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Title: A review on citizen motivation analyses for participating on urban planning process.

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A review on citizen motivation analyses for participating on urban planning process.

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Abstract

The rapid development of urban areas and the rising complexity of urban concerns have caused considerable problems for urban planners. Standard methods of evaluation, including statistics, geographical information systems (GIS), and studies of literature, are no longer enough for understanding the enormous number of data and reports available. Such tremendous amount of data is calling for new, data-intensive methods to conduct research in science, urban planning, engineering etc. But it remains up to urban planners and decision-making institutions to take advantage of this potential and use urban and society informatics to gather useful information. Through an in-depth examination of current research, this review highlights crucial elements that mediate the interaction between residents and the urban planning process. Numerous studies have examined at survey design and administration, but we must also consider how to convey the request for information from residents in an appealing way for them. In comparison to survey polls, social media can provide a more scientifically accurate representation of popular attitudes of certain topics. But, despite this advantage, there seem to be limited investigations into the challenges in social media-based public opinion analysis. Furthermore, the introduction of AI and deep learning models, paired with greater processing capacity, tools, and algorithms, creates new options for addressing difficult urban issues. How could AI facilitate planners in the planning process? What methodology could be followed in order to reach a high response rate from citizens? Do the institutions possess these data? Which factors indicate the motivation and intentions of people on involving in this entire process? This study serves as a starting point for future researchers, with the goal of answering these concerns by providing a complete review of existing and potential AI applications in urban and regional planning processes. Most of the findings reveal that the level of community participation in the urban planning process in developing countries is low. As a result, this study recommends the development of a single national strategy for social media platforms used by municipal institutions, which will encourage the use of government tools such as discussion and incentives, therefore improving social networks and the effectiveness of organizers.

Keywords: AI, citizens, urban planning

Introduction

It is often discussed about the need to include the opinion of the people of a community in making different decisions, specifically those related to urban planning of the city. In developed countries there are various studies dedicated to the involvement of community people in decisions on urban changes taking place in its space. With the last few years, we can also use various works like studies done by Yang, X., & Li, H, Mitlin, D etc. But besides studies, concrete practices of this process have been created that precede processes of changing urban space.

The first goal of this paper is to make awareness of this issue in Albania. After the 90s there is a huge transformation of the country in terms of construction. Existing areas have been transformed, new areas have been created and the sensitivity to touch and change of community space is becoming increasingly greater.

On the other hand, the increment of the population, increased its diversity making it difficult for collective communication that would make it possible to discuss and get people's opinion on various problems. But today technology is helping us, which is becoming even closer to all the people. This would help not only people in fulfilling different requirements but also institutions in making fair decisions in order to meet the demands of the people.

Of course, the reality is more complex than the way we are addressing this problem, and it also includes other social and political, economic factors. But our goal is to start a work and finalize it in the future for the implementation of a practical communication with people about urban problems.

The second goal of the paper is to identify different experiences and the use of technology to reach communication with people to discuss various problems related to urban change in a community or city.

And finally, some technology-related ways will be proposed for the future to bring about such a communication practice and extract results that will help in decision making related to urban planning, The first step of this work is the design of the application interface, which will serve for a survey for professional and no-professionals.

Literature Review

In this paper we have focused on the literature of the last 5 years. We notice that there is a diversity of studies devoted precisely to the inclusion of people's opinion in solving urban planning problems. Some of these studies present an investigation scheme of the factors that influence community involvement in the urban planning process. Such studies are:

Publication by author: Ledio Alljka, November 2019 "Planning of livable cities" related to Urban Mobility where "Transparent decision-making through public involvement" is described as a new approach against "non-transparent decision-making" that corresponds to traditional planning of transportation as a necessity in today's time. Although in this study the focus is in transportation problems and not urban planning, we mention this case as offering a new paradigm in people-centered planning (Okraszewska, et al., 2018; Van Acker, et al., 2016).

Aldegheishem(Aldegheishem, 2023) in "Community participation in urban planning process in Saudi Arabia" studied the elements that influence community involvement in the process of city planning in Riyadh, Saudi Arabia. In this study, a sequence of hypothesis came about, and a quantitative approach was used to test them. This research focuses on Riyadh, one of Saudi Arabia's largest cities in terms of population, services, and economic activity. The study's target group consisted of people who are technically and scientifically active in urban planning, such as professionals, authorities, professors, and specialists. A total of 600 online surveys were given to responders via email. A total of 253 questionnaires were returned in complete, for a response rate of 42%. The findings indicate that community engagement in the urban planning process is constrained. This study presents a theoretical framework for investigating the elements influencing community engagement in the urban planning process. His research focuses on four elements that might impact community participation: knowledge, willingness to engage, social media, and political culture. As a result, this study suggests that community engagement in the urban planning process in Saudi Arabia be enhanced by adopting an integrated national strategy for social media used by urban organizations, to prevent present oversights and ease linkages across urban institutions.

According to Yang and Li, some conclusions are reached such as: community engagement is in-

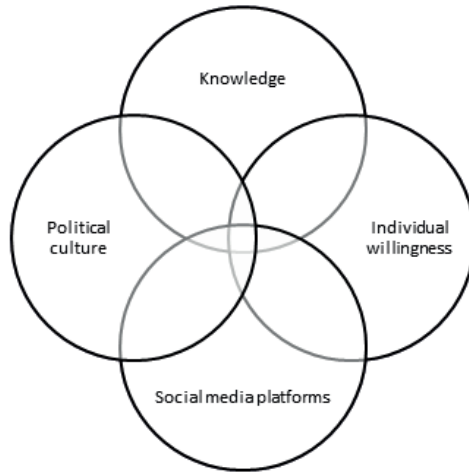


Fig.1/ Factors impacting community participation(Aldegheishem, 2023)

fluenced by factors such as the transformation of an urban space where it is a part, approach and conversation with the community, and this interactivity is not formal but reveals citizen satisfaction (Yang & Li, 2023).

Diana Mitlin in editorial “Citizen participation in planning: from the neighborhood to the city” comes up with the following conclusions: 1) The institutionalization of participation is a considerable challenge 2) Civil society uses existing spaces and makes new spaces to advance its needs and interests, and its capability to do this appears significant in explaining positive outcomes. 3) The focus on the city is significant in terms of developing understanding and strategies towards scaling participation, 4) An ongoing terrain of contestation enables more collaborative endeavors in both informal and formal spaces. 5) There are multiple iterative interactions among politics, participation, empowerment and planning (Mitlin, 2021).

Li (Li et al., 2020) developed a structural equation model to identify the causal relationships between motivational factors and intentions to participate in urban planning. In the study they found positive impacts of “Civil Society” “Personal Interest” “Social Influence” and a negative impact of “Constraints” on the intention to participate in urban planning. They developed a conceptual framework to analyze the motives and intents that drive public engagement in urban planning. Personal interest refers to an internal urge to engage in an activity that is interesting and satisfying in and of itself. Brabham (Brabham, 2012) investigated the motives for participating in a crowdsourcing initiative with the goal of increasing public involvement. The findings suggest that expressing oneself and having fun are crucial intrinsic motivators. In this research, personal interest is seen as the fundamental motive for involvement, such as to gain new skills or acquire new knowledge, to have fun, or to attain self-expression and social interaction (Li et al., 2020). On “A Theoretical Model for Enhancing Communicative-oriented and Process-sensitive Planning” on maptionnaire webpage, it lays out how to communicate with people in order to get useful information from them and how it can be possible for professionals, non-professionals and managers of institutions to cooperate. And a scheme is proposed that presents civic engagement and the knowledge gained from it, passing through several stages. Other studies are focused on the technology used to carry out this communication with the community, obtaining different opinions

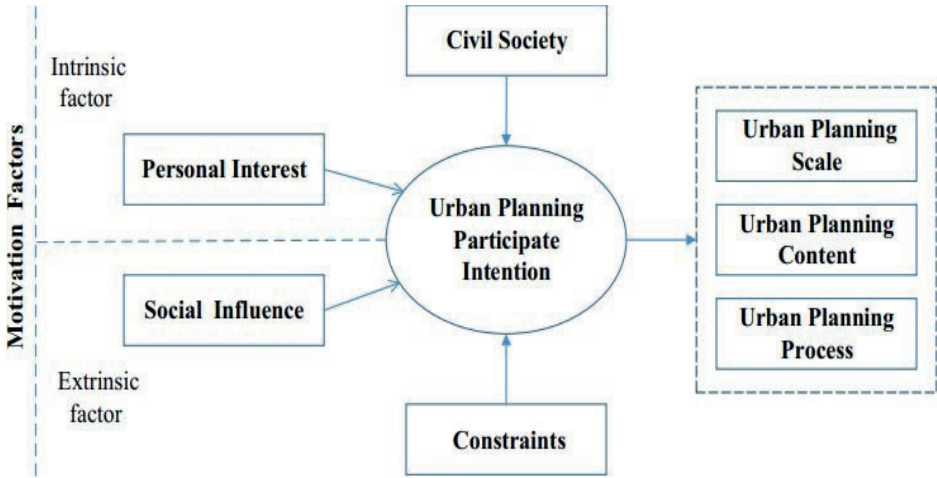


Fig.2 / Research framework (Li et al., 2020)

related to urban planning problems, and analyzing them to derive predictive models in the service of decision-making.

In the first literature listed on the “Technology facilitating community participation in urban planning” section, is mentioned about Maptionnaire, a citizen engagement platform. It enables cities, consultancies, and research organizations to easily collect local insights and make GIS-backed decisions. At its core are map-based tools for designing questionnaires, collecting information, and analyzing data (Maptionnaire, n.d.).

Let see in more detail how this platform works:

And in “Uncovering the invisible layers of locals’ values with map-based questionnaires” by Duci and Swiderski is mentioned that this citizen engagement platform and map-based tools have been gaining popularity among scholars and professionals alike, who aim at identifying these unheard voices. Map-based questionnaires (based on the Maptionnaire®platform) revolving around the is-

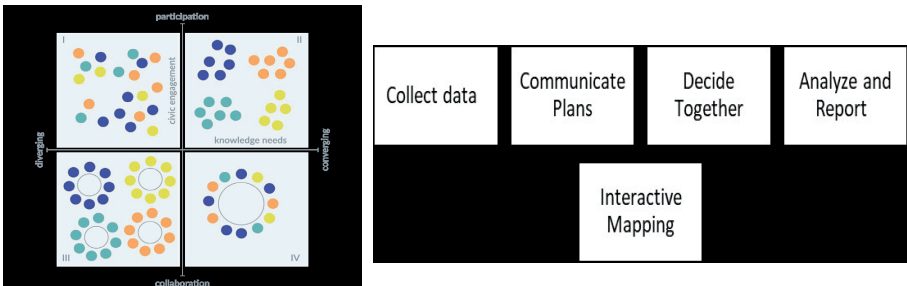


Fig.3 / The conceptual schema of knowledge creation and civic engagement (Maptionnaire)

Fig.4 / Maptionnaire work stages

sues of a) personal perception of the space, and b) memories and emotions associated with the space in question (Ducci & Swiderski, 2022).

The research of Hülya Soydaş Çakır and Vecdi Emre Levent in “Data Mining the City: User Demands through Social Media” is firstly realized through social media, and data obtained from Twitter is analyzed in order to evaluate user demands for parks and green spaces of Ataşehir district in İstanbul City. Secondly, all green areas



Fig.5/ Maptionnaire platform images

in the same district are detected by using digital maps. Two applications are specifically designed for this research; Tweet Grabber is used for user sentiment analysis on social media and Map Grabber is processed for extraction of green spaces via maps. The total area of the green spaces is compared with the desired area of open and green spaces per user (Soydaş Çakır & Levent, 2021). Şeyda Emekci, in “Gathering Public Opinion about an Architectural Project: A Text Mining Approach” presented a framework for assessing the perception of an architectural project in the public eye, which is accomplished via the use of a machine learning model. In this study the social media is used, the evaluation of tweets at the sentence level has provided a valuable information about how the general public perceives the architectural project in question (Emekci, 2022).

Methods

Some technology-related proposals

It is very important this first step of defining and establishing communication with non-professionals and professionals, architects and urban planners regarding the needs and requirements of a developing community.

We think that social networks, being very usable by all people, can serve to conduct a survey of community needs and demands. In this case, a Twitter application would be very suitable, simply organized with a few key words. The idea of this interface in use would be to choose a keyword and associate it with a simple comment, without a time limit. This would enable wide-ranging involvement of people. We think that an interactivity with the architects would be more detailed. A more professional opinion is required from them. For this reason and based on our discussions with Polis University’s architects, we have taken out an image of the interface that would serve the survey with professionals, and it would be the interface of a web application.

Conclusions

In this paper, is made a review regarding studies that aim to raise awareness of the involvement of the people of a community in the changes and urban developments of their space. Another category of studies offers solutions based on today’s technology for communicating with people in the community and obtaining opinions on this aspect. Several options are also provided for the first stage of such a process, which is data collection.

Area studied	Relevant papers
Factors that influence community involvement in the urban planning process	<ul style="list-style-type: none"> • Planning of livable cities" related to Urban Mobility Ledjo Aulka, 2019 • Community participation in urban planning process in Saudi Arabia: An empirical assessment Aldeneishem, 2023 • Community attachment in the context of urban settlement regeneration: Mediating role of resident interaction Yang, Huli Li • Editorial: Citizen participation in planning: from the neighbourhood to the city Diana Mitlin • Analysis of citizens' motivation and participation intention in urban planning Li, W., Feng, T., Timmermans, H. J. P., Li, Z., Zhang, M., & Li, B • Maptionnaire team June 17, 2021
Technology facilitating community participation in urban planning	<ul style="list-style-type: none"> • Maptionnaire • Maptionnaire: Citizen engagement platform Mobility Innovation Marketplace (eiturbanmobility.eu) • Uncovering the invisible layers of locals' values with map-based questionnaires Marta Ducci, Maciej Jakub Swiderski • Data Mining the City: User Demands through Social Media Hülya Soydas Çakır, Vecdi Emre Levent • Gathering Public Opinion about an Architectural Project: A Text Mining Approach Şeyda Emekci 1 • The Analysis of Public Opinion in Colleges and Universities Oriented to Wireless Networks under the Application of Intelligent Data Mining WenNing Wu, ZhengHong Deng • Design and Implementation of Public Opinion Monitoring System Based on Cloud Platform Wei Wei, Long Wang, Xiaowan Li, Beibei Zhang, Rafal Scherer

Table.1 / A part of Reviewed Articles Classification

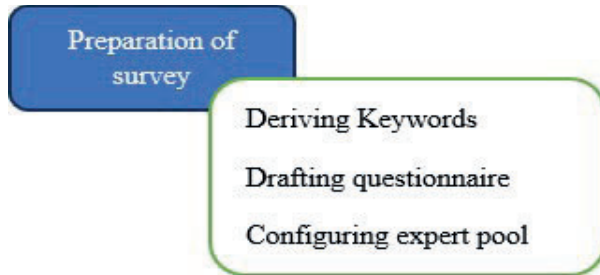


Fig.3 / First Stage

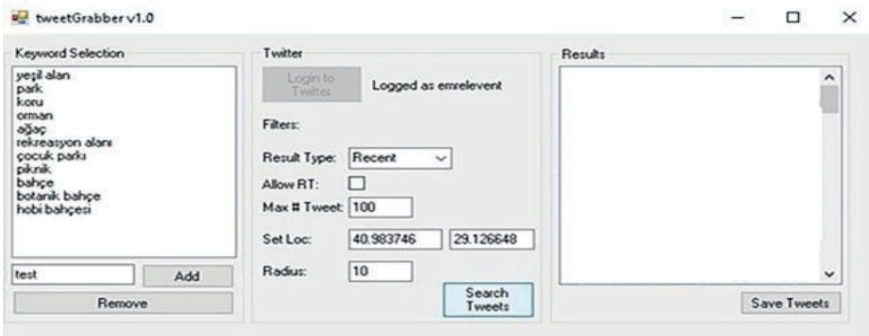


Fig.4 / Tweet Grabber Application ((Soydas Çakır & Levent, 2021)

The second stage of this process, which would be the work in the future, is the processing of these data, as well as the use of predictive models using machine learning methods.

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