Preface

As local governments across the world increasingly employ advanced information and communication technologies to inform, consult, and engage citizens in urban governance, they are gradually transforming the relationship between citizens and city governments. *Citizen E-Participation in Urban Governance: Crowdsourcing and Collaborative Creativity* explores the nature of these changes and the new challenges confronting citizens and local governments in the field of urban governance. In particular, the book explores the role Web 2.0 technologies can play to promote citizen participation and empowerment in the governance of cities. These online digital technologies provide new opportunities for citizen e-participation in the policy-making process and can have significant repercussions on how urban spaces are planned and governed. The book, the result of the collective effort of 37 researchers from different academic backgrounds working in different parts of the world, offers a comprehensive, updated, and critical overview of innovative Web-based technologies that can be used to enhance citizen e-participation in urban governance. Its main goal is to provide a better understanding of how computer-mediated communication can create new opportunities for citizen participation in urban governance and for the development of e-democracy.

The book is intended for scholars, researchers, students, and practitioners in the field of Urban Studies, broadly defined, and in Urban Planning, Political Science, Public Administration, and Information Science, and is particularly directed to those looking for new methods and tools to advance citizen participation in urban governance. We trust it will contribute to clarify the role of these e-tools and Web-based technologies in urban governance and how these technologies can be successfully applied for the benefit of citizens.

In the book, we seek to answer the following research questions:

1. How can local government use the new Web-based technologies to involve citizens and other stakeholders in the urban governance process?
2. How are local governments and citizens employing these new e-tools?
3. To what extent is the widespread use of these new modes of citizen e-participation responsible for the emergence of a new urban governance paradigm?

The book is organized into three main sections and has fifteen chapters.

The first section, with three chapters, provides an outline of the basic concepts in the field of e-participation and the key issues confronting citizen e-participation in urban governance. The first chapter, "Open Source Urban Governance: Crowdsourcing, Neogeography, VGI, and Citizen Science," offers an overview of the meaning and attributes of what appears to be the emergence of a new policy model—Open Source Urban Governance—seen as an outcome of the increasing and widespread use of new modes of citizen e-participation. The key concepts related to e-participation, some of which with overlap meanings,

as is the case of Crowdsourcing, Neogeography, Volunteered Geographic Information, and Citizen Science, are discussed in the chapter, setting the scene for a more detailed analysis of each of these modes of citizen e-participation in the following chapters. E-democracy systems and their impact on a number of e-participation outcomes are explored by Rajeev Sharma, Atreyi Kankanhalli, and Mahdieh Taher in the following chapter, "E-Democracy Systems and Participation Outcomes in Urban Governance." The authors describe the relevant theories to investigate citizen e-participation, identify an agenda for future research, and argue that e-participation has an enormous potential to transform both government and society. Finally, in the third and last chapter of this section, "Public Participation, Social Equity, and Technology in Urban Governance," Thomas W. Sanchez and Marc Brenman examine and discuss, in a U.S. context, the connections between citizen participation in the policy process and equity, and the role technology can play to enhance participation and equity in the outcomes of (urban) public policy. The authors discuss how information and communications technologies can be used to reduce barriers to information exchange and how can it produce stronger bonds and connections within the public sphere.

The second section of the book documents and carefully analyzes different modes of citizen mass collaboration in urban governance, and offers interesting insights on this new frontier in citizen-government relationship in urban governance: Crowdsourcing, Neogeography, Volunteered Geographic Information, and Citizen Science.

In the first of the seven chapters included in this section, "The Four Urban Governance Problem Types Suitable for Crowdsourcing Citizen Participation," by Daren C. Brabham, identifies and examines the main urban governance problems and public goods that can be addressed through the collective intelligence of online communities, although seen as a supplement to other forms of citizen participation in urban governance, a point of view shared by other authors in the book. The chapter includes an examination of the place of crowdsourcing in the public policy process and the risks associated with its use in that context.

Barney Warf, in chapter 5, "Web 2.0, Neogeography, and Urban E-Governance," brings this discussion on crowdsourcing to a broader context. Barney Warf shows and discusses how spatial information on the Web has become increasingly Wikified, in the sense that non-geographers and non-planners may contribute data in a multiplicity of forms, a process that has been named Neogeography, and which, as several authors in the book claim, has close relation to participatory GIS or Public Participation Geographical Information System (PPGIS). In other words, planners and policy-makers are no longer the sole producers of geographical information, as Barney Warf shows in the case study he uses to illustrate his main arguments, a condition that requires and facilitates a more inclusive and democratic urban governance.

In the next chapter, "Tracking Public Participation in Urban Governance: Democracy and Data Privacy," Nancy J. Obermeyer examines and discusses the use of GIS, geo-visualization, and other geo-locational technologies and applications, including social networking Websites and mobile phones associated with Web 2.0 to enhance citizen e-participation. Nancy Obermeyer examines and discusses if these e-tools are mainly employed for the promotion of democratization (optimist perspective) or for the control of citizens (pessimist perspective). This discussion follows a brief introduction to the history of the GIS and society literature, including public participation GIS and volunteered geographic information. In her discussion, Nancy J. Obermeyer uses the events on the Arab Spring and the Occupy movement in the U.S. as examples of the optimist view and the data captured from smartphones and cell phones and the loss of spatial data privacy as examples of the pessimist view. The chapter ends with a discussion of how to enhance the democratization potential of Web 2.0 technologies and geo-location technologies applied in e-participation while minimizing the loss of spatial data privacy, and the harm that this loss of privacy can bring to common citizens.

Doris Dransch, Kathrin Poser, Joachim Fohringer, and Christian Lucas, in chapter 7, "Volunteered Geographic Information for Disaster Management," offer an overview of the application of information provided by citizens in disaster management, the interest to use that sort of information in the various stages of disaster management, and examine the main challenges that are likely to affect the usefulness of the information crowdsourced by citizens, namely issues related to data collection, data localization, and data quality assessment.

In chapter 8, "Urban Geo-Wiki: A Crowdsourcing Tool to Improve Urban Land Cover," Linda See, Steffen Fritz, Christoph Perger, Marijn Van der Velde, Franziska Albrecht, Christian Schill, Ian McCallum, Dmitry Schepaschenko, and Michael Obersteiner show that crowdsourced information on urban land cover, in sample areas taken in three cities (London, Beijing, and São Paulo), in which three recent global cover maps disagree, has the potential to contribute to the validation of existing cartographic data and to determine which map to use in a given location. As the authors argue, this sort of data allows policy makers to develop better and more accurate urban models, and allows decision-makers to reach better decisions. Despite this overall positive view of crowdsourcing, the authors point to some of the challenges that confront it, such as crowd retention or sustainability of crowdsourcing processes, and the quality and reliability of crowdsourced data, issues also raised in other chapters.

Karl Atzmanstorfer and Thomas Blaschke, in chapter 9, "The Geospatial Web: A Tool to Support the Empowerment of Citizens through E-Participation?" describe developments, since the 1990s, in the field of Public Participation Geographical Information Systems (PPGIS) and the impact Google Earth had on the mapping functionalities available to the common citizen in the Internet, a change that led to the adoption of the term Volunteered Geographic Information (VGI). In other words, the chapter explores the use of geospatial tools for citizen e-participation in urban planning, and discusses the use of VGI in developing and in emerging countries, questioning the relevance of VGI for citizen empowerment.

Citizen Science, as a particular form of crowdsourcing, is addressed by Caren Cooper and Ashwin Balakrishnan, in chapter 10, "Citizen Science Perspectives on E-Participation in Urban Planning." The authors review the history of urban planning paradigms, discuss how e-participation can overcome some of the problems confronted by urban planning, and examine how ICT for Citizen Science can facilitate public participation in data collection and in the co-creation of knowledge useful for policy makers in the different stages of the urban planning process.

Section three explores specific modes of citizen e-participation that do not fall directly within the previous categories: participation through social media, smartphones and mobile applications, Website-based e-participation, or the use of management approaches to improve citizen participation.

Stefan Höffken and Bernd Streich, in chapter 11, "Mobile Participation: Citizen Engagement in Urban Planning via Smartphones," examine the new channels of communication between citizens, institutions, and administrations based on smartphones and tablet computers, and the opportunities for citizen e-participation in urban governance opened up by mobile phones and mobile applications (m-Participation). As the authors argue, based on six real-world projects, these new forms of collaborative social interaction have the potential to radically change the relationship between citizens and policy makers in the field of urban governance.

In the following chapter, "Social Media for Civic Engagement: An Exploration of Urban Governments," Thomas A. Bryer and Kimberly L. Nelson explore the relationship between forms of municipal government and the deployment of social media tools for citizen e-participation in urban governance. Based on empirical studies of different U.S. local governments, the authors conclude that municipalities, independently of the respective type, make use of social media tools, mainly Facebook and Twitter.

In chapter 13, "E-Participation and Citizen Relationship Management in Urban Governance: Tools and Methods," Jim P. Huebner provides an overview of Citizens Relationship Management (CiRM), with a particular focus on CiRM origins and functionalities. CiRM is a combination of management approaches and information technologies for improving citizen services and citizen participation and is used in all tiers of government. This use of private sector Customer Relationship Management (CRM) is experiencing high rates of public sector adoption, a facet Jim Huebner explores in the chapter, considering four categories in this approach: generic CiRM participation models, e-government CiRM, democratic CiRM, and strategic CiRM.

In chapter 14, "Citizen Web Empowerment across Italian Cities: A Benchmarking Approach," Elena Bellio and Luca Buccoliero explore the role of Web 2.0 tools for citizen empowerment and offer a benchmarking study of Italian cities. The authors argue that under the current circumstances, urban government has to offer access, through the Internet, to official, customized, and on demand information and services, and to provide new opportunities for direct and informal relationships between citizens, policy makers, and civil servants, as well as conditions for the development of a proactive role by interested citizen.

Lastly, in chapter 15, "Policy Gadgets for Urban Governance in the Era of Social Computing: An Italian Pilot on Telemedicine," Enrico Ferro, Michele Osella, Yannis Charalabidis, and Euripides Loukis present and discuss the concept of policy gadgets, a combined use of computer simulations and social media in policy making. The authors provide, as an example of this concept, the description of an Italian campaign on telemedicine, launched by the regional government of Piedmont, in the context of an international research project, whose preliminary results seem highly positive.

In sum, this collection of essays illustrates the diversity of approaches and Web technologies available for citizen e-participation in urban governance, and we trust the book makes clear the potential of these digital technologies to transform citizen-local government relationships. For that reason, we hope readers will find these essays inspirational for the development of new forms of citizen responsive urban governance more transparent and just.

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