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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

The Problem of Freedom of Expression in the Public Sphere of Social Media: Descriptive Analysis of the Echo Chamber Effect

Sosyal Medya Kamusal Alanında İfade Özgürlüğü Problemi: Yankı Fanusu Etkisi Üzerine Betimsel Bir Analiz

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Abstract

The echo chamber effect is a phenomenon where people with similar ideas, beliefs, and manners intensify their ideas and thoughts with the pleasure of being approved, whereas people with opposing ideas and beliefs sink into silence. This is one of the biggest barriers to the development of a free and democratic environment for ideas and beliefs, and it is crucial for the democratic perspective on the freedom of expression on social media. This issue is a serious problem because the oppressive view and opinion environment strengthens practices that exclude diversity. This research aimed to descriptively examine tweets in terms of their significant hints provided through the creation of the echo chamber. The hashtag "#SUSyalMedyaYasası" (#Socialmedialaw)-related tweets were selected as the trending topics. Through descriptive analysis, this study also attempted to describe how the echo chamber concept affected and shaped the belief and idea posts on X. According to the analysis's findings, the new regulation on social media intensified the echo chamber effect by strengthening some predetermined attitudes and beliefs and weakening others by separating the legislation from its context and content.

Keywords: Echo chamber effect, X, #SUSyalMedyaYasası, freedom of expression, NodeXL

Öz

Yankı fanusu etkisi, benzer fikir, kanaat veya tutumlara sahip kişilerin onanmanın da verdiği hazla kendi fikir ve düşüncelerini pekiştirirken, karşıt görüş, fikir ve kanaatlere sahip kişilerin suskunluğa gömülmeleri olgusudur. Bu durum, düşünce ve kanaat ikliminin özgürce ve demokratik biçimde oluşumu önündeki en ciddi engellerden biri olup, düşünce ve ifade özgürlüğünün sosyal medya kamusal alanındaki demokratik görünümü açısından önemlidir. Konu, baskıcı görüş ve kanaat ortamının farklılığı dışlayıcı pratikleri güçlendirmesi bakımından ciddi bir problemdir. Bu çalışmada, X mecrasından yapılan paylaşımların betimsel analizi amaçlanmıştır. Çalışmada bu amaçla trend topic olarak "#SUSyalMedyaYasası" hashtagli X paylaşımları seçilmiştir. Çalışmada ayrıca betimsel analiz tekniğiyle yankı fanusu kavramının X ortamındaki kanaat ve düşünce paylaşımlarını etkileme ve şekillendirme süreci betimlenmeye çalışılmıştır. Yapılan analiz sonucunda, yeni sosyal medya yasa düzenlemesinin gerek içeriği gerekse kapsamı bakımından bağlamından koparılarak ön belirlenmiş bazı görüş ve kanaatleri daha da güçlendirdiği ve bu durumun da yankı fanusu etkisini arttırdığı bulgulanmıştır.

Anahtar Kelimeler: Yankı odası etkisi, X, "#SUSyalMedyaYasası, ifade özgürlüğü, NodeXL

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Introduction

The public sphere of social media is a virtual space where various discourses echo within each other. In particular, regarding political participation, users should be able to be easily involved in different political concept networks within social media platforms. From a positive perspective, it can be argued that new communication platforms, by maximizing participation and expanding the framework of political and intellectual experience, offer greater opportunities for equal participation by the masses. As a result, they partially replace traditional media in publicity. Because users on these platforms are often not open to opposing ideas, they generally fail to demonstrate the virtue of tolerance towards these ideas. This assumption, which remains relevant, is worth testing. Indeed, in terms of democratic communication, pluralistic public spheres and freedom of expression and the perspective and horizon-dulling effect of similar ideas and opinions come into play precisely at this point. "Knowledge, which refers to facts and phenomena that the human mind can comprehend, is technically a public commodity in terms of the benefits it can bring to humanity." To a large extent, echo chambers, where the public nature of information is undermined, can "increase social polarization, reduce the production of public knowledge and prevent the dissemination of information" (Sunstein, 2007, p.44). Moreover, it can even be said that this homogeneous climate of ideas, opinions, and beliefs is quite appealing to users due to its tremendous sense of security. However, the idea of an echo chamber where similar views and thoughts gather in the same ranks while different voices are swiftly expelled from public perception remains devoid of diversity and continues to be a serious obstacle to the democratic nature and promise of the public sphere of social media. "The lack of diversity of thought and the fact that people often speak and listen only to those who share their own opinions leads to the formation of different speech communities, and this is a major problem for democracy" (Sunstein, 2007, p.44). When people only hear their own voices, this can lead to social polarisation, fanaticism, hatred, violence, and isolation (Sunstein, 2007, p.44).

This issue is important in terms of providing some clues about the possibilities for social media users with different views and opinions to express themselves without exclusion and thus shed light on the boundaries of freedom of expression in the public sphere of social media. The phenomenon of the echo chamber effect in the public sphere of social media has brought to the forefront a significant issue concerning the narrowing of the possibilities for freedom of expression. In addition, it weakens the potential for diversity of voices and democratic participation, as it gives rise to the suppression, silencing and marginalization of opposing views through the proliferation of hate speech, threats, and intimidation. Therefore, it poses a crucial problem regarding the relationship between new media and democracy. This study aims to describe the formation process of the echo chamber effect on X by examining the issue within the context of the 'Press Law Proposal and Amendments to Certain Laws Concerning Press, Social Media and Internet Journalism' which was approved by the Justice Commission of the Turkish Parliament on June 16, 2022. The focus is on identifying the most influential actors and their relatively weaker counterparts surrounding them in tweets posted under the hashtag "#SUSyalMedyaYasası" by analysing the network positions of these actors within the X sphere. To this end, a descriptive analysis was conducted on X posts using the hashtag "#SUSyalMedyaYasası", which became quickly a trend topic after the enactment of the

legislation. In this study, it is also considered a significant issue that users on the mentioned network, falling prey to the echo effect, may overlook the actual context and fail to recognize the benefits of the new social media law in terms of preventing unregulated activities online and protecting vulnerable and disadvantaged groups. Therefore, this issue is considered a serious concern.

This study is considered to hold original value in the field of new media sociology in general and specifically regarding the echo chamber effect on social media in Turkey. The political polarization in Turkey has been tried to reveal using data obtained using the NodeXL Program. This study reflects the political view of Turkey. The new social media law in Turkey has been discussed by X users. Therefore, it is expected to contribute to the existing literature on communication sciences.

Echo Chamber Effect and the Formation of Echo Chambers in the Public Sphere of Social Media

Network Science is the study of complex networks composed of various nodes and the connections (edges) between nodes (Barabási & Albert, 1999). Nodes represent the basic building blocks of the network. Different entities such as people, organizations, and proteins can represent nodes (Barabási & Albert, 1999, p. 510). The edge represents the connections between nodes. These links represent interactions between two or more nodes, such as information exchange (Freeman, 1979, p. 220). The concept of centrality measures the relative importance of nodes in a network. Degree Centrality refers to the number of other nodes to which a node is directly connected (Freeman, 1979, p. 220); Betweenness Centrality refers to how often a node is located on the shortest paths between other nodes (Freeman, 1979, p. 221); and Closeness Centrality refers to the average distance of a node from all other nodes in the network (Freeman, 1979, p. 224). Network science uses various methods to and model networks. Some of the main network science methods are as follows: Graph Theory plays a fundamental role in mathematical modeling and network analysis (Newman, 2003). Centrality Measures are metrics used to determine the importance of nodes in a network (Freeman, 1979). Cluster Analysis analyzes the division of nodes in a network into natural groups and the structure of these groups (Girvan & Newman, 2002). Graph Algorithms are used to solve various problems in networks, such as shortest path, largest flow, and maximum connectivity (Dijkstra, 1959). Scaling and Growth Models are mathematical models used to explain the growth and evolution of networks. They are used to explain phenomena such as scale-free networks (Barabási & Albert, 1999). Social Network Analysis seeks to understand human behavior by focusing on social connections (Wasserman & Faust, 1994).

The filter bubble refers to the personalization of users 'online experiences and is the result of how algorithms work. Algorithms track and store many data such as users' past web browsing history, search queries, click actions, like/dislike attitudes, and purchase history, thus tracking and storing users' online behavior. Algorithms deliver content/information based on these evaluations, thus narrowing the range of information users encounter in a virtual environment. As a result, the network becomes personalized, and selective exposure may occur (Pariser, 2011, p. 45; Bozdag, 2013, p. 213). The concept of "selective exposure" which constitutes an important aspect of cognitive dissonance,

is based on the fact that "individuals use information sources that are incompatible with their own opinions" to evaluate different options and obtain information before the decision, and they use information sources compatible with their own opinions "to confirm their decision" during the post-decision stage (Kah & Lee, 2016, p. 387 as cited in Yücel & Çizel, 2018, p. 152). In parallel to the selective exposure paradigm, echo chambers refer to closed ecosystems in which users circulate the same information only by meeting individuals with similar attitudes in the same network where they reinforce their worldviews and beliefs. At the same time, different opinions were excluded (Pariser, 2011, p. 9). Both concepts can be barriers to encountering different perspectives and 'other' ideas. For example, Sunstein examined the effects of echo chambers on democracy and discussed how individuals are more radicalized in like-minded groups (Sunstein, 2007). Indeed, while the filter bubble narrows the way in which users are exposed to different information, it also serves as an important phenomenon that plays a role in the formation of echo chambers. Pariser points out that some people may be trapped in information bubbles or echo chambers; however, he also highlights the fundamental difference between the two concepts: "One can read only left-leaning blogs and websites, listen only to left-leaning radio, and watch only left-leaning television," which precisely describes the filter bubble. Pariser also coined the term "filter bubble" as an act of limiting one's own worldview, pointing out that avoiding different views can lead to an echo chamber lock-in. The reason Pariser defines the term "filter bubble" as "a unique information universe for each of us" is that users strive to build their own unique [and to some extent "smooth"] worlds in personalized networks (Pariser, 2011, p. 9).

Cinelli et al. (2021) discussed the pleasure derived from being approved in their article entitled "The Echo Chamber Effect on Social Media". As a result, individuals are relieved of the effort required to check their own beliefs in reality and instead find pleasure in reinforcing similar thoughts. According to the authors, an echo chamber is a phenomenon where user opinions on a subject are strengthened due to repeated interactions with information sources that have similar tendencies and attitudes. In other words, an echo chamber is the reinforcement of one's own ideas and beliefs by a like-minded audience, motivated by the pleasure derived from being approved (Cinelli et al., 2021, p.1)

Bruns explained the concept of a filter bubble based on optional filtering as follows: "When a group of participants selectively chooses to communicate with each other, independent of the network structures underlying their connections, and excludes external influences from this process, a filter bubble emerges." The more consistently participants adhere to such practices, the higher the likelihood that their own views and information will circulate among the group members rather than information that comes from external sources" (Bruns, 2017, p.3).

Based on this assessment, it should be noted that the use of artificial intelligence systems to generate filters based on user data traces left in the virtual environment implies the manipulation of thoughts towards a certain direction. Indeed, the personalized customization of data traces left in the virtual environment through technology, which results in users not encountering content outside their areas of interest, distinguishes the concept of filter bubble from the concept of echo chamber. When the concepts of echo chamber and filter bubble are considered together, the following assessment can

be made: The echo chamber and filter bubble effects selfishly reinforce the sense of 'us' and, as a result, construct the identity of the 'other' and situations of 'otherness'. Thus, a mass of like-minded individuals who reinforce their own thoughts on a particular agenda effectively build a barrier against truth and refrain from engaging with 'other' perspectives. Marginalization manifests itself precisely because of such escape. According to Bruns, the more flawlessly the connectivity between participants is shaped (in other words, the more connections are established within the group and severed with outsiders), the representation of external perspectives or the 'others' diminishes and becomes isolated. As a result, the opinions of group members circulate more extensively within their circle (Bruns, 2017, pp.3-4).

Berger and Milkman stated: "Viral content is driven in part by physiological stimulation. Content that evokes high arousal (such as surprise) or low arousal (such as sadness) arousal becomes more viral" (Berger and Milkman, 2012, p. 192). Online social networks can increase the intensity of emotional synchronization on a global scale, (Coviello et al., 2014, p. 1). Furthermore, this study investigated how emotional contagion can be measured and understood in large-scale social networks. Indeed, the researchers emphasized the importance of the emotional dimension and underlined that emotional reactions on online platforms play a critical role in creating viral effects. Social media platforms are effective tools for coordinating collective actions, such as protests organized to demand democratic representation. In this respect, individuals and groups that consciously develop content creation and dissemination strategies that target emotional responses can be effective online (González-Bailón et al., 2011, p. 102). According to Berger and Milkman (2012), emotional content (laughing, crying, fear, amazement, anger, stubbornness) is shared faster and widely than objective content. Hence, content that contains feelings of anger and hope can play a role in strengthening individuals' dominant attitudes and values and turning them into viral content. Researchers who provide experimental evidence of large-scale emotional contagion through social networks state that users influence each other's emotional states through the content that they produce (Berger and Milkman, 2012, p. 192). It has been observed that people produce less positive and more negative content when positive expressions are reduced, whereas the opposite pattern emerges when negative expressions are reduced. These results provide important empirical evidence for the existence of emotional contagion in social networks (Kramer et al., 2014, p.8789). Briefly, group identity, belonging, social acceptance, and the pleasure of being approved by the majority may also effectively reflect individuals' emotional reactions to issues of public concern. In this regard, individuals who participate in echo chambers may adopt the emotional reactions of the majority or may strengthen their emotionally ingrained attitudes and reactions. In this study, it was observed that users gave strong emotional reactions through the messages they construct in the '#SUSyalMediaLaw' network. Users emphasize that contrary to the tangible benefits the new law will bring to democracy and freedom of expression, it will be used to shut down alternative channels of expression, such as newspapers, magazines, and televisions, which are considered to be the media of the "other." While users who are concerned about belonging and social acceptance frequently state that the government does not want citizens who think freely and speak their minds boldly, they almost never mention the role that the law will play in preventing unethical attacks against groups such as children, women, the elderly, youth,

and members of political minorities, who are often the most disadvantaged segments of the social media public sphere.

Similarly, in their article "Avoiding the Echo Chamber About Echo Chambers", Andrew Guess and his colleagues (2018) highlighted how technology makes polarization incredibly easy and creates sharp divisions. According to the authors, "echo chambers, filter bubbles and information cocoons are ideologically homogeneous patterns of news and media consumption" (Guess et al., 2018, p.3). Therefore, audiences consuming penetrated thoughts must gather at extremes.

The implicit suggestion here is that "you may not see information that contradicts your own beliefs" or metaphorically, "you can go on an information diet." (Dutton et al., 2017, p. 18). Attributing this type of one-sided information threat to citizens relying solely on social media for acquiring knowledge about public issues and they emphasizing that social media strengthens citizens' pre-existing perspectives and that their potential for falling into echo chamber effects is high, draw attention to the powerful mission assumed by information that reinforces consciousness. According to this perspective, echo chambers and filter bubbles can reinforce pre-existing beliefs or lead to flawed understanding of various subjects.

Pariser (2011) is expressing here is that algorithms place certain filters in front of us based on our web traffic, including what we like, dislike, or actions we perform in the virtual realm. To break free from this simplistic code, one needs to neutralize entrenched judgments and strive to be in the midst of a diversity of thoughts. However, the situation is different in practice because, according to common belief, social media users tend to find it more reassuring to be in the company of content that supports their existing views, avoiding content that could challenge their established beliefs and potentially shake them to the core (Pariser, 2011, p.51).

This is clearly confirmation bias. This is one of the significant obstacles hindering the development of users' intellectual horizons in the realm of social media. Although there is indeed diversity of thoughts in the public sphere of social media, the number of individuals who are aware of this diversity is quite limited. Maccatrozzo, in her study titled "Burst the Filter Bubble: Using Semantic Web to Enable Serendipity" draws attention to the role played by both personalized networks and semantic web features in the formation of echo chambers (2012, pp.391-398). According to Maccatrozzo (2012), an excessively personalized network with filters significantly hinders serendipitous encounters and interactions. Maccatrozzo explained the effect created by the filter bubble by emphasizing the concept of serendipity. According to this perspective, while browsing through bookshelves, one may chance upon an interesting book on a randomly looked shelf. This is an unexpected encounter. It makes a serendipitous discovery. However, filter bubbles undermine the quality and depth of utilizing virtual environments that are full of commercial information (Maccatrozzo, 2012, pp.391-392).

Due to algorithms, information remains dormant in the obscure corners of virtual platforms. Moreover, due to the filter bubble, information that is not actively sought remains inaccessible, and at the same time, it echoes within the bubble due to the workings of the semantic web. According to Pariser (2011): You may think you are the captain

of your own destiny, but personalization can lead you towards a form of informational determinism. A network infrastructure where what you clicked on in the past determines what you will see next can trap you in a static, continuously narrowing plane. In other words, it can lead to an infinite you-loop (Pariser, 2011, p.14).

Purpose and Method

The echo chamber effect, resulting from the increasing resonance of identical voices in the public sphere of social media, represents one of the biggest obstacles to the pluralistic and democratic nature of the public sphere. This issue is a serious problem, as it not only raises questions about the relationship between democracy and freedom of expression in the public sphere of social media and reinforces exclusionary practices that marginalize differences created by oppressive views and opinions. In the study, an analysis of X posts with the hashtag "#SUSyalMedyaYasası" was conducted, which emerged shortly after the introduction of the new media law and quickly became a trend topic. "#SUSyalMedyaYasası". What is meant to be expressed with the phrase "SUS" is the idea that the relevant law has the purpose of encouraging social media users to silence through the pressure to be created. Here, "sus!" expresses a prohibitive imperative mood. The reason why "sus" is written in majuscule form is to draw attention to imposition, and there is also a pun in this form of writing to evoke the word "social". This analysis provides concrete evidence for the formation of the echo chamber effect. The selected tweets were examined using descriptive analysis techniques. The descriptive analysis method is the process of analyzing data descriptively in qualitative research. This method generally reveals the views, experiences, and perceptions of the participants (Creswell, 2013, p. 183). In this method, data are handled descriptively, organized, classified, and presented in a meaningful manner. The aim is to provide a detailed and comprehensive approach to the research topic. Descriptive analysis involves the direct description and interpretation of the data. Coding the data, identifying themes, and presenting these themes with meaningful integrity were among the stages of this method (Miles & Huberman, 1994, p. 56). In this way, the researchers presented the information obtained from the data to the reader structured and tried to find answers to the research questions. The use of descriptive analysis in research provides rich and in-depth data analysis. This method contributes to a better understanding and interpretation of research findings (Patton, 2002, p. 453).

X posts with the hashtag "#SUSyalMedyaYasası", which quickly became a trending topic after the enactment of the relevant law, constitute the universe of the study. In this context, a total of 20,036 data were analyzed in this study, focusing on X posts with hashtags. This research aims to analyze the position of actors in the network on platform X and identify the most influential actors and the relatively weaker ones around them. The scope and limitations of the research were determined in line with this purpose.

Data were collected using the NodeXL Pro software, which is used for social network analysis. The research is based on a descriptive analysis of tweets shared on the X platform on June 1, 2022 using the hashtag "#SUSyalMedyaYasası". The sample of the research is based on determining the dominant opinion in the network by selecting the most and least influential actors among the 7,150 actors who shared tweets on the X platform with

the hashtag "#SUSyalMedyaYasası". Tweets are short messages (up to 280 characters in length) posted by users on social media platform X. They can include text, images, videos, and links and are often used to share news, personal thoughts, announcements, and other information (Boyd, et al. l., 2010: 1). Tweets contain text, images, videos, and links and are often used to share news, personal thoughts, announcements, and a variety of other information (Boyd, et all., 2010: 1). The 18000 data limit in NodeXL Pro is applicable to tweets. The total data set of 20,036 includes Mentions, MentionsInRetweets, MentionsInRetweets, Replies to, Retweets, and Tweets; thus, the total data set was greater than 18,000 (NodeXL, 2024).

NodeXL is an Excel-based program that is frequently used in social science research. After configuring specific settings in the NodeXL Pro version, various analyses of concepts such as network graphs, nodes, and connections, can be performed within the desired topic context. The program also allows performing descriptive statistics, network statistics, and clustering (NodeXL, 2022). The NodeXL program has the capability to fetch tweets posted within the last 7 days from the X platform, allowing access to approximately the most recent 18,000 tweets shared through the program. To prepare the data for descriptive analysis, certain selection criteria were established. To closely observe the echo chamber effect, the most influential actors within the "#SUSyalMedyaYasası" network were selected, and their shared tweets and responses to those tweets were examined; thus, the first selection process was completed. Furthermore, similar tweets shared from the same account were excluded from the analysis, whereas different tweets from the same account were included in the analysis. Similarly, tweets with the same content shared from different accounts were also included in the analysis. The numerical data of the selected tweets, along with network visualizations, were presented in detail in the finding section. During the study, network visualizations were created by taking into account the entire set of 20,036 data. Thus, an attempt was made to provide a comprehensive overview of the network by considering all the included and excluded messages in the analysis. Reliability and validity; NodeXL's features, such as dynamic filtering, grouping, and clustering, allow networks to be analyzed in greater detail. For example, a study by Hansen et al. (2010) analyzed 500,000 Facebook users and found that users with high betweenness centrality play a critical role in information diffusion. These analyses support the reliability and validity of NodeXL's statistical tools. The open-source nature of NodeXL and its large user base allows the software to be continuously updated and improved. This open-source nature allows users to customize the software to their specific needs and add new features. Furthermore, NodeXL's integration with Microsoft Excel allows users to easily manage data input and output, thereby accelerating data manipulation and analysis processes. For example, Smith et al. (2009) used NodeXL's Excel integration to quickly and efficiently calculate node centrality and network density in a 1,000,000-person network analysis.

In NodeXL, the concept of "in-degre" refers to the number of incoming links to a node. In social network analysis, the sum of the direct links received by a node from other nodes. In other words, is the number of edges directed towards a node. Mathematically, the "in-degree" of a node in the graph is expressed as follows:

in-degree(v)= $\sum_{\mu \in V} A(u, v)$

Here:

- The node v is the node calculated within a degree.
- The node set V represents all nodes in the graph.
- $A(u,v)$ is an indicator function that takes the value 1 if there is an edge (link) from node u to node v and 0 otherwise.

This concept is an important indicator in social network analysis because it can help determine how popular or influential a node is (Freeman, L. C., 1979, pp. 215-239; Wasserman, S., & Faust, K., 1994, pp. 173-178; Newman, M. E. J., 2010, pp. 157-160).

In NodeXL, "out-degree" refers to the number of links leaving a node. In social network analysis, it is the sum of the direct connections of a node to other nodes. In other words, is the number of edges leading from a node. Mathematically, the "out-degree" of a node in a graph is expressed as follows:

out-degree(v)= $\sum_{\mu \in V} A(v,u)$

Here:

- Node v is the out-of-degree computed node.
- - The node set V represents all nodes in the graph.
- - $A(v,u)$ is an indicator function that takes the value 1 if there is an edge (link) from node v to node u and 0 otherwise.

This concept is an important indicator in social network analysis because it can help determine the extent to which a node interacts with other nodes (Freeman, L. C., 1979, pp. 215-239; Wasserman, S., & Faust, K., 1994, pp. 173-178; Newman, M. E. J., 2010, pp. 157-160).

In NodeXL, the concept of "geodesic distance" refers to the length of the shortest path between two nodes in a graph. The distance determines the number of direct or indirect links between nodes. In social network analysis, geodesic distance is used to understand the spread of fast information or interactions in the network. Mathematically, the geodesic distance $d(u,v$v) between two nodes uu and vv in the grapgiven byed as

$d(u,v)$= min $(l_{1+}l_{2+} \ldots + l_k)$

Here:

- $d(u,v)$ is the geodesic distance between nodes u and v.
- l_i is the length of the edges (links) between u and v.
- min selects the shortest among the lengths of all possible paths between u and v (Freeman, L. C., 1979, pp. 215-239; Wasserman, S., & Faust, K., 1994, pp. 173-178; Newman, M. E. J., 2010, pp. 157-160).

In NodeXL, the concept of betweenness centrality measures the importance and influence of a node on the shortest paths between other nodes in the network. A node with high betweenness centrality can control the flow of information or communication between other nodes and thus plays a key role in the overall structure of the network. Mathematically, the betweenness centrality $CB(v)$CB(v) for a node vv is defined as

$$C_B(v) = \sum_{s \neq v \neq t} \frac{\sigma_{st}(v)}{\sigma_{st}}$$

Here:

- σ_{st} represents the total number of shortest paths between nodes s and t.
- $\sigma_{st}(v)$, represents the number of people passing through node v on the shortest paths between s and t.
- $\sum_{s \neq v \neq t}$ indicates aggregation over all pairs of nodes s and t, where ss and tt are not the same nodes as vv (Freeman, L. C., 1979, pp. 215-239; Wasserman, S., & Faust, K., 1994, pp. 173-178; Newman, M. E. J., 2010, pp. 157-160).

"Eigenvector centrality" is a centrality measure used to quantify the importance of a node. Eigenvector centrality is calculated based on the importance of a node to the nodes it directly connects to. If a node has high eigenvector centrality, the other nodes connected to it are generally important. The mathematical formula for eigenvector centrality is as follows:

$$x_i = \frac{1}{\lambda} \sum_j A_{iJ} x_j$$

Here:

- x_i, represents the eigenvector centrality of node i.
- $\lambda$is the largest eigenvalue (first principal eigenvalue).
- A_{iJ}, equals 1 if there is a connection between nodes i and j and 0 otherwise.
- $\sum_j A_{iJ} x_j$, multiply the nodes j that are directly connected to node i by the centrality of the eigenvector x_j of node j and sum.

Research Findings related to "#SUSyalMedyaYasası" Tagged Tweets

When the national and international literature is reviewed, various scientific studies on the concept of the "Echo Chamber" have made a significant contribution to the field. Akyüz and his colleagues (2021), who tried to determine for what purposes university students use new media and what their attitudes are on issues related to the construction, public circulation, and consumption processes of disinformation or fake/false news, concluded that university students doubt the accuracy criteria of political and security news and tend to believe fake news because of the "avoidance of research" and "political polarization" (Akyüz et al., 2021, p.216). The findings of our study coincide with those of Akyüz et al. (2021). Hence, it can be seen that X users are concerned about who will decide the accuracy/confirmation criteria of the news and disinformation issues with the law in question. It can be stated that this concern stems more from political polarization. This is because X users define the new law as the government's law to silence public opinion.

Seval Yurtçiçek Özaydın and Ryosuke Nishida's article "Fragmentation and Dynamics of Echo Chambers of Turkish Political Youth Groups on Twitter" (2021) on the dynamics of echo chambers of Turkish political youth groups' Twitter (X) followers is one of the studies that confirmed the dynamics of echo chamber formation on social media on an

issue where ideological purification is sharp. Analyzing 5.5 million interactions between 2016 and 2018 on the tweets of the official youth organizations of Turkey's ruling and main opposition parties and the relatively independent Turkish Youth Union found that strong echo chambers were formed as a result of these interactions and that, with some small-scale exceptions, the parties polarized by exposing their ideological propositions. The findings that users generally follow two fragmented groups—the ruling and the opposition—and that the content shared is discussed in line with their political leanings confirm the tendency towards group polarization and extremism.

Serpil Yılmaz's master's thesis entitled "Echo Chamber Design in Social Networking Sites: The Case of Twitter" (2022) not only focused on the relationship of echo chambers to phenomena such as "othering," "polarization," and "cyber-balkanization" in the field of art, but also problematizes the tendency of Twitter users to use social media platforms to create echo chambers. The findings were obtained through interviews with 20 Twitter users.

Selected among the students at Sakarya University, as well as through observation and document analysis, the study concludes that Twitter has a manipulative design, that it emphasizes political discourses and ideological structures in terms of its purpose of use, and that the political content and provocative hashtags that are opened lead to political polarization and marginalization. The study also emphasizes that algorithms reinforce group membership, which serves to create echo chambers, ignore personal mistakes, and legitimize violence.

In another study on this topic, different social media platforms are analyzed to investigate how the flow of information affects the formation of echo chambers. A comparative analysis of more than 100 million posts on Gab, Facebook, Reddit, and X, especially on the controversial topics of "gun control, vaccination, and abortion," is conducted. The researchers state that their analysis focuses on two main issues. The first one is the homophilic (homosexual-loving) nature of the network, and the second one is the bias in the information published from like-minded sources. According to the results of this research, clustering among homophilic users dominates online dynamics. However, a direct comparison of news consumption on Facebook and Reddit revealed a higher level of discrimination against Facebook (Cinelli et al., 2021, p.1).

Another study concluded that echo chambers are stronger in offline social networks and that exposure to similar thoughts and information reinforces partisanship and polarization. However, the study also pointed out that consuming a one-way information diet does not always have negative consequences (Guess et al., 2018, p. 15). Hence, in our study conducted with the hashtag '#SUSyalMedyaYasası,' as in the aforementioned research, we concluded that the new social media law regulation was taken out of context in terms of both its content and scope, further strengthening some views and opinions, and this situation increased the echo chamber effect. In another study investigating the echo chamber effect, it was stated that X users form preferential groups/clusters. The study found that structuring individual accounts on the basis of shared ideology does not create clusters that polarize and exclude others (Bruns., 2017, P.9). In order to understand the echo chamber effect, the study recommends choosing more strategic topics, for example, conducting the research at a strategic time, "such as during an Australian federal or state

election or a period of intense partisan debate" (Bruns., 2017, p.9). (Bruns., 2017, p.9). Thus, in our study, with a similar concern in mind, the hashtag '#SUSyalMedyaYasası' was strategically chosen to measure the echo chamber effect in Turkey.

Another scientific study in the related literature investigated mainstream news, alternative news, and online political activism. Because of the research, it was concluded that users resolve their cognitive dissonance by consuming information that supports their pre-existing beliefs or engaging in an information diet. It is especially important to note that "people who embrace a conspiracy theory in one area, such as the 'non-existent' link between vaccines and autism, tend to embrace the corpus of all other complete theories" (Quattrociocchi., 2017, p.63). This study overlaps at a similar point with our study conducted in the context of the hashtag '#SUSyalMedyaYasası': The law regulating the virtual environment in legal terms is also understood by the masses in the context of various complementary theories rather than on the basis of a relatively pluralistic and democratic climate of opinion.

In a study conducted by Flaxman et al. (2016), to clarify the concerns of some academics that technological developments increase exposure to different viewpoints and that technological developments cause ideological discrimination, the web browsing histories of 50,000 users who regularly read online news in the USA were analyzed. The study found that "social networks and search engines play an important role in increasing the average ideological distance between individuals, that the majority of online news consumption consists of visiting the home pages of mainstream news sources, and that this consumption serves to soften the potential effects (both positive and negative) of recent technological changes" (Flaxman et al., 2016, p. 298). Unlike Flaxman et al.'s findings, in our study conducted in the context of the hashtag '#SUSyalMedyaYasası,' we conclude that polarization increases as ideological distance increases.

In another scientific study, the hypothesis that the probability of being in an echo chamber decreases as individuals' exposure to different forms of media increases and that the probability of being in an echo chamber decreases as political interest increases was tested. According to the results of the study, participants with no political interests experienced the echo chamber effect. Participants without political interests were less likely to be in the echo chamber because they had different media habits. In addition, participants on the extreme left or extreme right of the political spectrum are more likely to be in the echo chamber (Dubois and Blanki, 2018, p. 739). In our study, although we obtained similar clues about users clustered on the left and right political spectrum, we did not include the issue of whether users were exposed to different forms of media; therefore, we did not make such a measurement.

In another study examining the effects of filter bubbles and echo chamber on radicalization, a Randomly Assigned Controlled Trial (RCT) was conducted in X, where participants were randomly exposed to "filter bubble" (personalization algorithm) pressure. The results of this study suggest that the echo chamber effect may be due to the filter bubble and that more research is needed on online network structures for radicalization (Wolfowicz et al., 2023, p. 119). Based on a similar need, in our study, we wanted to test whether the selected topic creates a radicalization in the tendencies of X users to determine whether filter bubble pressure operates among users with different

views on a topic such as law, which is not directly political but has strategic and critical importance in the Turkish political conjuncture, taking into account the breadth of coverage and influence of effective political discourse in Turkey.

In this study, we found 20,036 connections among 7,150 actors in the tweets shared with the "#SUSyalMedyaYasası" tag. The analysis revealed that the diameter of the network (Maximum Geodesic Distance) was 13. This represents the longest distance along the shortest path between any two nodes. In other words, any user's message in a network can reach another user through a maximum of 14 intermediaries. For example, a user posted a tweet, and other users retweeted it. This action propagates in a chain-like manner, reaching up to the 14th user. Thus, a user's message can reach a maximum of 14 users, and it ends with the 15th person. Furthermore, as the "Maximum Geodesic Distance" distances from the "Average Geodesic Distance", it can be said that information spreads more slowly. On the contrary, in the opposite case, it can be stated that it spreads faster. In network analysis, the 'Maximum Geodesic Distance' was calculated as 13, while the "Average Geodesic Distance" was found to be 4.058472. According to this result, if users do not encounter a different argument that leads them to change their attitudes and beliefs up to the 13th node, they may get lost in the echo chamber effect. In other words, it takes significant time for new information to reach a user.

In this study, the maximum "In-Degree" value in the "#SUSyalMedyaYasası" network created by X users was 1205, and the maximum "Out-Degree" value was 77. According to these values, there is a difference in the interaction coming from and going to the actors in the "#SUSyalMedyaYasası" network. The difference between the "In-Degree" and "Out-Degree" values indicates activity within the "#SUSyalMedyaYasası" network. In other words, the interaction within the "#SUSyalMedyaYasası" network is high. One of the remarkable results that emerged from this analysis is the "Betweenness Centrality" value. "Betweenness Centrality" indicates the importance of each node in bridging different sections of the network. In other words, it points to nodes that, if deleted, would decrease communication and interaction within the network. In the "#SUSyalMedyaYasası" network, the maximum value for "Betweenness Centrality" was 11,788,476.790. If the user with the highest "Betweenness Centrality" value is removed from the network, this means that communication and interaction in the network will weaken, leading to disruption of the network's structure. In this study, the maximum value of "Eigenvector Centrality" was calculated as 0.345. The 'Eigenvector Centrality' value is determined based on the weight of the respective user and its neighbours in the network. Based on this value, it is possible to identify the most prestigious and influential user in the "#SUSyalMedyaYasası" network, who holds the highest power and reputation. When the actor with the highest Betweenness Centrality value in the network, y******* (dark green color and other colors clustered around it), is deleted, the interaction, communication, and density in the network decrease significantly. The total number of messages analyzed decreased from 20,036 to 7150. In addition, when we observe the network, the network does not disintegrate, but the intensity of the interaction shifts to that of the second actor. However, the intensity of communication outgoing from and incoming to the second actor decreased by 64.31% compared to the first actor. In order to strengthen the findings of this study, apart from the betweenness centrality value, we also investigated different

in-degree and out-degree users to measure the node/edge importance. In this manner, the most influential actor was removed from the network, and the network was observed again. The graphs presented below support the claims and conclusions of the study.

Table 1
Interaction Data for The Two Most Influential Users In The Interaction Table According To The Betweenness Centrality Value

	Vertex	Subgraph	Color	Shape	Size	Opacity	Image File	Visibility	Label	Label Fill Color	Label Position	Tooltip	Degree	In-Degree	Out-Degree	Betweenness Centrality	Closeness Centrality	Eigenvector Centrality
3	y[redacted]						https://pbs.twimg.co[redacted]		y[redacted]			y[redacted]		1205	60	11788476,790	0,371	0,345
4	z[redacted]						https://pbs.twimg.co[redacted]		z[redacted]			z[redacted]		397	1	6455356,747	0,249	0,000

Figure 1. The interaction network graph of user yigido**, which is the most influential actor according to the betweenness centrality value

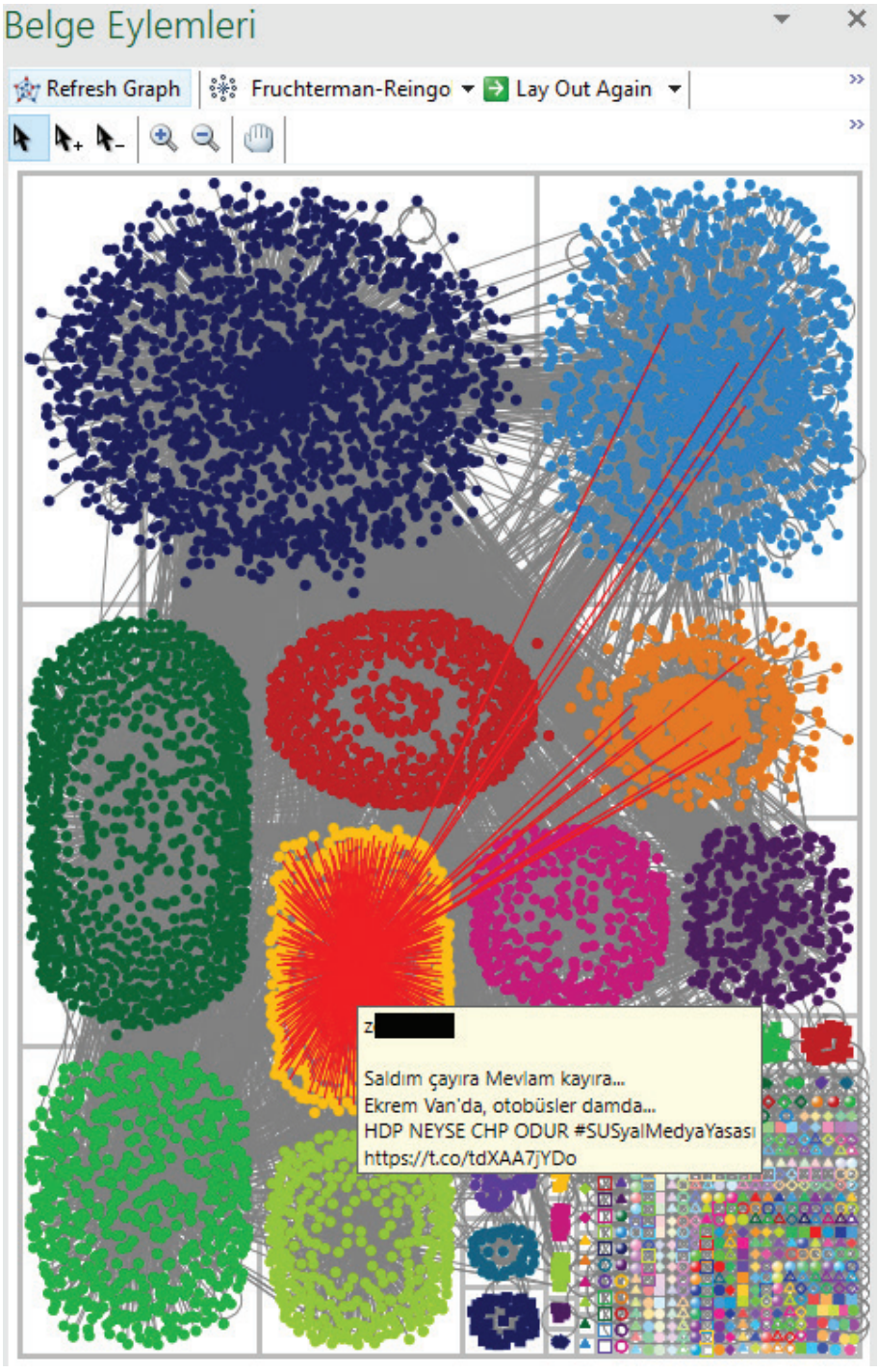

Figure 2. The interaction network graph of the zeki** user, which is the second most influential actor, according to the betweenness centrality value

Table 2
Interaction data for the two most influential users in the interaction table

Vertex	Subgraph	Color	Shape	Size	Opacity	Image File	Visibility	Label	Label Fill Color	Label Position	Tooltip	Degree	In-Degree	Out-Degree	Betweenness Centrality	Closeness Centrality	Eigenvector Centrality
[redacted]						https://pbs.twimg.co[redacted]					[redacted]		1205	60	11788476,790	0,371	0,345
[redacted]						https://pbs.twimg.co[redacted]					[redacted]		624	18	6005138,232	0,322	0,119

Figure 3. The interaction network graph of user yigido**, which is the most influential actor according to the in-degree value

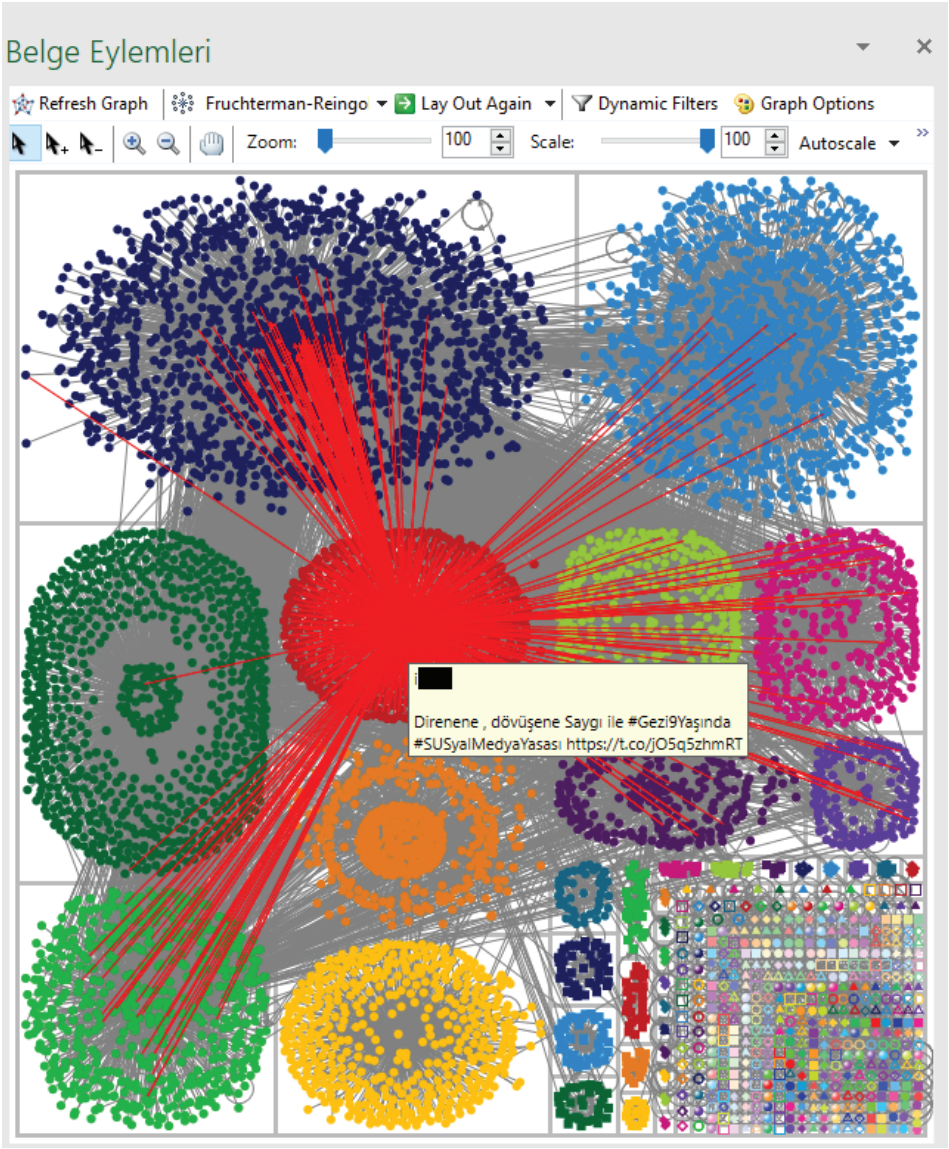

Figure 4. The Interaction Network Graph of The Ilk** User, Which Is The Second Most Influential Actor According To The In-Degree Value

Table 3
Interaction Data for The Six Most Influential Users In The Interaction Table According To Out-Of-Order Values

2	Vertex	Subgraph	Color	Shape	Size	Opacity	Image File	Visibility	Label	Label Fill Color	Label Position	Tooltip	Degree	In-Degree	Out-Degree	Betweenness Centrality	Closeness Centrality	Eigenvector Centrality
3	l[redacted]						https://pbs.twimg.com/profile_images/14009628059					l[redacted]		23	77	3009842,615	0,346	0,058
4	sons[redacted]						https://pbs.twimg.com/profile_images/15295611811					sons[redacted]		297	76	1828871,289	0,351	0,204
5	sana[redacted]						https://pbs.twimg.com/profile_images/15230305285					sana[redacted]		25	63	189397,857	0,307	0,076
6	y[redacted]						https://pbs.twimg.com/profile_images/13707579030					y[redacted]		1205	60	11788476,790	0,371	0,345

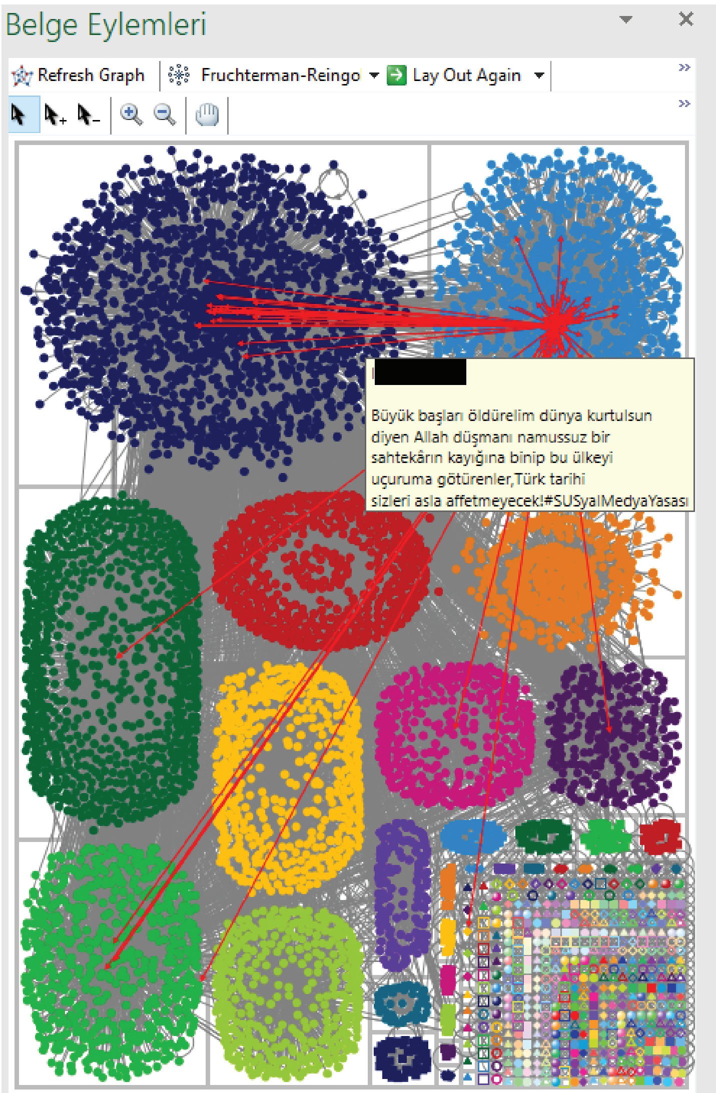

Figure 5. The interaction network graph of user lale**, which is the most influential actor according to the out-of-degree value

Figure 6. The Interaction Network Graph Of User Sonsuzluk**, The Second Most Influential Actor, According To The Off-Degree Value

Table 4

*According to the betweenness centrality value, the interaction data of the two most influential users in the betweenness centrality table formed after the data of the most influential user, yigi**, in the interaction table are removed.*

	Labels				Graph Metrics								
	Vertex	Label	Label Fill Color	Label Position	Tooltip	Degree	In-Degree	Out-Degree	Betweenness Centrality	Closeness Centrality	Eigenvector Centrality	PageRank	Clustering Coefficient	Reciprocated Vertex Pair Ratio
4	[redacted]					624	18		5983786,137	0,320	0,135	0,009	0,001	0,006
5	[redacted]					397	1		5914300,303	0,248	0,000	0,008	0,000	0,000

Figure 7. *Network graph of user ilk**, the most influential user in the betweenness centrality table, formed after removing the data of user yigi**, the most influential user in the interaction table according to the betweenness centrality value*

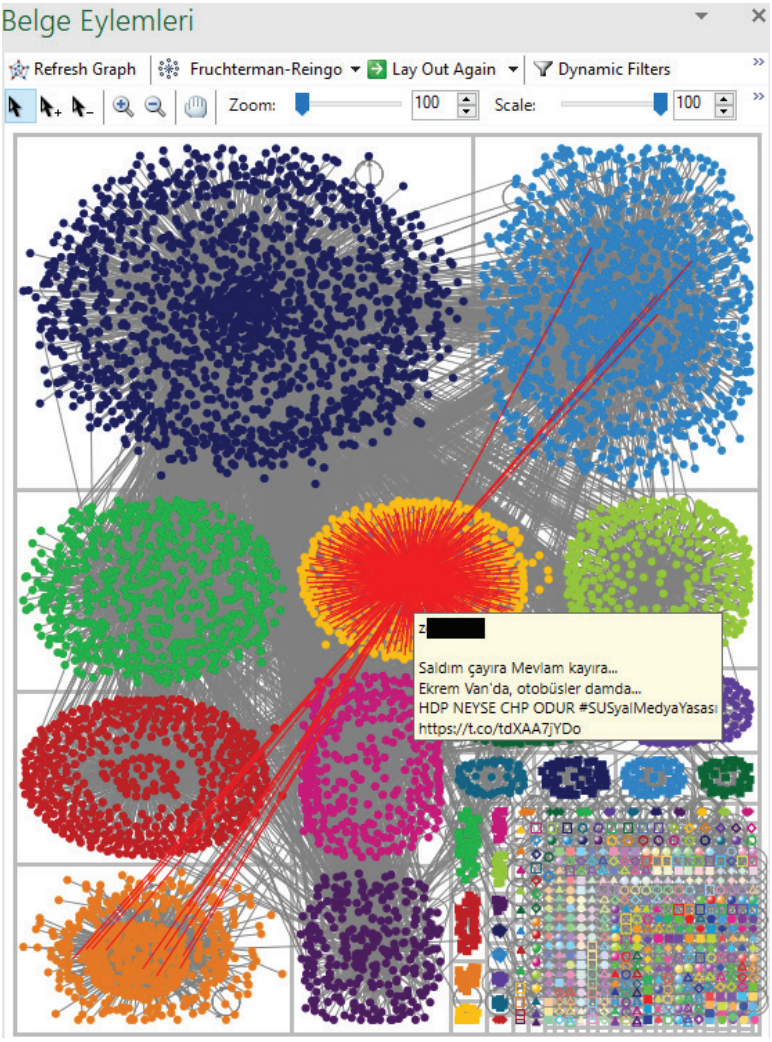

Figure 8. Network Graph Of User Zek**, The Second Most Influential User In The Betweenness Centrality Table, Formed After Removing The Data Of User Yigi**, The Most Influential User In The Interaction Table According To Betweenness Centrality Value

Table 5

*The Interaction Data Of The Two Most Influential Users In The Within-Order Table Formed After The Data Of The Most Influential User Yigi** In The Interaction Table According To The Betweenness Centrality Value Are Removed*

Vertex	Subgraph	Color	Shape	Size	Opacity	Image File	Visibility	Label	Label Fill Color	Label Position	Tooltip	Degree	In-Degree	Out-Degree	Betweenness Centrality	Closeness Centrality
						https://pbs.twimg.co					ilk_57Direnene , dövü		624	18	6005138,232	0,322
						https://pbs.twimg.co					zekibahceSaldım çayı		397	1	6455356,747	0,249

Figure 9. Network graph of user ilk**, the most influential user in the within-degree table, formed after removing the data of user yigi**, the most influential user in the interaction table according to the betweenness centrality value

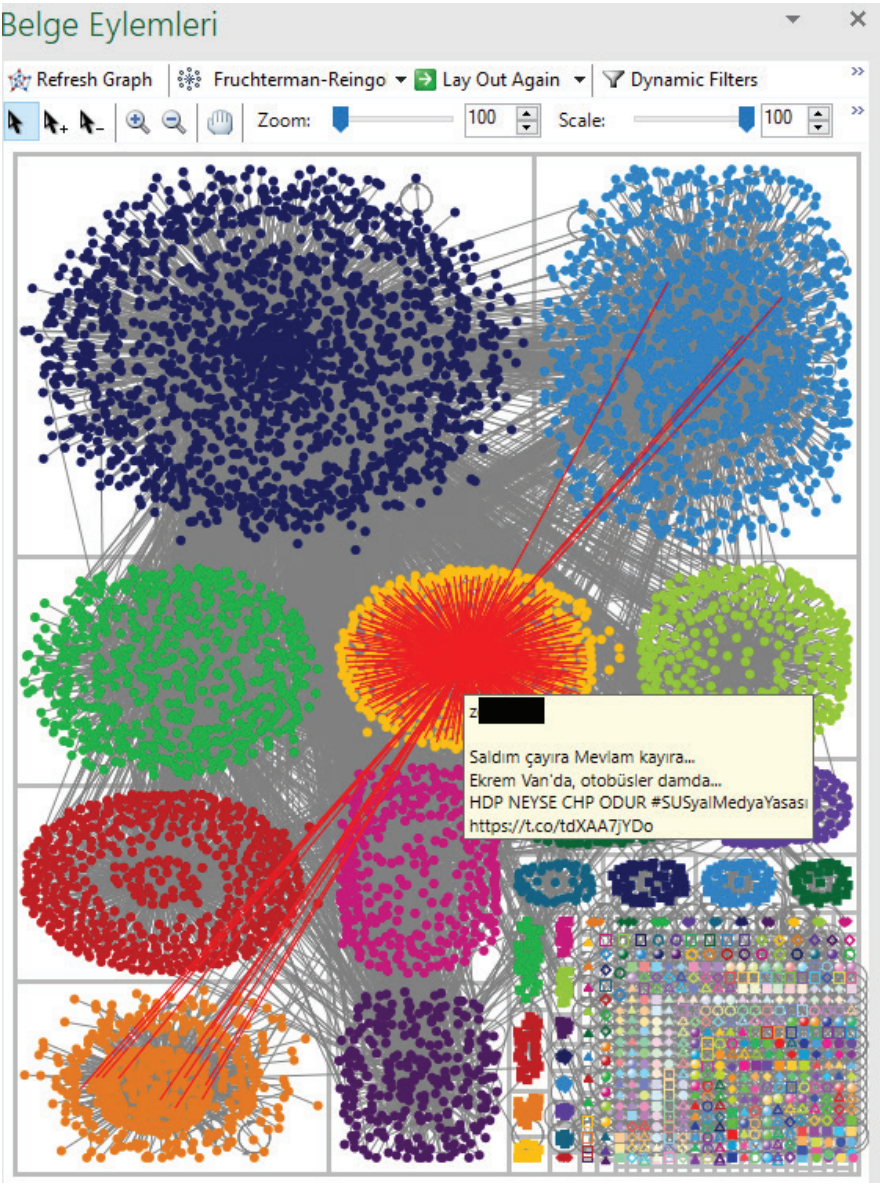

Figure 10. The Network Graph Of User Zek**, The Second Most Influential User In The Within-Degree Table, Was Formed After Removing The Data Of User Yigi**, The Most Influential User In The Interaction Table According To The Betweenness Centrality Value

Table 6

*Interaction Data Of The Two Most Influential Users In The Out-Of-Order Table Formed After Removing The Data Of The Most Influential User Yigi** From The Interaction Table According To The Betweenness Centrality Value.*

Vertex	Label	Label Fill Color	Label Position	Tooltip	Degree	In-Degree	Out-Degree	Betweenness Centrality	Closeness Centrality	Eigenvector Centrality	PageRank	Clustering Coefficient	Reciprocated Vertex Pair Ratio
[redacted]	[redacted]			[redacted]		23	76	2354962,486	0,330	0,062	0,000	0,043	0,032
[redacted]	[redacted]			[redacted]		296	75	1909590,036	0,337	0,236	0,002	0,023	0,105

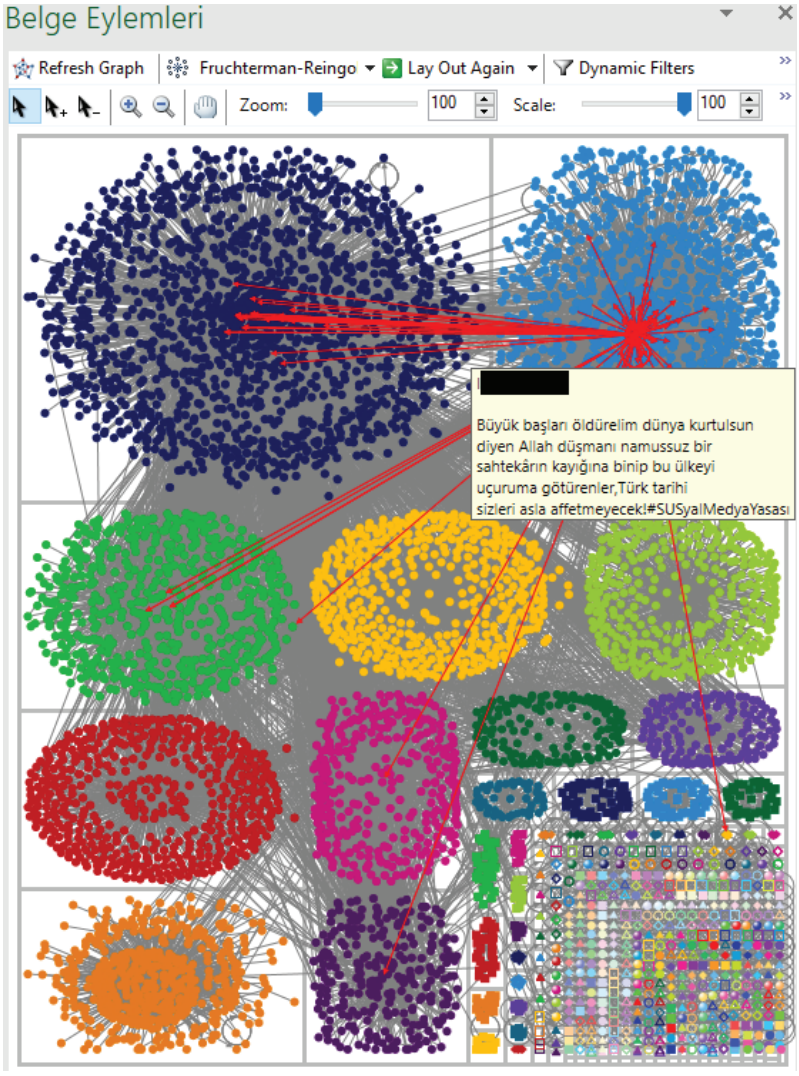

Figure 11. The Network Graph Of User Lal**, The Most Influential User In The Out-Of-Degree Table, Was Formed After Removing The Data Of User Yigi**, The Most Influential User In The Interaction Table According To The Betweenness Centrality Value

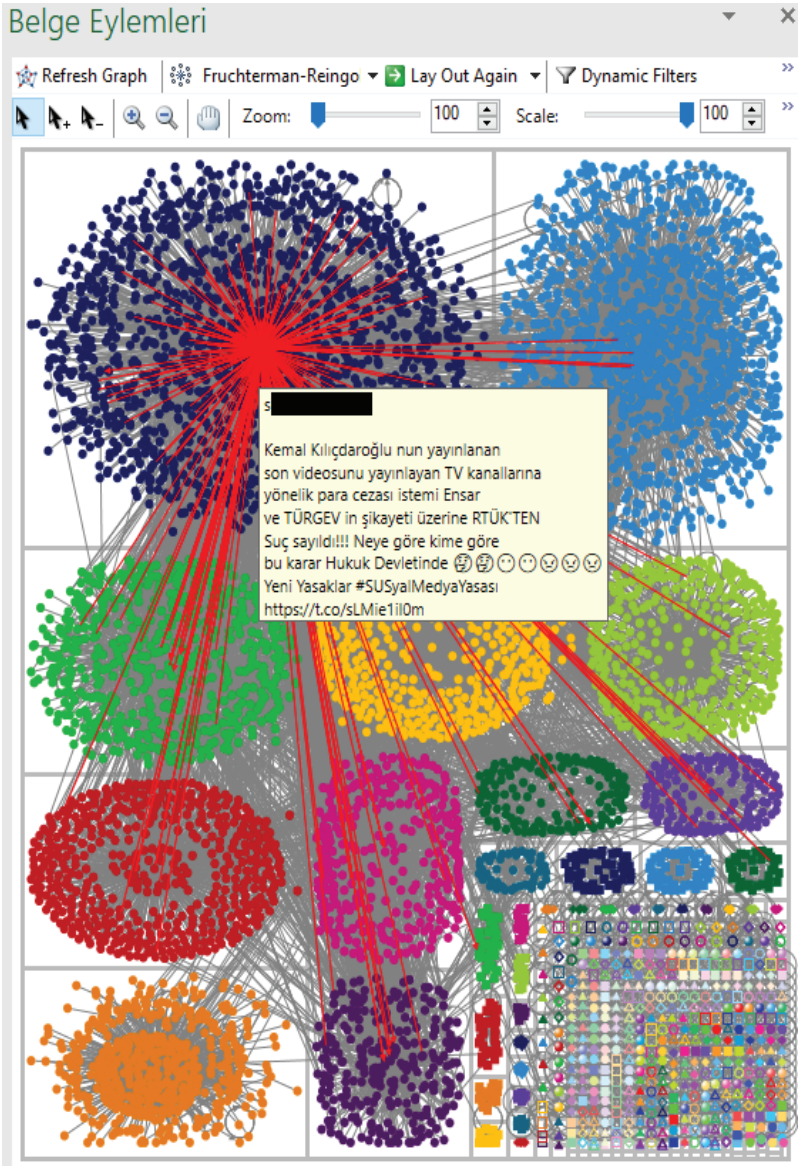

Figure 12. Network Graph Of User Son**, The Second Most Influential User In The Out-Of-Degree Table, After Removing The Data Of User Yigi**, The Most Influential User In The Interaction Table According To The Betweenness Centrality Value

In this study, network visualizations were created using the selected settings and calculations in the NodeXL program, and the "Fruchterman-Reingold Algorithm" was used for this process. "Fruchterman-Reingold" is one of the most commonly used algorithms for social network visualizations. Networks consist of different nodes, and the relationship between these nodes is called "connection" or "link". Connections can be either 'directed' or "undirected". The "Fruchterman-Reingold Algorithm" can successfully visualize both directed and undirected networks (Fruchterman, & Reingold,

1991). The "Fruchterman-Reingold Algorithmm" was used in the network visualizations which are presented below, and descriptive analyses were conducted, and the vertex size was calculated according to the weight in the "Eigenvector Centrality". The "Eigenvector Centrality" determines the influence and importance of a node in a network (Newman, 2010). In this context, the influence and importance of a node depend not only on its neighbouring nodes but also on how influential they are within their nodes. According to this power direction, it can be seen that some users are left outside the map, and there is a clustering towards the centre of the visualization. In other words, it can be concluded that the most influential actors in the network are gathered towards the centre through this algorithm, whereas the less influential actors remain on the periphery. In the following section, a more detailed descriptive analysis of the findings is presented, accompanied by the network visualizations of these findings.

Network Visualization and Descriptive Analysis of '#SUSyalMedyaYasası'

It is observed that the tweet receiving the highest interaction in the "#SUSyalMedyaYasası" network, based on the 'In-Degree' value, is the post by the user 'y*********' which states, "Let justice prevail, even if doomsday comes #SUSyalMedyaYasası". In other words, in the "#SUSyalMedyaYasası" network, the user 'y*********' receives the highest number of interactions based on the "In-Degree" value. The network visualization and descriptive analysis of the interactions received by the account 'y*********' are as shown in Figure 13.

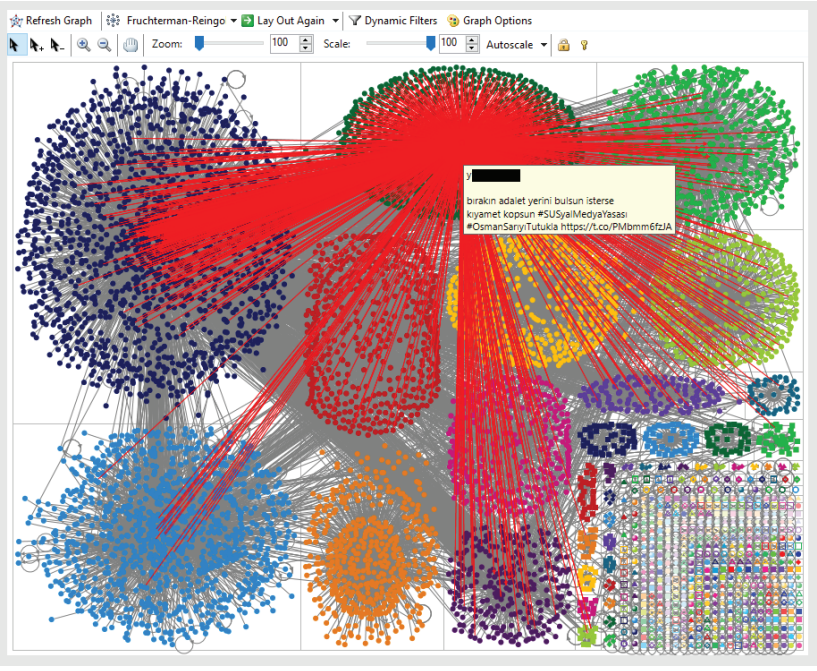

Figure 13. In-Degree Fruchterman-Reingold network visualization for the user 'y*********'

'y*********' account shared 5 tweets. The account received 76 responses. According to the descriptive analysis conducted based on the tweet selection criteria mentioned above, the messages shared by the "y*********" account are as follows: "Yaşar Nuri Öztürk 🙏 👏 #SUSyalMedyaYasası, #PricesIncreased, From where to where. #SUSyalMedyaYasası, #WeHaveSeenThis, From where to where. #SUSyalMedyaYasası, I only applaud Melek Mosso 🙏 👏 #SUSyalMedyaYasası." The visuals attached to the tweets of the user 'y*********' are presented in Figures 1a and 1b.

a.

Western countries do not want Turkey enlightened by Atatürk's prescription. However, they fully support a Turkey poisoned and paralysed by religious propaganda.
Yaşar Nuri Öztürk

b.

Once a time, we used to produce sugar beets. We would make sugar and sell it to the world.

Image 1 a, b. 'The visuals attached to his/her tweets by the user 'y*********'

The user 'y*********' touches upon the topics currently on the agenda in Turkey in his/her tweets. Indeed, it is possible to infer this from the visual (sugar beets) attached to the expressions "prices increased, from where to where, we have seen this". In addition, in the user's tweet that says "I only applaud Melek Mosso", his/her reaction can be seen regarding the cancellation of Melek Mosso's concert at the Isparta International Rose Festival, which was scheduled to take place on June 3, 2022, for moral reasons. The user draws attention to the effect of the Western world on Turkey and claims that Turkey has transformed into a society of atomized individuals through 'religious propaganda' by using a quote from Yaşar Nuri Öztürk to support his/her argument. The user 'y*********' is the most prominent user in the '#SUSyalMedyaYasası' network based on the 'In-Degree' value, receiving the highest number of interactions. This user especially associates the hashtag '#SUSyalMedyaYasası' with the problems related to the economy and artists in Turkey and also underscores that the Western world desires a Turkey that is isolated from the principles and values of Mustafa Kemal Atatürk. Whether or not other users share similar discourses and thoughts with the user named 'y**********' in their interactions with the messages of the user named 'y*********' is an important statistic in terms of

revealing the echo chamber effect. In this context, some of the responses to the tweets of 'y**********' are as follows:

"Nowadays, the country's sources of livelihood are no longer industry, agriculture, and animal husbandry; Traffic fines, paid military service, construction amnesty, fuel, alcohol, and cigarette price increases, and taxes." We have become a society enslaved to daily price increases, with bills piling up. What should we do now? Should we only speak truth in our afterlife? #SUSyalMedyaYasası"

"We will call wrong as wrong and crooked as crooked. We will not cower or fear. We will not stay silent. We won't be afraid. #SUSyalMedyaYasası"

"This is a psychological manipulation. #SUSyalMedyaYasası. What is the criterion for distinguishing real news from misleading information that deceives the public? Citizens complain about poverty and are not able to make ends meet, the media reports, and the president says there is no one struggling. Now, which of this information is the true news?#SUSyalMedyaYasası"

"Hooray, now @news won't be able to deceive people with manipulation and fake news anymore." We're already writing the truth. That is why we are not afraid of #SUSyalMedyaYasası.!!"

"THEY DON'T LIKE PEOPLE WHO THINK, SPEAK AND QUESTION 👊👊 DOWN WITH DESPOTISM, LONG LIVE FREEDOM ❗ #SUSyalMedyaYasası"

"#LPG 4,49 ₺ 11,40 ₺ #Gas 7.80 ₺ 25.30 ₺ #Diesel fuel 7.26 ₺ 24.50 ₺ #SUSyalMedyaYasası"

"Price increase Ok, Well done... #SUSyalMedyaYasası"

"Gezi is not just an event." Gezi is our pride. #Gezi9yaşında #SUSyalMedyaYasası"

"Will the #SUSyalMedyaYasası be applicable to the trolls who claim that the slogan "EVERYWHERE IS TAKSİM" chanted at the Maltepe People's Rally, is twisted on social media as "EVERYWHERE IS TAKSİM"? Or is the regulation being made only for the opposition? "#SUSyalMedyaYasası ✋Sometimes a single silent frame speaks too much. 👇"

It can be observed that the responses from other users to the tweets from the account 'y*********' overlap with each other. Indeed, authors emphasize that individuals feel less isolated in the online environment; however, they still observe the general climate of public opinion out of fear of being socially isolated and sometimes adopt discourses that align with those of the authorities, refraining from expressing their true thoughts (Liu and Fahmy, 2011, p.47). In other words, adherence to conformity operates strongly in the online realm. This situation, as in the case of the "#SUSyalMedyaYasası" network, easily leads to the echo chamber effect. Indeed, as users respond to the actor 'y*********' in the discussion, they make various inferences about the nature of the new social media law, but these inferences closely align with statements made by the main actor almost identically. Social media users provide a series of anecdotal evidence in inferences regarding Turkey's recent prospects. Users emphasize that the nature of the law is not capable of addressing the deficiencies in Turkey's social media public sphere. On the contrary, they argue that there is an attempt to hinder discussions about significant social events and

developments in Turkey, and highlight the media's failure to bring current issues to the agenda. In particular, in the past, headlines that expressed reactions when price increases occurred could be seen on social media. Nowadays, it's like the government's bulletin board, with everything simply labelled as 'price increase'. In her tweet "Price increase Ok, Well done... #SUSyalMedyaYasası" the user subtly referred to agenda-setting theory, accusing the media of constructing the agenda. They criticisecriticize the media for to stimulate critical thinking, create a platform for meaningful discussions on specific issues and channel public reactions into institutional political platforms. However, they do not mention the positive contributions that this law could bring to the public sphere of social media. They view this law as a 'suppression law' and a 'silencing law' in short.

Image 2. Tweet is over.

The phrase “the tweet is over” is included in Image 2. The phrase “the tweet is over” should be understood as an implied and somewhat ironic response by the user, which can be interpreted as “I have run out of things to say”, “that’s it for my defense”, “okay, I’m done”, etc. In the messages received by the user ‘y*********’, it is evident that there is a prevailing belief that the social media law is being enacted to prevent criticism of the government in economic, cultural, and political matters, and to suppress citizens’ freedom of expression. On the other hand, another observed result is that opposition users tend to harbour the suspicion that social media law is enacted solely to intervene in their activities. Furthermore, it should be noted that the message “Let justice prevail, even if doomsday comes #SUSyalMedyaYasası” shared from the account of the user ‘y*********’ in the presented network visualization is a retweet. The user ‘y*********’ responded to the message with a ‘self-loop’ characteristic shared from the account ‘h******’, which states, “Stay silent about poverty!” Stay silent about inflation! Stay silent about injustices! Stay silent about lies and plundering! We will not stay silent #SUSyalMedyaYasası”. The term ‘self-loops’ refers to ‘self-contained messages. The circles in Figure 14 represent self-loop messages. The red circle in the network diagram represents the user ‘h******’. Both the user ‘y*********’ and the user ‘h******’ attached an image titled ‘Justice for Ezgi’ to their messages (Image 3). This image calls for justice for women who have fallen victims of murder. It is possible to see this image and the call-to-action in many tweets on the ‘#SUSyalMedyaYasası’ network. Users are concerned that the new social media legislation will also hinder such calls to action.

Image 3. Justice for Ezgi visualization of the user ‘h******’.

Figure 14. The Fruchterman-Reingold network (self-loops)

The prominent actor in the "#SUSyalMedyaYasası" network based on the "Out-Degree" value is the user 'l**********'. The user '**********' shared 4 posts from his/her account. Users interacted with the actor 'l**********' who had the highest number of interactions with others through 100 posts. The tweet of the user 'l**********' as follows: "Those who board the boat of a godless imposter, shamelessly proclaiming 'Let's kill the great leaders to save the world' and leading this country to the edge of the abyss, Turkish history will never forgive you! #SUSyalMedyaYasası." Other tweets shared by the user 'l**********' are as follows: "Don't we have a single patriotic representative in the parliament? #SUSyalMedyaYasası #SosyalMedyayaKelepce. It seems they are more afraid of the truth. #SUSyalMedyaYasası #SosyalMedyayaKelepce." The highest number of connections based on the 'Out-Degree' value was directed towards the account named 'l**********'. This user expresses that lawmakers should react to the new social media

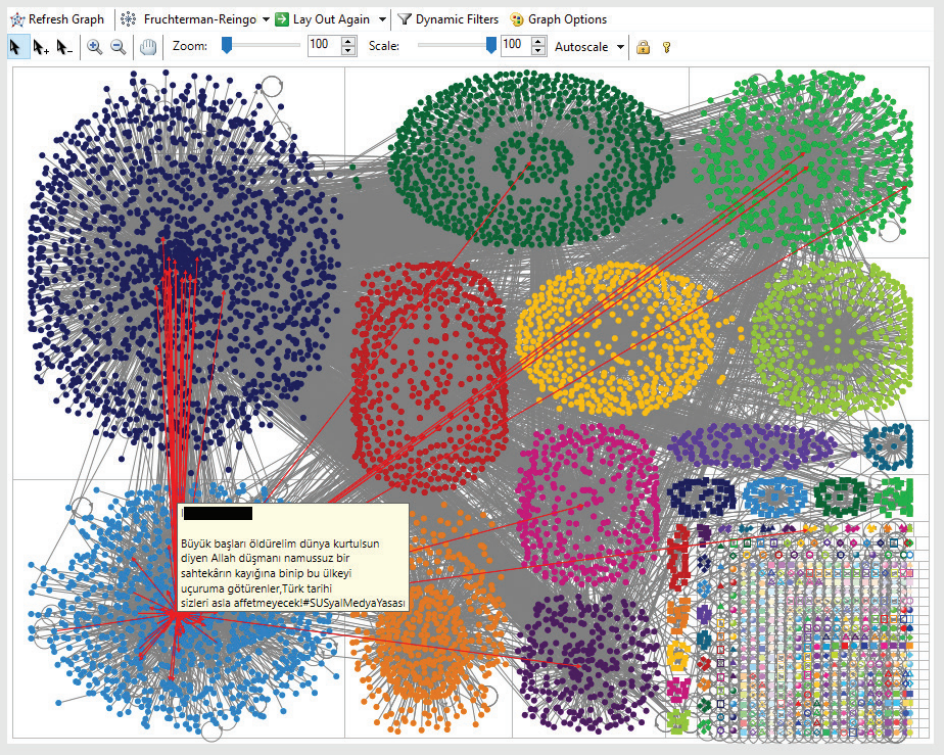

Figure 15. The Out-Degree Fruchterman-Reingold network visualization of the user 'l**********'

According to the given data, it can be observed that the account with the highest content production is the account of the user 'l**********'. The messages constructed by other users whose tweets were received from this account are as follows:

"After exercising your freedom of expression, you will no longer be free. #SUSyalMedyaYasası."

"Enough is enough!" Solve the problems of citizens. Pro-government websites, bootlicking media, especially A News, spread false news all day long. First, fix them. Are you also going to silence us? Say NO to censorship law #SUSyalMedyaYasası""

"Our problem is that we are trying to seek justice through this platform. The problem will be solved with the unity of our people, that unity that includes all 81 provinces—rightists, leftists, nationalists, and Muslims. Only then can we prevent threats against those who want to speak the truth. Wake up. #SUSyalMedyaYasası"

"They don't want anyone to learn the truth." It's clear and straightforward: any sharing that the government dislikes can now lead to imprisonment... #SUSyalMedyaYasası"

"We were supposed to establish a national and local social media platform, but instead, a law was introduced to silence national and local individuals on social media. From where to where ... #SUSyalMedyaYasası"

"#SUSyalMedyaYasası the sustenance of pharaohs is indifference and silence... As silence persists, oppression will grow and become insurmountable."

"'#SUSyalMedyaYasası' Start with your trolls because it is your trolls who are spreading the biggest lies, uttering unspeakable profanities and crossing all limits with their tweets. #SosyalMedyayaKelepce"

When the above tweets and similar posts in this context, which could not be included here, are analyzed descriptively, users can be said to imply that the new social media law will not intervene with pro-government media, but rather emphasize that the real target is oppositional posts. Moreover, they highlight that mainstream media distorts societal truths and manipulates the masses, causing them to disconnect from the true issues in the country. These users, who are concerned that expressing the truth will be considered a crime, argue that the government is trying to prevent the public from learning the truth. Users who express that this law is a law of silencing also approach the notion that the law will serve as a measure against unethical attacks targeting the most vulnerable groups in the public sphere of social media, such as children, women, the elderly, youth, political minorities, disadvantaged groups, etc., with scepticism. One particularly remarkable issue here is the ambiguity regarding the criteria for determining the accuracy/verification of news. Indeed, users are heavily concerned because it is the political power that ultimately decides whether information, which is claimed to manipulate the masses, carries a distortion purpose or not. This situation raises serious concerns. In general, it can be emphasized that users believe that discussions and statements about the deteriorating state of the economy are truly being silenced. Users in the '#SUSyalMedyaYasası' network are also offering solutions and suggestions regarding this issue. In this regard, it is expressed that an ideology-free approach is necessary despite the threat of silencing. It is stated that by genuinely believing in and expressing what one knows and thinks while avoiding offensive language, one can also escape the grip of censorship. If these paths are not chosen, it is emphasized that just like television screens, social media will become a silenced public sphere. Such a situation significantly casts a shadow over the nature of the public sphere of social media.

Another value analyzed in this study, as previously mentioned, is the 'Eigenvector Centrality' value. This value is determined based on the weight/power that the user and their neighbours possess in the network. It is possible to identify the most prestigious actor in the "#SUSyalMedyaYasası" network, who has greater power and reputation than others, on the basis of this value. In this study, the most prominent actor in the "#SUSyalMedyaYasası" network is seen to be the user 'y*********' both in terms of 'Eigenvector Centrality' value and 'In-Degree' value. Therefore, the focus shifted to the second most influential actor according to the 'Eigenvector Centrality' value. In this study, the second most influential actor was the user 's**********'. Accordingly, 5 tweets were shared from the account named 's**********' and these tweets are as follows:

"The more taboos there are in a country, the less freedom there exists." Aziz Nesin said, 'We will solve Turkey's problems.' What have you been waiting 20 years to solve them for 20 years? Come and be silent!!!!! #SUSyalMedyaYasası. The resistance of those who do not submit is 9 years old. Darkness fades away, Gezi remains....! #Gezi9Yaşında ✊ #SUSyalMedyaYasası." When the content of these tweets is examined, it can be seen that the user emphasized that the political government could not solve vital problems

and made reference to the Gezi Park events. The network visualization of this user is presented in Figure 16.

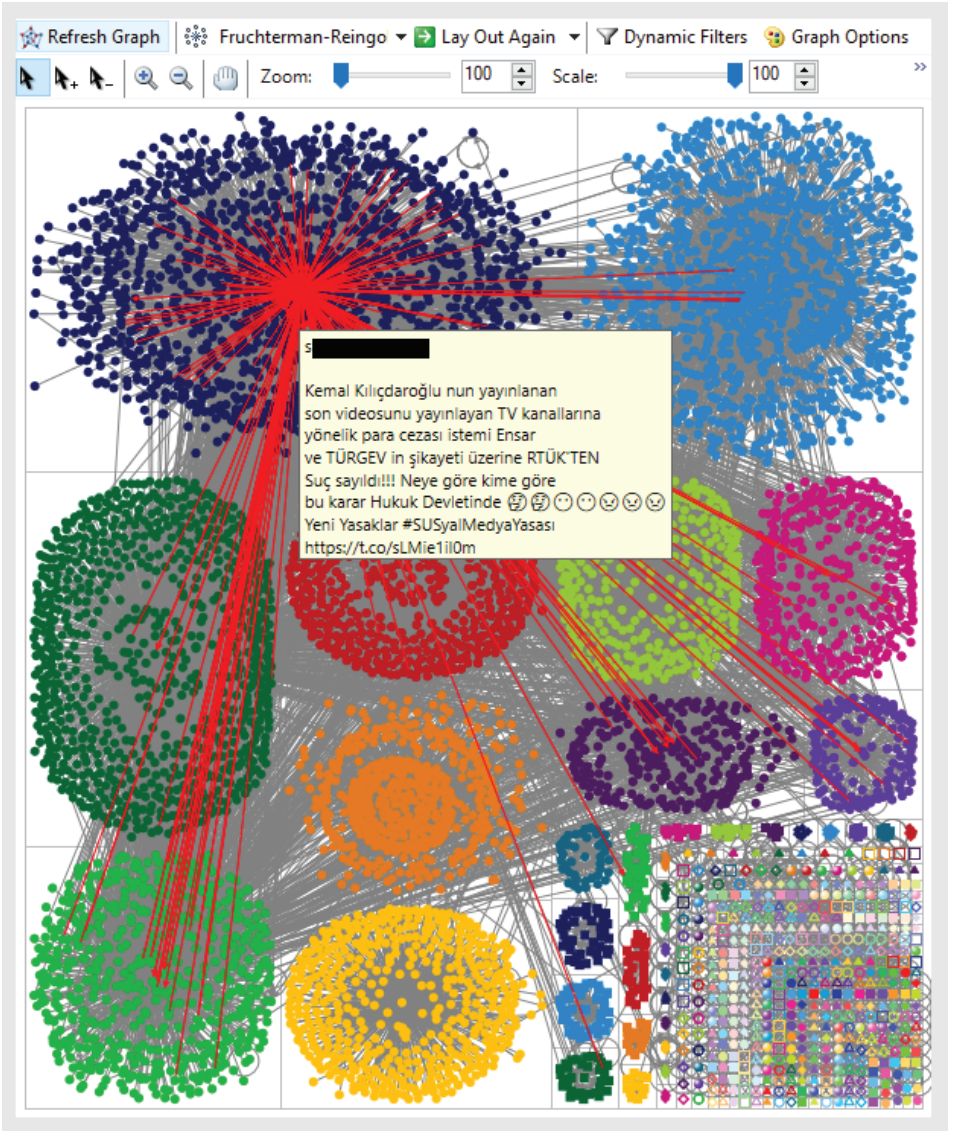

Figure 16. Eigenvector Centrality network visualization of the user 's**********'

During the analysis process, 105 responses were received from other users who interacted with the user named 's**********'. Tweets shared by users are as follows:

"Social media law contains provisions that restrict freedom of thought and expand state surveillance and control. You seem to think that if we remain silent, the issue will disappear. But what if history remains silent? If history remains silent, then truths will not be silenced. #SUSyalMedyaYasası social media will not be shut down!"

"The government, by increasing the wages of the retired, workers, and public servants once a year, and by raising the prices of electricity, natural gas, and gasoline 10 times a year, is introducing the law of #SUSyalMedyaYasası, hoping that we will not write or speak about it. If you remain silent today, if you stay quiet, you will never be able to speak again..."

"Until today, they only banned the truth. Those who try banning everything are afraid of certain things. We will see, we will hear, and we will put our words into writing....!!! #SUSyalMedyaYasası"

"I will not be silent, I will not give up, Never and ever, I will not be afraid. #SUSyalMedyaYasası"

"If disinformation is the case, A Haber and the troll accounts are in trouble ..(!) #SUSyalMedyaYasası."

As evident from the above tweets, the tweets from the account 's**********' suggest that the new social media law will pose barriers to freedom of expression. Other users who interact with the account 's**********' also share similar thoughts with him/her. The new social media law is perceived by users as a sanction that restricts freedom of thought and opinion. With this law, there is a prevailing concern that it will establish an effective surveillance mechanism, particularly within pro-government circles, over public opinion. On the other hand, the analysed tweets of the users share a common view regarding the purpose of the new social media law. They believe that the law will suppress criticism of opposition groups regarding the country's economy. In addition, these users also expressed concern that the new social media law will only impose sanctions on opposition voices, worsening the fear of selective targeting. Especially among opposition users, pro-government users engaging in 'trolling' behaviour, emphasizing that the first intervention should target politically aligned users supporting the government. In particular, from the tweet "If disinformation is the case, A Haber and the troll accounts are in trouble (!) #SUSyalMedyaYasası", it can be understood that the new social media law is being approached by opposition users from a partisan perspective.

The tweet shared by another user, "If the media belongs to the sultan, social media is ours..!! ✌ #SUSyalMedyaYasası" confirms the belief that mainstream or widespread media are under the control of groups financed by the political government. On the other hand, this indicates that new communication platforms have relatively escaped the grip of monopolized ownership and various structural determinants, such as dependence on official announcements and advertisements, paper aid, tax cuts, and so on, which serve as sources of income for traditional media.

Another notable result that stands out in the analysis section is related to the "Betweenness Centrality" value. As mentioned previously, "Betweenness Centrality" indicates the importance of each node in bridging different sections of the network. In other words, the actor with the highest Betweenness Centrality value keeps the nodes that provide interaction, communication, and density in the network together. In the '#SUSyalMedyaYasası' network, the maximum value of "Betweenness Centrality" was found to be 11788476.790. According to Betweenness Centrality, the user 'y*********' emerges as the most influential actor. This actor is also the most influential according to

the mentioned “Eigenvector Centrality” and “In-Degree” values. Therefore, the focus shifted to the second most influential actor according to the “Betweenness Centrality” value. ‘Betweenness Centrality’ is an important measure because if users with the highest or close to the highest value are removed from the network, The density in the network’s information system decreases significantly.

In other words, if a user has a high “Betweenness Centrality” value, it can be said that this actor serves as the information hub of the network. In this context, the tweets of users who control information exchange and communication as the information hub in the “#SUSyalMedyaYasası” network are of great importance. In this regard, the user named ‘z********’ is the most influential actor in the network “#SUSyalMedyaYasası” after ‘y**********’. The tweet shared by the actor is as follows: “Ekrem is in Van, buses are on the roof... HDP IS WHAT THE CHP IS #SUSyalMedyaYasası.” The user ‘z********’ sent 1 message from his/her account, and the number of interactions received by this user was 397. The network visualization of the user named ‘z ********’ (Figure 17) and the content he/she used to support his/her tweet are presented in Figure 18.

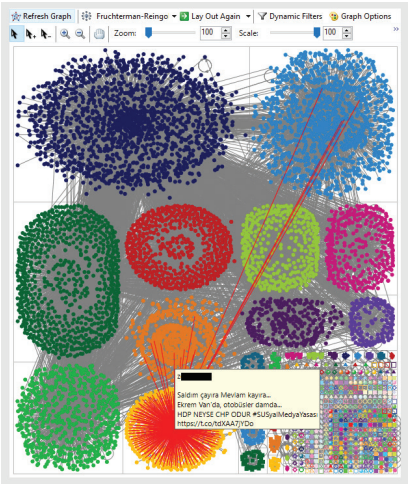

Figure 17. Betweenness Centrality network visualization of the user ‘z********’

Image 18. Of an accident attached to his/her tweet by the user ‘z********’

In the analysis, it was found that out of the users who interacted with the actor ‘z********’, 397 of them said, “Ekrem is in Van, buses are on the roof... HDP IS WHAT THE CHP IS #SUSyalMedyaYasası. These data confirmed the echo chamber phenomenon. Indeed, users detached the ‘#SUSyalMedyaYasası’ hashtag from its original context and constructed it solely by supporting the expressions of the actors they followed. Moreover, in these messages, without presenting any arguments, they argue that CHP is the same as HDP, which they directly associate with terrorism. In this regard, both the HDP and the CHP are being coded as two factions that betray the country. As expressed by Suler (2005, p.184) stated, users in virtual environments believe that they can share expressions involving profanity, violence, bullying, perversion, lies, threats, and hate without facing consequences. As demonstrated in this example, users perceive online fiction differently from offline realities, leading them to act as though online

discourse has no tangible consequences in the real world. Social media is often perceived as a public space where ethical and moral principles are ignored and where identity and differences are disregarded (Suler, 2005, pp.186-187).

Results and Suggestions

In this study, the maximum geodesic distance in the #SUSyalMedyaYasası network formed by X users with 20,036 connections and 7,150 actors was 13. This represents the longest distance along the shortest path between two nodes. In other words, a message from one user in the network can be sent to another user through a maximum of 14 intermediaries. In addition, the farther the "maximum geodesic distance" is from the "average geodesic distance," the slower the information travels. In contrast, the closer it gets, the faster the information spreads. In the network analysis, the "Maximum Geodesic Distance" was calculated as 13, while the "Average Geodesic Distance" was found to be 4.058472. According to this result, if users do not encounter arguments that change their attitudes and beliefs until the 13th node, they may become lost in the echo chamber effect. In other words, it may take a long time for new information to reach the user. In this respect, it is concluded that the information circulating in the #SocialMediaLaw network generally carries similar attitudes and beliefs.

In network analysis, the maximum in-degree value was 1205, and the maximum out-degree value was 77. The in-degree value indicates the highest number of interactions. According to this value, users argue that the law is trying to prevent the discussion of important social events and developments in Turkey. Complaining about the media's failure to put the public's problems on the agenda, users see the media as a bulletin board for the government. According to the "In-Degree" value, users perceive the law as a "law of suppression," in short, a "law of silence." The "Out-Degree" value refers to the most outgoing connections. According to this value, users stated that the new social media law will not affect pro-government media. In addition, the mainstream media is believed to distort social facts and manipulate the masses. X users are sceptical about the idea that the law can also serve as a measure against unethical attacks against children, women, the elderly, youth, and the most vulnerable groups in the social media public sphere.

In this study, the "Betweenness Centrality" value was found to be 11,788,476,790. If a user with this value is removed from the network, communication and interaction in the network will reduce. In other words, Betweenness Centrality indicates the importance of each node in bridging different parts of the network. In this study, the maximum value of "Eigenvector Centrality" was calculated as 0.345. The Eigenvector Centrality value is determined by the weight of the user and its neighbors in the network. Based on this value, it is possible to identify the most prestigious and influential user of the #SocialMediaLaw network with the highest power and reputation. If the actor with the highest "Betweenness Centrality" value is removed from the network, the interaction, communication, and density in the network decrease significantly. In fact, the interaction decreased by 64.31% when this actor was deleted. The messages sent and the replies received by the user with this value are similar. The hashtag "#SUSyalMedyaYasası" is used out of context and associated with expressions containing hate speech.

The "Eigenvector Centrality" value was calculated as 0.345, indicating the most prestigious and influential users. In the messages posted according to this value, it can

be seen that the new social media law will be used as a sanctioning tool that restricts freedom of thought and opinion and will operate like a surveillance mechanism to sanction dissenting voices.

The results obtained in the current study can be summarized as follows: While the new social media law aims to prevent the creation of illegal content from fake accounts that foster hatred and discrimination based on national origin, religious beliefs, class differences, sexism, disabilities, and ageism, and users engage in insults, defamation, or disparagement of institutions or individuals, users within the "#SUSyalMedyaYasası" network have disregarded this purpose entirely. Instead, they predominantly engage in partisan debates on various issues concerning the country through the hashtag, creating a sharp polarization with their different discourses.

It has been revealed that users within the "#SUSyalMedyaYasası" network believe that their messages primarily aim to prevent the use of "troll/fake/false accounts". Furthermore, it has been observed that users perceive the law within a partisan cognitive framework and emphasize that the law has been enacted to shut down media outlets such as newspapers, magazines, television channels, etc., which they perceive as the media of the "other".

In addition, users who believe that the new law violates democracy and freedom of expression argue that the government intends to enact this law as a serious obstacle to the free formation of public opinion. This viewpoint was also supported by the most influential actors within the "#SUSyalMedyaYasası" network and the other users clustered around these actors.

In the "#SUSyalMedyaYasası" network, similar voices are often echoed, and individuals under the influence of the echo chamber effect tend to overlook the contribution that the law can make to the public sphere of social media. Consequently, the topic is being discussed in entirely different contexts, thereby leading users to frequently express the belief that the government does not want citizens to think freely and express their thoughts boldly.

Due to the echo chamber effect, users who describe the law as the 'silence law' hardly mention unethical attacks targeting the most vulnerable segments, including children, women, the elderly, youth, members of political minorities, and other disadvantaged groups, which the law promises to prevent.

When evaluated from the perspective of critical media literacy, it can be concluded that users do not perceive the law as contributing to the development of important and positive values such as tolerance, empathy, and understanding pluralism. However, they appear to be quite conscious of the media's responsibilities towards the public.

Summing up the expressed points so far, it can be said that users hold a perspective suggesting that the new social media law will only impose sanctions on individuals with dissenting thoughts and opinions, while no intervention will be made towards the supporters of the government. In fact, one of the remarkable results of this study is related to the issue of who will decide on the accuracy/confirmation criteria of the news. In this regard, users often state that the issues expressed in the law should be clarified more clearly.

In light of all these results, it should be suggested that, in addition to internalizing human rights, freedom of expression, democratic values, tolerance, and understanding pluralism, it is also possible to avoid the echo chamber and filter bubble effects by engaging in various social media practices. In this regard, some applications such as PolitEcho, which reveals the political tendencies of Facebook users' friends on social media; Public Broadcasting Service, which measures whether the audience is inside an echo chamber and to what extent; FlipFeed, which flips political views on X by showing users different news, perspectives, comments, photos, etc., to break polarization among users with entrenched beliefs; Read Across The Aisle, which allows users to read news from various sources and see their political leanings/directions to demonstrate political bias; and Escape Your Bubble, which paints content related to individuals and views that Facebook users want to be more accepting of are some examples in this context. All these applications are actually data curators. The applications listed above are trying to reduce the effect of echo by doing what social media users should normally do on their behalf. Through these applications, users can prudently review their thoughts or fabricate more accepting opinions. In summary, these applications can be considered to make significant contributions to creating a relatively pluralistic and democratic climate of opinion in the public sphere of social media, by breaking the echo chamber effect. Recommendations for researchers and interested parties; this study is limited to X data; the impact of the new social media law on public opinion can also be analyzed on other social media platforms (Facebook, Instagram, Reddit, etc.). By analyzing the demographic information (age, gender, geographical location, etc.) of users who tweet, we can investigate whether there are demographic criteria in the echo chamber effect.

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