IsNjPLP8FaFiQgILsZWkQAULik4zv3CCw&oe=639CD897
- Skoric, M. M., Zhu, Q., Goh, D., & Pang, N. (2016). Social Media and Citizen Engagement: A Meta-Analytic Review. *New Media & Society*, 18(9), p. 1817-1839. <https://doi.org/10.1177/1461444815616221>
- Tarhan, A. (2007). Halkla İlişkilerde Tanıma Ve Tanıtma Aracı Olarak İnternet: Belediyelerin Web Sayfaları Üzerine Bir Analiz. *Selçuk İletişim*, 4(4), p. 75-95..
- Tarhan, A., & Bakan, Ö. (2013). *Belediyelerde Halkla İlişkiler Ve Vatandaş Algısı*. Literatürk Academia.
- Tejasvee, S., Sarangdevot, S. S., Gahlot, D., & Sandal, S. (2010). E-Governance and Effective Deliverance of Information and Services to Citizens Architecture. *International Journal of Computer Science and Information Technologies*, 1 (4), p. 298-302.
- Tutar, H. ve Erdem, A.T. (2022). *Örnekleriyle Bilimsel Araştırma Yöntemleri ve SPSS Uygulamaları*. Seçkin Yayıncılık
- Ültay, E., Dönmez Usta, N., & Durmuş, T. (2017). Descriptive Content Analysis Of Mental Model Studies In Education. *Education for Life*, 31(1), p. 21-40.
- Varol, M. (2002). *Siyaset ve Halkla ilişkiler*. Kırgızistan-Türkiye Manas Üniversitesi.
- Veysel, E., & AYDIN, A. (2014). Sosyal Medyanın Kamuoyu Oluşturmadaki Rolü Ve Muhtemel Riskler. *Karamanoğlu Mehmetbey Üniversitesi Sosyal ve Ekonomik Araştırmalar Dergisi*, 2014(3), p. 197-205. <https://doi.org/10.18493/kmusekad.72819>
- Yağmurlu, A. (2013). Diyalojik İletişim Çerçevesinden Ankara Büyükşehir Belediyesi Sosyal Medya Uygulamaları, *Selçuk İletişim*, 8 (1), p. 95-115.
- Yates, D., & Paquette, S. (2011). Emergency Knowledge Management And Social Media Technologies: A Case Study Of The 2010 Haitian Earthquake. *International journal of information management*, 31(1), p. 6-13. <https://doi.org/10.1016/j.ijinfomgt.2010.10.001>
- Yatkın, A. (2006). Hizmet Verimliliğinin Artırılmasında Halkla İlişkilerin, Örgütsel İletişimin Rolü Ve Önemi (Elazığ Belediyesi örneği). II. *Ulusal Halkla İlişkiler Sempozyumu, Nisan, 2006*, p. 369-386.
- Yeşildal, A. (2019). Sosyal Medya, Yerel Yönetimler ve Katılımcı Yönetim: Bilgi Çağında Belediyeler İçin Yeni Stratejiler. *İnsan ve İnsan*, 6(22), p. 883-902. <https://doi.org/10.29224/insanveinsan.507609>
- Yıldırım, M. (2010). *E-devlet ve Yurttaş Odaklı Kamu Yönetimi*. Nobel Yayın Dağıtım.