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Social Media as A Source of Self Organizing City: Bridging the Gap Between Policy Making and Public Act

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1 ABSTRACT

Cities are complex systems, which creates spontaneous movements and reactions in urban space. These self-organized networks and environment continuously reproduce each other by involving series of social and cultural communication patterns, ideas and decision-making processes. Unlike conventional participation tools ICT, social media and mobile technologies provide an alternative, virtual platform, that enables citizens to connect with decision makers, share information, comment and vote for changes, and self-organizing their environment. This new platform delivers a practical tool to decision makers for accessing a wider interest group, collecting location based, real time data and enables citizens to get involved in the planning process. In recent years Turkey has gone through many urban conflicts, and social media tools, especially Facebook, and Twitter densely used for information sharing and to be heard by government. In this study, the usage of social media as a participation tool was discussed in two parts. Firstly, A literature review on the engaging potential of mobile participation tools was given. Secondly, the usage and the impact of social media and mobile platforms was evaluated over examples from Turkey.

Keywords: social media, data mobilisation, participatory plannung, urban planning, self-organisation

2 INTRODUCTION

Constantly evolving, technology-based communication tools have changed the perception and increased the awareness of communities against all activities around them. Cities are complex systems that involve a series of unpredictabile mobile activities in economical, cultural, physical, and social relations. This user-generated, mobile process can be described as a self-organized system, which turns urban planning and management into a challenging situation that needs to be considered with various parameters (Portugali, 2000).

The user oriented, interactive information and communication technologies (ICT) provide a new platform especially for citizens to raise their voice, share their interests and demands, even if they are not encouraged by the government. This directly and rapidly changed the routine and forced administrators to react the ideas comes through this platform (Evans-Cowley & Hollander, 2010; Kleinhans, Van Ham, & Evans-Cowley, 2015). In the previous researches it was specified that today social networking tools such as Facebook and Twitter became part of the political environment by providing the user an in-network experience, enhancing reciprocal communication, removing spatial boundaries and increasing accessibility in domains (Evans-Cowley & Hollander, 2010; Twitchen & Adams, 2011). They also emphasized these tools can be used for increasing community awareness through rapid circulation of information, and for engaging especially the young people in decision-making process by providing users free and easy to use interfaces.

In this context, anyone who has a computer and internet connection provide individual and collective data for decision making and planning activities. Due to there are still many questions on its legitimacy, the data obtained from these sources provide a vast information and give local communities to chance to achieve self-organized, sustainable environment by strengthening the sense of belonging, revealing local needs and priorities, increasing the interaction within the neighborhoods, and defining the real use of urban spaces. On the decision maker's site the most important outcome obtained from web-based data is the ability of developing insights on the citizens' reactions to proposed changes. Besides many two important data can be driven from the results, first, the general feeling of the community, and second, approaches of different groups. These knowledge also involves location and user information such as coordinates, country, city or neighborhood names, timestamps, gender, ethnicity, cultural and political insights, and allows georeferenced visualizations (Ciuccarelli, Lupi, & Simeone, 2014; Evans-Cowley & Hollander, 2010; Pucci, Manfredini, & Tagliolato, 2015; Twitchen & Adams, 2011).

This research aims to discuss social media as a mobile participation tool in a self-organizing system. In this context, in the first chapter, the role of the social media in decision making process has been discussed. In

the second chapter, Facebook, Twitter, Instagram and Foursquare discussed in terms of the possible outcomes. In the third chapter the data obtained from Twitter discussed over a recent urban management process in Turkey. In the conclusion, obtained results were discussed and recommendations were presented.

3 MATERIALS AND METHODS

3.1 Mobile Participation in Decision Making

For many years conventional participation tools such as a referendum, public surveys, focus groups or meetings, have been developed and applied by many countries for decoding these patterns and processes and for localizing urban policies at various scales. On the other hand, these tools require the community to be at a specific place in a particular time. Therefore, they fall behind to understand the patterns related to time and physical environment, and to incorporate a broad spectrum of the public. In the last decade, computers, cell phones, wireless networks decentralized the way of communication and they produce a great amount of individual and collective data enabling anyone to monitor and collect information (Batty, 2013). Twitchen and Adams (2011) emphasized that unlike conventional control group methods, Web 2.0 user-oriented interfaces increases the capacity building by reaching the high level of participation. According to Burke et al. (2006) when these tools developed and used in the right context they could act as important and interactive data collection instruments, which increase the quality, quantity, credibility, and shareability of the data. In parallel with the rapidly increasing usage of social media, geo-referenced images, mentiones, hashtags, contributions became one of the main data sources for local. it compels the governments to be responsive to the community. Therefore, governments are forced into paying attention to the results of the analyzed data obtained through these sources (Batty, 2013; Burke et al., 2006).

3.2 Social Media as a Tool for Self-Organization

In a self-organized system, agents stay in equilibrium at the initial condition, but when the system is triggered by an influence, agents respond without the control of an outsider or another component. Therefore, it is a temporary situation of a reaction to an action, and this rule can be applied to many scientific fields. The complexity of the self-organization process is created by individual behaviours according to the actions of the neighboring agent. In this perspective self-organized systems get their power from below, which can be defined as a bottom-up process (Johnson, 2001). According to Allen (1997), although, community is the main actor of self-organization process, it is shaped by the social and physical environment. On the other hand, this idea has expanded since the virtuality has changed the environmental boundries.

According to Krätzig and Warren-Kretzschmar (2014), public protests that ripple throughout the world reflect the growing expectations of citizens from government authorities and as well as the reactions against the issues that they were affected. Using the social media with a communicative approach enables administrators to spread the necessary information to the larger numbers of citizens (Krätzig & Warren-Kretzschmar, 2014; Twitchen & Adams, 2011). On the other hand, government-led usage of social networking tools is limited because of the technical restrictions, such as social media bans in the workplaces, and the lack of a comprehensive and focused communication strategy. The official language used by administrators also decrease the inefficiency social media tools. Accordingly, casual language found more engaging (Evans-Cowley & Hollander, 2010). In Turkey Twitter is commonly used by public for expressing agreements and disagreements on government projects with a completely citizen-initiated platforms or individual acts. The reactions especially occur and succeed at urban scale. These collective reactions usually generated by government policies, and achievement is gained at a certain level through a self-organizing, bottom-up process that provides an important opportunity for governments to gain public support for the future plans (Batty, 2013; Krätzig & Warren-Kretzschmar, 2014).

The social media interfaces such as Facebook and Twitter hold a great potential for a self-organizing process by reflecting personal experiences into the real world and provide information about collective trust and satisfaction. This big data obtained from social media can be seen as a part of complexity theory and as a virtual self-organizing system (Batty, 2013; Krätzig & Warren-Kretzschmar, 2014). In the decision making process, it is also common that the information spread through social media reaches random passive users and allows remote participation. This outcome, results with the gain of a certain degree of knowledge and increase in the capacity building (Evans-Cowley & Hollander, 2010; Twitchen & Adams, 2011). People tend

to support the planned policies and projects when they are involved in the decision-making process. Instead of the conventional, one-way tools to inform citizens about a decision that has already been made, it is important for the policy makers to provide mobile platforms for public dialogue and consultation (Evans-Cowley & Hollander, 2010).

In their study on visualization of the urban data obtained from social media Ciuccarelli, Lupi and Simeone (2014) examined Facebook, Twitter, Instagram, Panoramio and Foursquare in terms of data provision. According to their study, Panoramio and Instagram data include the number of photos in a specific coordinate, and likes on pictures that present the urban concentration areas. Similarly, Foursquare provides the number of check-ins, and comments on a specific location, and they are all provide a detailed information on the real use of an urban area. From Facebook and Twitter, it is possible to obtain the information on the number of mentions, comments, tweets, followers, and hashtags. The synthesis of this big data can provide a vast information on general public opinions as well as different approaches of various groups. Because, even though each tool involves a series of context specific data, they are all provide profile information including gender, age, mobility and location (Ciuccarelli et al., 2014).

Previous researches also revealed that, in combination with the profile information the Twitter can act as a powerful source for analysing citizens' sensitivity on a certain issue in a particular location. Because, on the contrary of other tools the main idea of Twitter is based on sharing any information with a limited number of characters, which provides a certain level of simplicity, user-friendly interface, and high intensity of user contributions (Ciuccarelli et al., 2014; Kurkcu, Ozbay, & Morgul, 2016). Accordingly, the study focused on Twitter over a current urban management process, which involves a public act against a government bill that allows industrial development in olive grooves. In this scope, the most used hashtag #zeytinhayattır (#oliveislife) analysed through keyhole hashtag tracking software in different time periods to be able to discuss the relations between the communication process and the Twitter usage.

4 RESULTS

Twitter is a multi-language, social media interface that has more than 300 million active users monthly. Information circulation through Twitter is coming from approximately 500 million, 140 characters long tweets that provide open data every day. This data enables to obtain collective information for decision makers (Kurkcu et al., 2016). In 2015 a public act started via change.org to stop a government bill which will open olive grooves, meadows and coasts to industrial development with the permission of Ministry of Food, Agriculture and Livestock with the approval of a board selected from 6 Ministeries. The proposed regulation will be valid for each city that has one of these land uses and all initiatives that has industrial registry certificate will allow to apply for the site without paying taxes. It proposes to building industrial sites without harming the grooves and bring the area to its old quality after the allocation agreement ends. The bill was proposed in 2002 for the first time and rejected 6 times since then. The last proposal was introduced in 2015 (Url 1; Url 2).

Besides the negative environmental effects, the bill critisized because of its economic results in agriculture and social destruction for olive producers in the country. Due to the public act started in 2015, it spreaded in the spring of 2017 and the government agreed to make changes in the bill. The Twitter played an important role in the expansion of the reactions. The government organized a public meeting in 31st May of 2017 and announced that they are not going to withdrawl the proposal. One week later tweets related to the bill reached at the peak point. The process mainly conducted by the citizens who will be directly affected by the change, and shortly it turned out to a public reaction on a virtual platform.

According to the data obtained from the tweets in the peak point period, most of the users tended to write a custom tweet with the #ZeytinHayattır (olive is life), #zeytinimedokunma (do not touch my olive), #zeytinağacı (olive tree), #zeytinmilliservettir (olive is national wealth), #zeytinbarıştır (oliveispeace), #birliktemümkün (it is possible together), #zeytin (olive) hashtags, and almost 40% percent of the users retweeted the mentions. Most of the users linked their tweets to the change.org campaign. It has seen that approximately 40% of the tweets sent via mobile phones, this followed by desktop computers.

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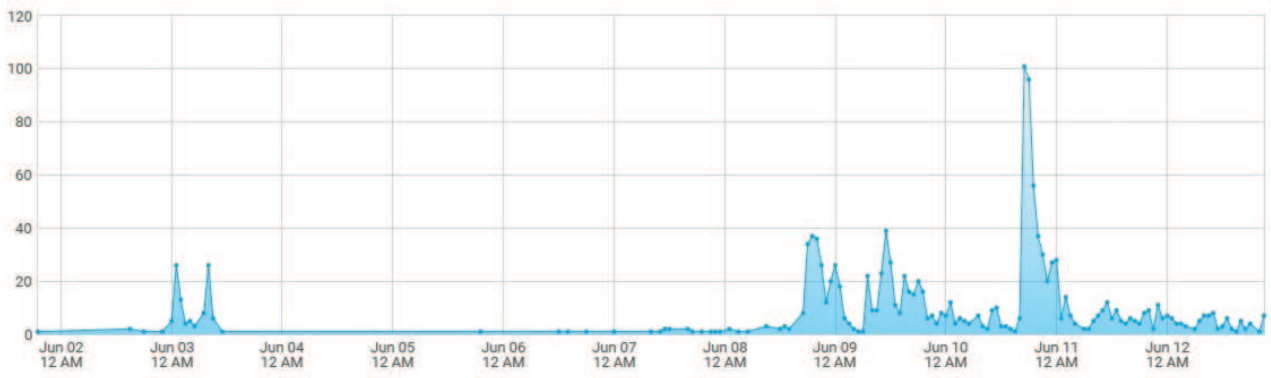

Fig. 1: Timeline (June)

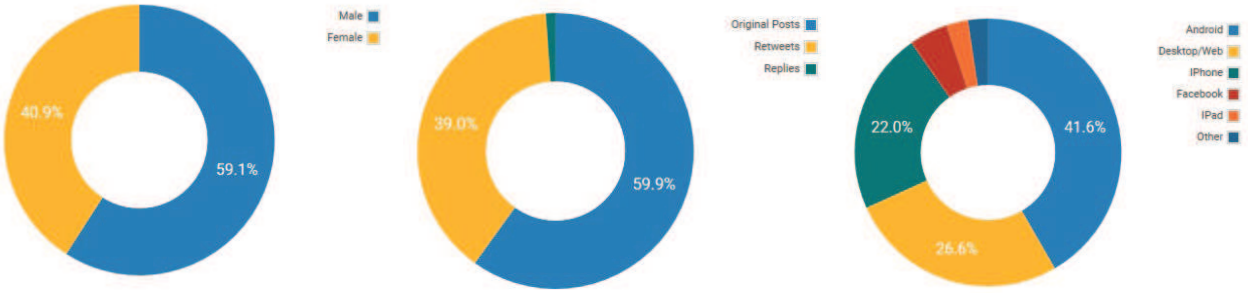

Fig. 2: Gender, Share and Sources (June)

The tweets sent in a week reaches more than 1000 people, and more than 100000 impressions. The area covered mainly Turkey but also United States, Brazil, some parts of Europe, Irland, Iran and India. This expansion also indicates the virtual local borders.

Fig. 3: Virtual Borders (June)

As the start of the negotiations between government and public, the government expanded the olive groove definiton based on the number of trees. Accordingly the site will be approached as an olive groove even if there is one olive tree on the land. The penalties increased in case of damaging the trees. The land uses including housing and touristic facilities were banned on the grooves, and the last but not the least the NGO's included to the conservation board, which in turn started to change the way of public act against government and also the number of tweets started to decrease. Once the communication between citizens and governmnet has started, the process moved to another stage, and the role of the Twitter transformed from platform for the public act to tool for the information flow.

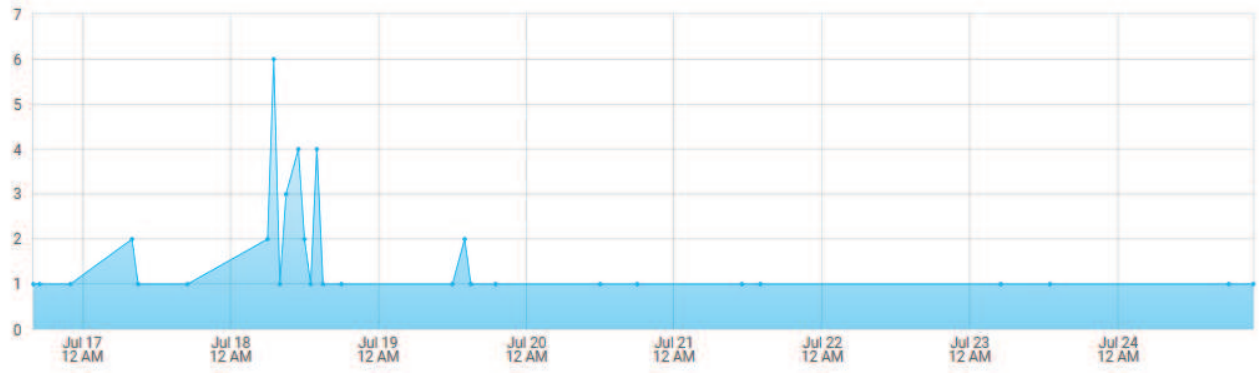

Fig. 4: Timeline (July)

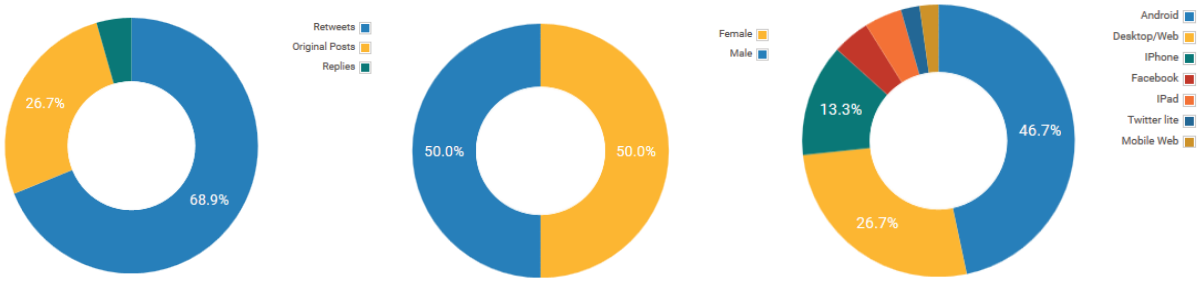

Fig. 5: Gender, Share and Sources (July)

Fig. 6: Virtual Borders (July)

The comparison between the hashtag analysis before and after negotiations started revealed that the peak point reduced 6 original posts from 100 after the government-citizens meeting. The virtual borders shrinked to Italy, Ireland, Venezuela, England and United States in terms of number of mentions. The large number of Twitter users were mobile during the process.

5 DISCUSSIONS AND CONCLUSION

Due to many advantages that social networking provides for the successful public participation process, it is still is an emergent methodology, which can be criticized in terms of its dependence on internet accessibility, costs and privacy. Therefore, it is important to integrate these cost and time effective technologies into existing methodologies for strengthening the public engagement. The big data obtained from social media is certainly enriching the social interaction, the function of cities, and planning and decision-making

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experiences. (Batty, 2013; Twitchen & Adams, 2011). On the other hand, the accessibility concerns related to the challenges of using the technical software, limited to the income and age diversity or the number of the participants. However, it should be remembered that the social media is only one tool out of others, and conventional public hearing methods that requires citizens to provide official letters or participation to a meeting has many limitations as well.

This study aimed to develop a basic understanding on the relation between social media can help to self organize the environment that we live in. Turkey provides an important example because the country is in the rapid development process at all levels, which has an important potential for adapting innovative approaches. In this context, mobile technologies provided not only a virtual communication platform, but also created an opportunity to face to face meetings with the authorities and achieved to become a part of the decision making process even if the goal is not completely suceeded. Even in a short period of time it is possible to read that an action of the government can create a public reaction, can be spreaded very rapidly through social media. Since it is a developing debate, the combination of different participation tools and methodologies should be analyzed to fully understand the efficiency of social media and other ICT tools in participatory planning an decision making process.

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