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Peter Parycek, Noella Edelmann (Editors)

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and Open Government

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Peter Parycek, Noella Edelmann (Editors)

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# Editorial





## Editorial

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Welcome to CeDEM17!

Going to a conference provides a look at the current trends as well as the opportunity to look into what will be important in the future (and no need for a crystal ball either!). In 2016, CeDEM authors told us about innovative research methods (to study online communication and political decision-making), the potential of technology to transform individuals, societies and nations, as well as the dimensions of open data, e-participation and cross-government collaboration that need to be considered now (such as the use of mechanisms to improve the quality of data, to enhance and strengthen participation, collaboration and transparency).

These proceedings contain the CeDEM17 Reflection and PhD papers, and the workshop descriptions. The format of these papers encourages authors to explore the new ideas and topics that may not be quite ready for full paper submission, and this year authors' attention has been turned to aspects of smart cities, e-participation, e-voting, e-government, open government data, blockchain technology as well as considering aspects of the internet such as transparency, virtual work, state surveillance, and online participatory practices.

Reflections are an opportunity to explore ideas, new interdisciplinary topics, consider new approaches and methods, issues and results that are still in progress or at an initial stage. They can, but must not, address conference topics. Joachim Van den Bergh, Lieselot Danneels and Stijn Viaene focus on smart city ecosystem management by dividing it into four different phases, and emphasise that each phase must be analysed based on a set questions. Their article aims to inspire the smart city practitioners and researchers to further develop and operationalise the smart city ecosystem concept. On a larger scale, Selva Ersoz Karakulakoglu examines the progress of online government information in terms of being able to support country-wide citizen engagement. The analysis of Turkish e-government services uncovers the reality, showing both the possibilities and the problems of citizen engagement. Rodrigo Silva and Demi Getschko consider internet voting in Brazil, questioning in particular the issue of transparency in order to ensure interactive and secure voting.

Users play an important role in online environments, so are often the focus of research. In order to support the use of e-government services, Alenka Kern and Bojan Cestnik consider not only the role played by ease of use and speed of digital services as perceived by the users, but also the need to be able to recognize ("delicate") citizen groups that might require a more focused communication strategy to help them use such online services. Kirill Neverov and Diana Budko

study the impact of social media on political participation and suggest that active involvement in online discussions do not focus on the discussion of political problems but are more about users self-positioning themselves as experts. On a larger scale, the Association of Southeast Asian Nations (ASEAN) aims to foster collective identity building among its (ten) member countries. Although three surveys that consider issues such as community and identity building have already been conducted, they do not account for the role played by digital communications and participatory technology. Kristian Jeff Agustin argues that the ASEAN should develop an e-participation model based on the Facebook community “ASEAN Youth Organization” that represents Southeast Asia’s interconnected and technologically-mediated side.

Some of the Reflection papers raise questions such as, do we have a right to access the internet? Is the internet a public service? Is the right to access the internet a way of ensuring citizen participation? In answering these questions, Tatiana Shulga-Morskaya suggests that the Internet may even potentially endanger human rights online. Trust is also an important issue. Blockchain technology is said to create a persistent, immutable, and trusted public ledger, but Victoria Lemieux believes that we should question the extent to which this technology can really be trusted as a solution for identity management and privacy protection. So whilst public policy must take advantage of its capabilities, the risks must be known and avoided. A critical voice is also raised in Sheron Baumann and Ute Klotz’s reflection papers that considers undeclared virtual work, an issue that has been addressed in neither national nor international contexts. Yet it is an important issue as the “platform economy” continues to grow and governments need to consider how it may impact national social security systems. Awareness, discussion and analysis of possible solutions are needed before this becomes an even larger problem.

PhDs are a classic example of work that rests on the shoulders of giants<sup>1</sup> and propose new ideas, combinations, ways of looking at things and novel solutions. At CeDEM, the PhD Colloquium encourages and supports this work. Mária Žuffová’s PhD work focuses on Open Government Data. Whilst in some countries, Open Government Data (OGD) is seen as a part of freedom of information (FoI), other countries make OGD available but are reluctant to adopt FoI and protect democratic freedoms. Her main aim is to explore what the predictors of OGD availability could be, and she provides some preliminary findings. The PhD thesis by Ricardo Matheus also looks at Open Data, but aims to help designers, architects and policy-makers develop transparent portals and applications. He believes that one of the main problems with the opening of data is transparency itself, because it is such an ill-defined concept. He reviews the concept of transparency and considers the main factors that influence transparency in online applications.

Online deliberation for inclusive public conversations that inform policy making has increasingly attracted scholarly attention. It has attracted Caterina Desiato’s attention too, who argues that there is scant research that aims to understand the realities, opportunities and risks of people who are voicing their political views online while holding challenging positions in the

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<sup>1</sup> Attributed to Google, Isaac Newton, Bernard of Chartres

matrix of power. Her study addresses this gap by focusing on the Kanaka Maoli women in Hawaii. Participatory practices are explored at the micro-level by Kirill Filimonov. His PhD looks at online left-wing alternative media platforms that aim to maximise participatory intensities by equalising decision-making processes. His research has two aims, firstly to take a critical look at participation by focusing on the unstable character of subjectivity engendered by participatory processes, and secondly, to provide new insights into the emancipatory potential of maximalist-participatory media practices. Sabrina Schoettle also considers what the local level of e-participation and what factors influence it. Given that the internet allows participation in politics and social decision-making processes, she wonders why so few people participate and why the circle of participants is so selective. Her PhD suggests that this may be due to differences in motivation and intensity of use between social groups, especially between men and women.

Tatiana Shulga-Morskaya's PhD investigates legal studies on e-democracy, and the aim of her study is to propose a concept of e-democracy within the framework of constitutional law by analysing the compatibility of e-democracy with well-established concepts of sovereignty and representation. She also addresses those threats to fundamental rights on Internet that could hinder the implementation of e-democracy. Deodatus Shayo considers election with integrity as one of the cornerstones of modern liberal democracies, and digital crowdsourcing as a growing phenomenon for monitoring and reporting electoral incidents. His PhD, an exploratory study, analyses crowdsourced process and citizen-generated voices in the Ugandan 2011, Kenyan 2013, and Tanzanian 2015 general elections. This year, two members from the Department for E-Governance and Administration at the Danube University Krems will be presenting PhD work at the CeDEM Colloquium. Malgorzata Goraczek's PhD looks at fuzzy cognitive maps, and I (that is, Noella) will also present my research work that focuses on the online behavior known as lurking.

You too can engage in producing new knowledge and contribute to current research by participating in the workshops on research in virtual research environments (Anneke Zuiderwijk and Ricardo Matheus), public innovation management (Lisa Schmidhuber, Dennis Hilgers and Julia Schmitt), e-participation in the urban planning processes (Manh Khoi Ngo, Mijail Naranjo and Guiying Du), smart cities and smart government (Gabriela Viale Pereira and Malgorzata Goraczek), Open Access publishing (Noella Edelmann, Judith Schossböck, Thomas Lampoltshammer and Karin Siebenhandl) and the social implications of the data market (Johann Höchtl and Thomas Lampoltshammer). Don't forget, you can also join the Open Space, the programme will be decided on the day!

Enjoy the conference and reading the proceedings!



# Reflections





# Raising the Bar for Smart City Ecosystems

Joachim Van den Bergh\*, Lieselot Danneels\*\*,  
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*Abstract: In launching open data platforms and co-creating services with citizens and the private sector, smart cities find themselves intertwined with existing ecosystems. Although smart cities and ecosystem theory are closely linked, it remains unclear what smart city ecosystem management entails. This article defines smart city ecosystem management by dividing it into four different phases: understanding smart city ecosystems, scoping smart city ecosystems, activating smart city ecosystems, and managing and servicing smart city ecosystems. For each phase, we propose a research agenda by describing the key questions to be answered. The article intends to inspire the smart city practitioner community and smart city researchers to further develop and operationalise the smart city ecosystem concept.*

*Keywords: Smart city, ecosystem, ecosystem management, ecosystem governance*

## 1. Introduction

Smart cities all around the world are reimagining their future with technology as the new normal, enabling both connections between city elements and with citizens. At the same time, different definitions abound about what being smart actually means, thus our understanding of the concept is far from complete. We propose the concept of ecosystems as a promising lens to explain urban future challenges, to propose important research questions associated with these challenges, and above all to frame which elements we believe will be important in realising truly smart cities. We are convinced that the truly smart city – a label we cannot attribute based on a period of just a couple of years – will be a city that succeeds in understanding, activating, orchestrating, servicing and reinventing the complex ecosystems of which it consists. In the long run the active management of ecosystems will be more decisive for smart city ambition success than vision, political commitment or technological ability to name just a few other, significant success factors.

Why should or why would a city administration care about these ecosystems? We have observed that within a city context, ecosystems increasingly self-organise, so it is a question of understanding what ecosystems are about, being actively involved and able to give direction to

initiatives, or missing the boat and being overtaken by other players. The sheer multitude of players in the ecosystem, each with a different agenda, poses a particular challenge.

*“Historically, interactions between private sector and smart cities ecosystem have been fairly complicated, in particular in European cities, which have grown over centuries. One often observes that, when it comes to decision taking, ownership, decision-making and responsibilities are heavily intertwined. This, in the best of the cases, hinders smart city deployments; but often even prevents key players to talk to each other at all.” (Vilajosana et al., 2013)*

Moreover, the diverse nature – and corresponding agendas – of the ecosystems’ players creates an obstacle for smart city ambitions. The ecosystem of a smart city is too complex and vast to grasp it in a single effort. Knowing those ecosystem players and their respective needs and objectives – which are often in perpetual flux – poses a major challenge to any city administration, due to the fact that they do not currently possess the right skills and frameworks to make sense of ecosystems. A more intelligent and feasible approach is to take the perspective of ‘needs clusters’ or in other words manageable and meaningful ecosystems centred around a specific user need.

In the remainder of this article, we frame ecosystem management in smart cities by identifying the different elements of ecosystem development: understanding, scoping, activating, managing and servicing. This way of structuring the topic helps in grasping the most important issues and challenges ahead. For each element, we will focus on the most important questions facing researchers and practitioners on the emergence of smart city ambitions.

## 2. Understanding Smart City Ecosystems

A first element in smart city ecosystem management is understanding what an ecosystem consists of. Aspiring smart cities, specifically the city administrations behind them, currently only reach the initial phases of the learning curve. By taking careful initiatives in, for instance, citizen participation, administrations are building experience by mapping local ecosystems and reaching out to them (Van den Bergh and Viaene, 2016). Consider, for instance, the Talk London portal, or the Living Labs approach in many European cities. Some visionaries have expressed their appreciation of city ecosystems as a rich source of brainpower or resources waiting to be unlocked for the development of smart city initiatives. Harrison, Pardo and Cook (2012) call for government to evolve to “information age networked and interdependent systems” for example, as part of a strive for more ‘open’ government services.

“Cities cannot simply copy good practices but must develop approaches that fit their own situation and concord with their own organization in terms of broader strategies” (Meijer, Gil-Garcia & Rodriguez Bolivar, 2015). We interpret this as a call to stop considering cities as a single, massive ecosystem that is comparable to other cities’ ecosystems. More likely the relationships between the ecosystem players are subtly different in every city and less generic than generally accepted. These subtleties can only be found and considered when the city ecosystem is truly understood. To really grasp what this means and how it can be done, we need to look at the existing ecosystem literature. Business ecosystems have been defined as “dynamic and co-evolving communities of diverse actors who create and capture new value through both collaboration and

competition” (Kelly, 2015). This definition was made after an analogy between evolved biological systems and networks of business entities, and should now be translated to a smart city context. Next, the essential questions to be answered in smart city ecosystems are: Which parties do we want to participate? How do we activate them? How do we keep them on board?

*Key questions:*

- What is an ecosystem in a smart city context?
- How to understand (describe/visualize/analyse...) a smart city ecosystem?

### 3. Scoping Smart City Ecosystems

In the introduction we argued that ecosystems should be scoped by means of meaningful and manageable needs clusters. We disagree with attempts to depict the complex system of a city as one ecosystem. In a smart city context, contextualisation is important (Janowski, 2015). A wiser approach is to gather ecosystem players around what we call a ‘needs cluster’. At the highest level, a needs cluster can be understood as an application field of a smart city. Typically one finds energy, mobility, e-government, smart living, environment, economy, ... as application fields in smart city literature. However, we believe these are still too close to classical organisational silos in the city administration and, moreover, too high-level to be tangible and manageable. We believe needs clusters should be defined around a common goal or application field (such as the above), and in the context of a certain space, time and city strategy. An example of such an approach clustered around ‘climate neutrality’ is the successful Ghent Climate Neutral City initiative in Ghent, Belgium or Vienna’s initiatives clustered around the “superordinate goals” in its framework strategy .

Finally, in the context of a citizen participation study in a smart city context, we found that it makes little sense to approach citizens as a homogeneous group. Between all the smart city ecosystem players, the citizens as a group probably represents the largest challenge. Treating citizens as a single group or ecosystem player is a serious over-simplification and a threat to citizen participation, a recurring element in smart city visions. There is no such thing as the average citizen, which makes it extremely difficult to have representative citizen participation in smart city initiatives. While we do not have a solution for this issue, we do believe that city administrations should be aware of this to avoid misrepresentation of citizen participation levels. It is certainly a matter that calls for more research in order to tackle the issue.

*Key questions:*

- How to decide what and who is in scope for a smart city ecosystem?
- How can a needs cluster be identified and defined?

### 4. Activating Smart City Ecosystems

Once understood and transformed into a manoeuvrable – i.e., meaningful and manageable concept – a specific smart city ecosystem should be activated to the benefit of the smart city ambition. Why should a citizen contribute in smart city initiatives? Why should a technology company invest in

digital infrastructure? Why should a university offer access to research and students? In other words, how can the players in an ecosystem be activated? Finland's Forum Virium, for example, experiments with gamification techniques – co-developed with companies – to activate youths. This element encompasses partnership selection and formation – with differentiated participation levels for different stakeholders groups. Smart city development roadmaps mention “convincing other public and private actors to collaborate, maximizing their efforts towards the achievement of a common goal” (Bolici and Mora, 2015). The common goal here represents the meaningful needs cluster we referred to earlier. The urgency and common value of that need is a direct antecedent for the eagerness of the ecosystem players to be activated in a smart city initiative.

In practice, we observe two extreme approaches. The safer choice is the outsourcing approach. Clearly defined requests for proposals are described, sent out, and answered by individuals or groups of contractors who engage in a formal, contractual relationship with local authorities. At the other end, we find the open innovation approach where the city provides data, infrastructure and a platform upon which any interested party can develop and offer its services. The second option has the virtue of being more open for creativity, but it also increases fragmentation of the developed services. It is a classic example of the control-creativity paradox in ecosystems (Wareham et al., 2014).

*Key questions:*

- How to purposefully select ecosystem players for active involvement?
- How to activate a smart city ecosystem?

## **5. Managing and Servicing Smart City Ecosystems**

Essentially the activation of the ecosystem is not a one-off activity. The more difficult challenge is to manage the ecosystem with all its inherent dynamics and paradoxes, and ensure its continuation. A city administration needs to consciously decide on its position in the ecosystem. Typically such a position that allows to actively manage the ecosystem is called a ‘keystone’ role. In some cases the city forms a separate venture to take up the role of ecosystem manager, which is the case in Amsterdam and Helsinki to name just two prominent smart cities. The management of an ecosystem requires governance. Governance covers those structures and processes that describe the protocol for ecosystem lifecycle events such as new partner selection and on-boarding, redefining the purpose of the ecosystem, partner exit strategies, and decision-making mechanisms. The keystone player also ensures that each party in the ecosystem is able to realise its benefits and stays stimulated to bring value to the ecosystem in return. We propose the concept of ‘currencies’. A currency in this context could be anything that can be exchanged between ecosystem players that is of value to any of the involved parties, e.g., time, money, (open) data, space, publicity, recognition. These currencies provide the glue and long-term incentives to the ecosystem. The concept has already been established in platform literature (Castelucci and Ertug, 2010) and should now be translated and applied to smart cities.

Interestingly, for business ecosystems, research has identified ways to measure the general health of ecosystem by means of indicators. Three elements or dimensions should be monitored

and operationalised in the context of smart cities: productivity, robustness and niche creation (Iansiti and Levien, 2004). Ecosystem productivity can be increased by simplifying the complex task of connecting new participants to one another, and by making the creation of new products by third parties more efficient. Robustness, consistently incorporating technological innovations and providing a reliable point of reference, helps participants respond to new and uncertain conditions. Meaningful diversity is stimulated by offering innovative technologies to a variety of third parties.

*Key questions:*

- How to create long term win-win-win strategies?
- Which currencies can be leveraged to activate ecosystem players (e.g., data, financial means, political voice & influence, sustainability, time, recognition and reputation...)?
- Which role should a city administration take up in a smart city ecosystem? Should it always pursue a keystone role or are other strategies also possible, or sometimes even preferable?
- How to assess a smart city ecosystem's health?
- How can an ecosystem be managed and serviced by means of a platform?

## 6. Our Call to Action

With this contribution we intend to inspire the smart city practitioner community and smart city researchers globally to further develop and operationalise the smart city ecosystem concept, which we strongly believe to be the most influential factor for the success of the many ambitious smart city plans that are being put together as we write this. The ecosystem perspective presents a challenge for city administrations, as little is known about ecosystem management in the smart city context. We have proposed a couple of promising concepts that could help the city administration in managing smart city ecosystems: needs clusters, smart city currencies, and ecosystem health. We hope they will be picked up and developed by the community. Finally, we call upon the research community to answer the key questions above, to further advance the smart city field from a theoretical and practical point of view. A cross-disciplinary approach offers the best chances to retrieve answers to those questions.

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# E-Government Based on E-Participation: A Study of Government Websites in Turkey

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*Abstract: The primary aim of this study is to examine the progress of online government information to the contribution of citizen engagement at present. Consequently, the paper intends to investigate the realities about the engagement possibilities of e-government services for citizens for the case of Turkey as well as to categorize the problems related with this issue.*

*Keywords: e-government, e-participation, government websites*

## 1. Introduction

The political parties, government agencies of the countries, other groups and the individuals use the Internet more and more to spread their messages among others. According to United Nations e-government survey 2016, “90 countries now offer one or more single entry portal on public information or online services, or both and 148 countries provide at least one form of online transactional services” (UN e-Government Survey, 2016). This information from the survey demonstrates the rise in countries’ efforts in the matter of providing online information via e-government channels. Citizens, who are using e-government for information about the services, might still have difficulties in engaging with public agencies.

## 2. E-Government and E-Form of Citizen Participation

E-government is a broad term for web-based services of state and local government. In a more narrow sense, e-government is the short version of electronic government and involves the use of electronic communication devices such as computers, mobile phones and the Internet to deliver public services to citizens.

Citizen engagement and citizen participation are two core elements to be investigated when talking about participatory e-government. These concepts are the important dimensions of e-government that relates the effects of ICT’s between government and citizens’ relations. Yet the term e-participation is missing an inclusionary definition and the connection between e-participation and citizen engagement has been subject to diverse researches. Thus, it would be more appropriate to define these terms according to the UN and the OECD’s large scale projects’ definitions. The e-participation index developed by the UN has classified the term under three

sections which are e-information, e-participation and e-decision making. Similarly, the OECD, without a specific index, has defined three categories to enhance the relations between citizens and governments including information, consultation and active participation (OECD, 2007). Both classifications suggest various ways in which e-government may contribute in the transformation of governance, not only through service delivery but also through more informed and engaged citizenship. There is a close relation between e-participation and citizen engagement therefore e-participation is usually described as an area of application of ICTs in order to maintain citizens' engagement in the process of policy-making through deliberation and active decision-making processes (Sæbø et al, 2008). E-government initiatives can increase participation in the processes of government through information and interactive services, and by linking people across geographic boundaries. Social media tools as well as mobile applications of e-government services, provide opportunities and challenges for governments to include stakeholders in dynamic policy development, service design, co-production and feedback processes.

### 3. Research Scope and Methodology

The research part of this study focuses on government websites in Turkey and their integration level regarding e-participation and citizen engagement. The main aim of the research is to update the recent developments in terms of e-participation and citizen engagement in Turkish governmental websites. The governmental websites of the research have been selected according to the European Commissions Joinup Platform's categorization of public services under eight titles which include travel, work and retirement, vehicles, residence formalities, education and youth, health, family, consumers. This classification aims to help citizens do things in other European countries and 16 different Turkish governmental web sites are listed for all the 8 categories (Joinup Europa, 2016). The research is based on the analysis of the websites from this classification and one website with the gov.tr extension for each category has been selected. The selection is made based on the researcher's knowledge about the popularity and functionality of web sites which are listed. Yet some of the web sites listed on the report are currently inaccessible or the same web sites are repeated for different categories. That is also the reason why the website of General Directorate of Census and Citizenship, nvi.gov.tr was chosen two times for both the section family and the residence. The analysis criteria centers on citizen engagement levels combined with e-participation stages and tools. "Spectrum of Public Participation" (IAP2, 2007) specifies five levels of government/participant engagement which are inform, consult, involve, collaborate, and empower. The e-participation stages of research conducted by the United Nations (UNPAN, 2016) is combined with these engagement levels and 10 different technical tools to measure citizen engagement and was taken from the Rutgers Digital Governance in Municipalities Worldwide (Holzer et al, 2016) study. Table 1 below summarizes how engagement can be obtained with the different stages of e-participation and which tools are evaluated. The websites analysis took place on December 2016 and was based on 10 days of observation: All the websites are evaluated during this period of time and no change was made after the window of collection was closed. The presence or the absence of the feature of social and citizen engagement was noted during a visit of an average user.

Table1: Citizen Engagement and E-Participation Levels

Citizen engagement	E-participation	Description	Technical tools
Inform	e-information	Availability of sources of archived information	Newsletter, performance measures, standards, or benchmarks, synchronous video
Consult&Involve	e-consultation	Organizing public consultations online	Comments or feedbacks, online discussion forum on policy issues, online bulletin board or chat capabilities, scheduled e-meetings for discussion, online survey/polls, citizen satisfaction survey, social media applications, mobile
Collaborate&Empower	e-decision making	Involving citizens directly in decision processes	Online decision-making

#### 4. Analysis and Findings

For the section of travel, e-passport website, <http://www.egm.gov.tr/>, under the responsibility of Central Government General Directorate of Security, was analyzed. The site is designed with basic features with two general titles, information and apply. If users need to get extra information, there is an information request form but neither social media applications nor mobile application are available. The site is designed to serve Turkish citizens mainly because of the lack of language options on the site. Another important point is that the site allows the applications only from Turkey and directs the request outside of Turkey to a consulate website

<https://www.konsolosluk.gov.tr>. For that reason, unlike the Joinup portal's main aim which is to help citizens do things in other European countries, the e-passport website serves only Turkish citizens and only if they do their applications within Turkey. Online appointment is offered on the application part. The website could easily be categorized as an e-information site which is basically providing citizens with public information and access to information without or upon demand. None of the features that enable e-consultation or e-decision-making such as online survey/ polls, online bulletin board or chat capabilities, scheduled e-meetings for discussion or online discussion forum on policy discussion have been assessed.

For the work and travel section, the Social Security Institute website, [www.e.sgk.gov.tr](http://www.e.sgk.gov.tr), was examined. The social security website offers both social media applications and mobile application as well as information from an SMS upon demand. Social media channels of the institution allow all kinds of comments and feedback but newsletters, online bulletin boards, or chat capabilities were not assessed during the observation period. Youtube channels provide a different kind of practical information videos although these are not considered as synchronous videos. An online discussion forum on policy discussion is only possible through social media channels although

citizens do not seem to be very active on Twitter or Facebook despite 30 thousand followers. The main social security website permits access in different languages (English, French, German and Arabic), but the sub website [e.sgk.gov.tr](http://e.sgk.gov.tr) does not have language options and is only offered in Turkish. The social security institution website provides all kinds of information related to topics such as retirement, health insurance, pharmacy by categorizing users under the titles of citizen, public and employer. The website could be considered both an e-information and e-consultation site but many features are missing to be considered as an e-decision-making site.

The website of General Directorate of Security website, [egm.gov.tr](http://egm.gov.tr), was inspected for the vehicles sections. The site offers social media applications and mobile application and is only offered in Turkish. Through these channels citizens can participate in discussions, but there are no online bulletin board or chat capabilities. There is a section for e-government, which directly leads citizens to e-government gateway. The site only allows users to send an e-mail. Online appointments to get a driving license are available but as the site is only offered in Turkish, none of the foreigners could benefit from these tools. Consequently, the website is designed to serve as an e-information site with the possibilities of consultation and discussion via social media applications.

The website of General Directorate of Census and Citizenship, [nvi.gov.tr](http://nvi.gov.tr), was selected to be analyzed for residence and family section. The website offers two language options (English and French) rather than only Turkish. Social media applications and mobile application are not available and only the communication that is offered to citizen is the information request form. Online bulletin boards are active on the website but other forms that permit any sort of discussion or decision-making are absent. The website could be considered mainly an e-information site.

For the education and youth, The Council of Higher Education website, [yok.gov.tr](http://yok.gov.tr), is examined. The website offers an English version and social media applications are available, but there is no mobile application. Social media channels of the institution mainly post information related to announcements rather than providing two-way communication, although this might be either the users' preference to stay more passive than being active on commenting about policies. An information request form is available because of law number 4982. There is an online bulletin board with no chat capability and no option has been designed for comment and feedback. The section of education and youth is divided into subgroups that one of these subgroups is reserved to researchers. The website of Euraxess is designed to provide information and assistance to mobile researchers and this characteristic makes the website the most appropriate in the sense that it offers practical information concerning professional and daily life, as well as information on job and funding opportunities for researchers. Because of technical reasons the website was not accessible during the period of observation.

For the health section, the website of Ministry of Health, [saglik.gov.tr](http://saglik.gov.tr), was analyzed. The main page of the website does not offer possibilities for comments and feedback. The possibility of discussion forums on policies is also missing. The site has an English version with social media applications and mobile application. Nevertheless, social media channels are used for one-way information and communication. There is an option for online appointment and the other available online services, such as e-pulse, are constructed in the form of briefing.

For the last subdivision of Joinup, under the consumer section, the website of National Judiciary Informatics System (UYAP) under the responsibility of Ministry of Justice was evaluated. The website is only available in Turkish and does not have any social media applications, but the mobile application is offered. The main objective of the site is to inform citizens about the issues related to justice and the site tries to promote its online services. None of the features linked to consultation or decision-making have been running on the site. Already the website's main services provide online information about lawyers, experts, institutions and online signature. On the other side, the Ministry of Justice website has social media applications however, these channels are used to distribute news based information rather than dialogue.

Almost half of the websites are still at the first stage of e-participation named e-information. For the e-consultation, we prefer to put the word "partial" because although e-consultation could have been realized by the existence of social media platforms, none of the analyzed governmental websites' social media channels encourages two-way communication. Thus, the existence of these platforms does not reflect a real opinion sharing from citizens to government agencies.

*Table 2: E-Participation and Citizen Engagement Stages of Turkish Governmental Websites*

Services	Website	E-participation Stage	Citizen Engagement
Travel	<a href="https://epasaport.egm.gov.tr">https://epasaport.egm.gov.tr</a>	e-information	Inform
Work and retirement	<a href="http://www.sgk.gov.tr">www.sgk.gov.tr</a>	e-information and partial e-consultation	Inform, consult
Vehicles	<a href="http://www.egm.gov.tr">www.egm.gov.tr</a>	e-information and partial e-consultation	Inform, consult
Residences	<a href="http://www.nvi.gov.tr">www.nvi.gov.tr</a>	e-information	Inform
Education and youth	<a href="http://www.yok.gov.tr">www.yok.gov.tr</a>	e-information	Inform
Family	<a href="http://www.nvi.gov.tr">www.nvi.gov.tr</a>	e-information	Inform
Health	<a href="http://www.saglik.gov.tr">www.saglik.gov.tr</a>	e-information and partial e-consultation	Inform, consult
Consumers	<a href="http://www.uyap.gov.tr">www.uyap.gov.tr</a>	e-information and partial e-consultation	Inform, consult

## 5. Conclusion and Future Work

E-government websites have constructed an important part of these developments as well as municipal websites and national entry points. The findings of this study concur with the previous research projects results. The selected websites are considered to be presenting e-government services for Turkish citizens and also for European citizens who seek some information about a given country. For the second group, the analyzed websites do not provide practical information most of the time and some of them miss the option of publishing in another language and are not designed to serve the needs of European citizens to do things in Turkey.

For the Turkish citizens, many of the analyzed websites provide the necessary information related with the service, however, the evidence of consultation and decision-making is missing. In other terms, e-government management regarding top-down model seems to be working

effectively but the bottom-up part still needs to be developed. This development should also involve the problems on the digital divide and Internet literacy of the citizens. Yet other research could focus on understanding the citizens' evaluation of governmental websites and their expectations of e-government applications in Turkey. E-government features cannot be explained only by evaluating the technological developments such as the existence of mobile applications of the websites. On the other hand, some governmental policies and strategies have to be enhanced to introduce the advantages of an online government to citizens. Turkey, as mentioned above, is a special case in e-government studies as do most of the countries. As a result, the country's profile and socio-political and economic issues have to be estimated before placing it statistically.

The above examples are analyzed to demonstrate that there are different approaches to conduct e-participation applications and to show that these different approaches depend on local settings and conditions. Even though it is important to differentiate between the three levels of e-participation, these levels are interconnected and in order to make progress in online citizen engagement stages, effective online information and consultation tools have to be established.

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# Internet Voting in Brazil: Is It Possible?

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*Abstract: Using electronic voting machines in loco is the most typical means of electronic voting, and thus of participating in the democratic process of choosing politicians in Brazil, but it is also the most questioned in its transparency process. In this sense, is it possible to think of another technological means of voting that offers more authenticity, reliability and integrity in the processed information? Internet voting is the answer. This article summarizes a Doctorate research on internet voting. The following reflection highlights the basic concepts as well as the possibility of building a new model of interactive and secure voting in Brazil.*

*Keywords: internet voting, electronic voting, electronic democracy, Republic Federative of Brazil, cyberpolitic.*

## 1. Introduction

The purpose of this reflection is to research the effective practice of a hybrid reality (real and virtual world) in an immersive environment – Internet, and interactive in the emerging cognitive abilities in a tangible, ubiquitous and pervasive way. It is also important to say that this reflection is a concern of the researcher since electronic ballot boxes have become a technological innovation for the choice of leaders and political representatives in Brazil in the last twenty years.

Internet Voting (i-voting) is a very daring and controversial topic in the political, social and technological scenario, and is often treated with extreme caution, because, although the evolution of the Internet in several segments of daily life, for instance, e-commerce, internet banking, digital communication applications in general and internet of things, the subject in question is information security.

In any case, i-voting seems to be a natural phenomenon and, consequently, emergent, since it is part of the concept of Electronic Government (eGOV). The statement is based on a historical fact that occurred in the United States on December 17, 1999, when President Bill Clinton wrote a memo to the National Science Foundation to study the potential of Internet Vote under the argument that Internet voting would be the solution to the problems in the American Political System.

Coincidentally, in the year of 2000, the George W. Bush versus Al Gore led to the recount of votes in the state of Florida forwarded by the US Supreme Court to decide the winner of the

election. This was all the fault of the Votomatic-style ballot (punch card)<sup>1</sup>, which was the technology adopted in the state at the time. Many ballots were incompletely perforated, causing dimpled chads, that is, an imperfect ripple in the ballot that prevented the computation of the votes.

Faced with this most emblematic fact in US history, researchers Alvarez and Hall (2004) questioned the use of information and communication technologies (ICT) after this electoral process in the United States, according to them:

*"Can technology facilitate voter registration and voting? Can registration and voting from remote locations be done easily and accurately, so that voters do not have to worry about whether they are eligible to vote or whether their ballot will be counted? For many, the answer seems simple: Internet Voting" (Alvarez et al., 2004, p. 2).*

After eighteen years, an evolution on the use of i-voting is very noticeable in the world scenario, for instance, in countries like Spain, Estonia, United States of America, Philippines, France, England and Switzerland, each one with its political, geographical and governmental peculiarity.

Otherwise, the electronic vote still present in many countries – Costa Rica recently adopted the electronic ballot box, and it is the electoral voting model used in the Federative Republic of Brazil. At first it was believed that the computerization of the voting system would solve all the problems of the traditional paper system. However, with its implementation in some countries, including Brazil, the electronic voting system was not able to provide irrefutable guarantees that had not been subject of fraudulent changes during its development or operation. From this point on, the need for a digital transition of democracy emerged, and it can change this scenario.

In effect, the following section will explain the problem of the electronic ballot box in Brazil and the challenges and perspectives on the idea of a new interactive and secure internet voting model in the country.

## **2. Electronic Voting System: The Big Problem**

### **2.1. The Search for the Truth of Electronic Voting in Brazil**

The political instability that the country is going through with the replacement of the presidency of the Republic in the process of impeachment has brought to the fore – again, doubtfulness regarding the Brazilian electronic electoral system to elect political candidates. The electronic ballot box, that will complete twenty years since its creation in 1978 by the lawyer Carlos Prudêncio and his first experiment in the city of Brusque (SC) in 1988, changed the way of voting in the country.

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<sup>1</sup> Created in 1890 by Herman Hollerith (USA). It is a pre-perforated rectangular aggregate in numbered positions, which represent the totality of options that a voter has in a given suit. In short, the voter must punch the rectangle next to the candidate's name and make sure he left a hole for the machine to be counted. (RIVERO, 2012).

The current model of the urn has been in use since 1996, starting in an only few cities until its complete use in the national scenario in 2000. It can be said that the process of choosing politicians has gone from atoms to bits, that is, from paper (material) to virtual (incorporeal), speeding up the counting of votes by the Superior Electoral Court (SEC).

But what has changed in Brazil with the electronic voting system? First, it is important to say that in the electoral political aspect, the inclusion of technology is only a partial factor of relevance in the evolution of the process of choosing politicians in Brazil. The adoption of electronic ballot voting was the substitution of one model for another, because the essence of the electoral system has not undergone any kind of political reform until today. Second, the electronic casket model is strongly emphasized by the SEC regarding the broad credibility of the voting process and the security of the information entered in the electronic ballot box.

Both points are very sensitive and make us rethink the electoral process of the past – without the electronic ballot box, if at any time, it was done in a dubious way. It is interesting to mention why Mr. Prudêncio justified (already at that time) that electronic voting brought more security and the impossibility of electoral fraud than in the paper model. In addition, the SEC with the Public Prosecutor and the Federal Police also said cases of suspected fraud are still frequent, but neither case has been identified and proven so far. This is disturbing and disquieting.

Such a scenario makes the reliability of the electronic voting process doubtful. Even more than that, the crux of the matter is the search for power through electronic voting that can clearly take dubious paths. Therefore, concern for the validity of the process is quite reasonable.

Due to these points, some experts have shown disapproval against the security model of the electronic ballot box with the application of tests with the SEC and the demonstration of results with the possibility of fraud. In the past, the SEC sought to learn about the issues and to become aware of possible means of fraud to try to implement solutions in order to guarantee the integrity of the vote in the country.

However, despite the SEC's efforts to make the voting process transparent in the electronic ballot box, just in 2015 it was standardized through the Resolution No. 23.444, in which some public security tests were carried out, before the election campaign, for the inspection of the source codes in the software (UENUX) of the electoral urn in Linux (open source) operating environment. According to this Resolution, the tests can be performed by a specialist, scholar, public or private agent, non-governmental body and, above all, any citizen.

Nevertheless, the last public security test conducted in March of 2016, in just three days, showed that there is a previous selection process for participation, thus restricting the number of participants and contributions to the improvement of the electoral process.

Based on the opinion of the participants of the public safety test, the final result encountered obstacles to the complete examination in the source code of the program that is executed in each electronic ballot box. Such as the environment of management and voting total, access to the machines, verifying the secure environment of data and information, in the database itself, in

cryptographic key generation software, in the identification of voters by biometric or biographical systems, and in physical security devices such as seals for the electronic ballot boxes.

The SEC justified each argument pointed out by each chosen member and stated that it followed the aegis of the notice of convocation for the tests, that is, only the edict regulated for the software and hardware verification environment had been analyzed and verified. Nevertheless, other suggestions have been heard and possibly will be reviewed in the next electoral process.

The SEC has shown a sensitive and careful position on the subject, especially with the information provided to society regarding the veracity of the process and the security of information in the democratic sphere. With this, it is perceived that it is a cultural, legal, political and technological challenge to raise awareness of electronic voting in the country. The concern is that civil society acts with a certain lack of commitment, with the proposed model, to the point of becoming just a matter of faith.

Currently, the output founded by the SEC was to adopt three “new” means of robustness and reliability in the electronic voting process: biometrics, paper urn and Quick Response Code or QR Code. The first is for voter identification and the others are for credible validation of votes. The use of a personal key for a positive identification, such as biometrics, is not a security device, but only a control, since fingerprints of a hand can also be found in a glass of water. Care should be taken with this type of control (pseudo security) that was used in full or hybrid – some electoral zones with biometric access and identification by personal document, in the 2016 elections. The paper ballot will be printed with the QR Code for the voter and other actors to compare the valid, null and white votes of each electronic ballot box. The information extracted from the voting software and the data collection and retrieval system that will be printed on the door of each electoral section at the end of the day.

These procedures are a means of pacifying the desire of the printed vote in the validation of the total votes, where, according to the position of the SEC, the vote cannot be printed due to the constitutional principle of secrecy of the vote and also to the vulnerabilities associated to the manipulation of paper.

It should be emphasized here that the position of the SEC is questionable since as the guarantee of secrecy of voting is enforced operationally by the SEC itself and the voter has the right at any time to speak for one or another candidate or party, without infringing the electoral legislation. Thus, checking voters’ electronic voting on printed paper as a form of control of their democratic participation would not undermine the electoral process and is not unconstitutional. It is a counterpoint to the Brazilian election mode, the voters’ demonstration by their political candidates, realized even with institutes of electoral researches. In addition, Facebook and other Internet applications are already some instruments used widely in pre-counting votes, becoming a strategic mechanism of meta-data in the electoral campaign.

It is important to emphasize that the political game can seek the attention of the electorate by legal means, which is not to try to circumvent the democratic process that was won in a fierce way, and also at the expense of many lives in the past. It would be a setback for the country.

Therefore, electronic voting is an advancement in the Brazilian electoral process, being a model for many nations abroad. And all the questioning observed is part of the evolutionary action that must be analyzed and reviewed by the SEC. With this, common sense must prevail with the adoption of any type of regulation for electronic voting, since a rule can avoid a possible innovation for the future. In this case, the adoption of Internet voting in the country.

Finally, all this proves that in the elections of the year 2018, the approximately 142 million voters will be put to the test in the electronic ballot boxes. The question is who is willing to supervise the electronic democracy of their electoral section and to participate directly in the changes that everyone wants in the current political scenario?

### **3. The Challenges for Brazilian I-Voting**

Is Brazil prepared for the cyberpolitics of the future? And, in this case, the use of Internet Voting? From this reflection, one can list three points that are obstacles to the adoption of i-voting in the country.

First, the political unconsciousness of the people is one of the obstacles of the political system and probably will be for i-voting as well. In our opinion, most of Brazilians, including university students, do not understand the vote according to the rules of the electoral political system; the majority votes for the most agreeable candidate or prefer abstain from voting.

Second, digital inclusion is another very important point to propose i-voting. It is important to say that (The) access to Internet is still a challenge related to network infrastructure in certain regions of Brazil that may prevent access to the new digital voting model.

In addition to the challenges mentioned above, the most important challenge is online security information technology in the electoral process with the use of cryptographic security key. For this, an online information security program (algorithms of encryption) needs to be created or innovated, but this area is still underway in scientific research.

### **4. How to Apply Internet Voting?**

First of all, the SEC needs to recognize the limitations of the electronic voting system to propose i-voting as an emerging paradigm rupture in Brazilian electronic democracy.

Although the telecommunications infrastructure for the Internet does not serve the nation completely, the research will delimit the field of investigation in the mobile phone. The reason for this is because the use of the Internet in mobile phones by Brazilians has grown significantly from 2011 to 2015, according to research carried out by the Regional Center for Studies on the

Development of the Information Society (CETIC.br)<sup>2</sup>. Reaching the voters of different socioeconomic profiles is highly probable. It is a way to reach the maximum number of voters in the country and when Brazilians abroad.

## 5. Discussion and Future Work

It is a challenge for the future of cyberpolitics and electronic democracy in Brazil to approach an Internet voting model that is interactive, dynamic and secure. Opposition to the current model of electronic voting system is subject to discussion with the SEC because there are facts and reports that prove obscurity in the electronic voting process. In any case, it will be a long way for the adoption of Internet voting in the country that will require maturity with the political system, efforts to eradicate the digital divide in the national territory and, especially, improvement in the issue of security and information control in the electoral process of Internet voting. In our opinion, we need to start believing that internet voting is a natural process of democracy around the world. So, why not in Brazil?

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<sup>2</sup> CETIC.br has consolidated its position as a reference center to produce indicators and statistics on the use of information and communication technologies in Brazil. It publishes periodic specialized surveys and reports on the use of information and communications technologies - ICTs and the Internet by several segments of society. The results of these surveys are critical to monitor and assess the social and economic impact of ICTs and to allow the comparison between the realities in Brazil and other countries. Over its history, the ICT Households survey has registered an upward trend in the number of Internet users, which in 2015 totaled an estimated 102 million users. This number corresponds to 58% of the population 10 years of age or older (compared to 34% in 2008). In the same line, frequency of use has also been growing over the years. There has been an upward trend in the proportion of users who access the Internet every day or almost every day, going from 53% in 2008 to 82% in 2015. One of the highlights of the ICT Households 2015 survey is related to the devices used to access the Internet. Whereas in 2014 computers (desktop, portable or tablet) were the most used devices for accessing the Internet (80%), in 2015 mobile phones became the main devices used for this activity (89%, compared to 76% in 2014). Given the role played by mobile phones in 2015, it is necessary to better understand how the Internet was used with these devices, as well as its possibilities and limitations. The trend toward mobility also reveals important changes in the way technologies are present in the lives of individuals. Along with the increased use of mobile phones for accessing the Internet, there was a decrease in the proportion of computers (desktop, portable or tablet) among the devices used for access in the three months prior to the survey.

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# Mitigating Digital Disruption Challenge by Detecting Likely Dropout Risks

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*Abstract: Enhancing citizen participation and engagement remains a challenging task in e-Government services development. A Capgemini benchmark study from 2016 indicates that for a large group of the population such services might not be perceived as adding new value, but rather are considered as a superfluous digital disruption. In this paper we present the findings from a survey conducted among the users of an e-Government service in public housing tender for buying housing facilities, where citizens were allowed to choose between application submission in electronic and paper form. Our aim was to detect the factors that can be used to identify vulnerable citizen groups that might require a more focused communication strategy to reduce the risks of potential e-Government services dropouts. Our approach is aligned with the user centricity principle, where the focus is on the ease and speed of using digital services online as perceived by the users.*

*Keywords: online engagement, public services, public housing, digital disruption*

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## 1. Introduction

Benchmark studies of e-Government field in Europe (Capgemini et al., 2016) state that governments have clearly advanced in making public services digital. However, they seemed to focus less on the quality of the delivery from the user's perspective. While the online availability of services has reached 81% and online usability 83%, the ease of use and speed of using these services online, as perceived by their users, increased poorly to 58%. By the same token, citizen participation and engagement indicators show that 54% of EU citizens are, quite surprisingly, either non-believers or potential drop-outs of e-Government services. The fact that citizens' participation and usage of the available services remains relatively low (below 50%) is often contributed to some sort of intentional or non-intentional exclusion from e-service society.

Digital technologies may cause disruptions and challenge to our daily routines; at the same time, they are inevitable and their adoption seems to enrich and accelerate our lives. The inclusion

of citizens in an e-service society requires substantial skills and knowledge, mostly from the field of informatics and computer science. There are certain access barriers and unequal social and economic opportunities that are the main causes for digital divide (Capgemini et al., 2016).

In this paper we address issues related to relatively low citizens' participation and engagement in the e-Government endeavor. By analyzing completed questionnaire data from the e-Government application for selling flats to citizens under favorable terms by the State Housing Fund, our aim was to identify factors (reasons, causes, excuses) for using or, more importantly, not using a certain digital service. The involved citizens could, according to their preference, decide to use online service to fill in and submit a form application or fill and submit a paper application. At this preliminary stage, we have focused on the influence of objective demographic characteristics, since the psychographic characteristics are more difficult to obtain and measure. We have assumed that when offered a choice, a potential dropout from e-Government online service users would more likely select the traditional variant of the process. The identified factors can, therefore, be used to prepare a more focused communication strategy to reduce the risks of potential e-Government services dropouts. Based on the findings from a related work (e.g., Massey et al., 2008) we formulated a research hypothesis H1: The decision of choosing the digital service or paper service does not depend on simple demographics (age, gender, education, etc.); it depends on person's technology beliefs and usability requirements. The collected responses were used to test the hypothesis.

This paper is organized as follows. First, we present the problem domain and the design of a questionnaire used to obtain data for the study. In particular, we focus on user experience with a particular e-Government service in the process of selling flats to citizens via a public tender. Then, we present the results obtained from the data collected with responses to the questionnaire. In conclusion, we summarize the most important findings.

## 2. Materials and Methods

The data for the analysis described in this paper were collected in and after a process for selling flats to citizens under favorable terms, conducted by the State Housing Fund (Cestnik et al., 2008; Kern et al., 2011). One of the Fund's assignments is to construct and sell apartments to citizens at favorable prices. Its strategic goals that support these activities are the following: (1) assuring suitable quality of apartments, (2) assuring larger number of apartments offered to the market, and (3) stabilizing the prices in the real estate market.

The public tender for selling 342 flats in the Green grove neighborhood at Brdo was published in July 2014. In December 2014, the first residents who bought the flats started moving in. To obtain a systematic feedback and evaluation of the buyers' experience with the whole purchase process the Fund conducted a preliminary survey in the form of a questionnaire. In December 2015, we sent emails to 320 buyers; the emails contained the links to the anonymous questionnaire. 238 buyers (74%) responded till the end of February 2016, when the survey was closed.

The prepared questionnaire consisted of 26 questions (labeled Q1 to Q26) divided in 4 parts: (1) questions related to general information about the tender, (2) questions about submitting application and receiving information about the application outcome, (3) questions about the rest of the process (the contract signature, the apartment preview and handover, complaint handling), and (4) general demographics like gender and age (see Table 1 for more details).

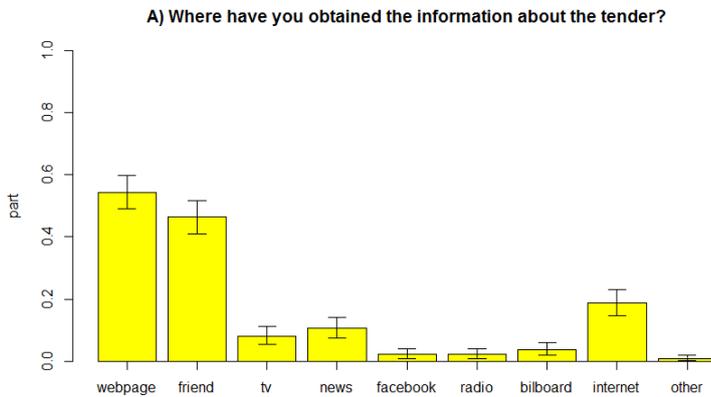
Table 1: Statistics of Answers to General Demographics Questions

Question	Answer	Frequency	%
Q21 Gender	male	113	54.1
	female	96	45.9
Q22 Age	till 26	9	4.2
	27 – 40	107	50.2
	41 – 50	70	32.9
	51 – 60	20	9.4
	61 and more	7	3.3
Q23 Marital status	single	42	20.0
	married	75	35.7
	widowed	4	1.9
	divorced	44	21.0
	partnership	45	21.4
Q24 Family type	with preschool child	47	23.0
	with primary school child	20	9.8
	with student child	46	22.5
	no children	91	44.6
Q25 Formal education	primary	0	0.0
	secondary	57	27.3
	high	7	3.3
	university	101	48.3
	master	24	11.5
	doctorate	20	9.6
Q26 Employment status	student	5	2.4
	employed	191	91.4
	retired	9	4.3
	unemployed	4	1.9

The questionnaire was implemented on the web with the open source tool 1KA (<http://english.1ka.si/>). On average, it took each respondent 15 minutes to complete the questionnaire. In Table 1, frequencies of general demographics questions are presented. Due to the sporadic missing data the sum of all responses can be less than 238. For statistical analyses and visualizations the R package (R Core Team, 2016) was used. Note that the quality of data gathered from the questionnaire was adequate, however, the sampling method was outside our control. The obtained sample therefore represents a population of citizens who share a common interest and whose characteristics might differ from randomly sampled citizen population.

Our study takes advantage of the fact that the potential buyers were offered a choice to select either paper or electronic form in the second phase of the process. In fact, in the answers to question Q3, roughly two thirds of the buyers (64.6%) decided to use the electronic form on the web, while the rest of them used the “traditional” paper form. Figure 1 lists the sources from which the buyers obtain the information about the Fund’s tender. Three sources are leading: the Fund’s webpage, a referral from a friend, and the Internet. An interesting finding from the social networking perspective is that, even though the Fund maintains a Facebook profile, it does not contribute much to informing the public about the tender event and procedures.

Figure 1: Source of Information about the Tender for Interested Buyers



The respondents who selected the electronic form application identified several reasons for their choice. To them, the electronic form seemed much easier to complete and submit, it required less time and can be submitted 24/7, they receive an instant feedback about their application status, they are independent of post office working hours and they do not have to pay the postal fee.

On the other hand, the respondents who selected the paper form indicated that they prefer having their own hardcopy of the application, they do not trust the web and they perceive the registration procedure as complex and time consuming. A few of them also stated that they were not aware that the possibility of electronic form application existed. Among other reasons they particularly stressed their lack of trust in the Internet. The two reasons, the first that the respondent did not find the link to web form, and the second that using web technologies causes problems, are represented among the respondents only in minority.

The respondents who selected the paper form were asked two additional questions: (Q7) "What would influence your decision for using electronic application?" and (Q8) "Would you complete and submit your application if there were only the electronic version available". Among the answers to Q7, faster Internet connection and a suitable own computer are the least represented (less than 10%); more important reasons are sufficient knowledge (41.1%) and other (46.9%), which mostly includes improved trust and security feeling on the Internet. A valuable piece of information came from answers to question Q8, where 83.8% of respondents stated that they would submit the application in the electronic form if only an electronic application form was available.

### 3. Results

In this paper we aim to identify factors that distinguish a person using/not using a certain digital service. We assume that when offered a choice, a potential dropout would more likely select the traditional variant of the process. The identified factors can be used to prepare a more focused communication strategy to reduce the risks of potential e-Government services dropouts. By using

Pearson's Chi-squared test with Yates' continuity correction (Corder et al., 2009), we tested the hypothesis H1 that the decision of choosing the digital service or paper service does not depend on simple demographics. The results are shown in Table 2.

Table 2: Pearson's Chi-Squared of Q3 Submission Channel (Electronic, Paper) and Demographic Questions

Q3 Submission channel and	degrees of freedom	p-value	$\chi$ -squared
Q21 Gender	1	0.00598	7.5563
Q22 Age	4	0.39180	4.1066
Q23 Marital status	4	0.55970	2.9888
Q24 Family type	3	0.20710	4.5593
Q25 Formal education	4	0.27970	5.0751
Q26 Employment status	3	0.51590	2.2826

The results in Table 2 confirm the hypothesis H1. However, in case of Q21 gender, Pearson's Chi-squared test gives p-value = 0.00598, which means that this part of the hypothesis (independence between Q3 Submission channel and Q21 Gender) has to be rejected. More in depth analysis of dependency between Q3 and Q21 indicates that among the respondents who had decided for the paper form submission there is a much higher percentage of females (60,0%) than among those who decided for an electronic submission (38,8%). Note that the other questions related to demographics (age, marital status, family type, education and employment) do not exhibit the same pattern, since the computed p-values in Table 2 are much higher than the 0.05 threshold. Note that it is outside the scope of this paper to provide an explanation of more a detailed connection between the questions Q3 and Q21.

The aim of our study was to analyze factors (demographics in this preliminary stage) that might distinguish a person using/not using a certain digital service. One possible implication of the obtained results is that by identifying a citizen group we can prepare a more focused communication strategy to improve and encourage the use of e-Government services. The backbone of such a communication strategy is the focus on the ease and speed of using digital services online as perceived by the users, which is the essence of the user centricity principle.

## 4. Conclusion

In this paper we described our approach to advancing online citizen participation and engagement in the case of public housing services. We presented the procedure to identify factors for using or not using a certain digital service. In the analysis of the questionnaire answers we have focused on the influence of objective demographic characteristics. The underlying assumption was that when offered a choice, a potential dropout from e-Government online service users would more likely select the traditional variant of the process. As a consequence, the identified factors can be used to prepare a more focused communication strategy to reduce the risks of potential e-Government services dropouts.

Studies and suggestions for improving citizen participation and engagement in online services include macro-theoretical studies, observation and analysis studies, and studies that focus on motivational factors and individual capacities in online interactions (Cappgemini et al., 2016). In our study we formulated a research hypothesis H1 stating that the decision of choosing the digital service or paper service does not depend on simple demographics (such as age, gender, or education.); it depends on a person's technology beliefs and usability requirements (Massey et al., 2008). The statistical analysis of the data obtained from a questionnaire only partially confirms hypothesis H1, since we identified a significant dependency between the gender variable and the use of digital service.

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# Virtual Lawn: Social Media as a Form of Self-Positioning in Politics

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*Abstract: This article discusses the features of political participation through social media, particularly social networking. On example of Russia's largest social network "VKontakte" studied the specificity of virtual communities related to policy and the behavior of their members. The authors offer the original classification of user publications. Based on discourse analysis of communities' content, comments and pages of active users, researchers characterize the political participation of citizens. The result confirms the thesis that the active involvement in virtual discussions focused primarily not on the discussion of political problems, but user self-positioning as an expert. However, the personal page appears as closed territory without involving the active reposts of these communities, and demonstrates a different image of the user.*

*Keywords: Social media, social networks, political participation, virtual communities.*

## 1. Introduction

Aspiration to participate actively in politics is one of the defining features of a highly developed civil society. High level of civil political culture could be considered a main feature of such a society. Citizen in this case is not only who has his or her own point of view on various ongoing political issues, frequently effected by mass media (news broadcasting by the Internet, TV, newspapers, etc.), but also an individual who engages in a process of formation of the political agenda and the process of decision-making on trivial issues of everyday life. Political participation of the individual could take different forms: conventional, often initiated by government's actions (e.g., elections, referendums), when citizen plays a role of a petty juror (as long as elections are fair), giving his or her voice for a certain candidate; political participation also could take more initiative forms (formation of working groups; neighborhood communities, dealing with everyday life issues; individual appeals to civil servants and officials). Citizens could be involved in unconventional participation (unauthorized by the state, or not supported by the state or government) forms of civil activity, such as protest actions, pickets, etc., which could in some conditions take a violent form (and step out of legal field).

Papers on political participation through social media are very diverse. For example, A. M. Kaplan and M. Haenlein outline applicability of social media (Kaplan, & Haenlein, 2010). Case studies on freedom of speech and communication in certain countries (Lei, 2011; Santos, & Ndlovu, 2015), effect of social media on political process and electoral preferences (Poell, 2014; Richey S., & Zhu J., 2015; Potter, & Dunaway, 2016); effect of social media on political agendas (Browne, & Stack, & Ziyadah, 2015); Internet and development of democracy (Stoycheff, & Nisbet, 2014) all contribute to the body of literature.

## 2. Methodology

With information and communications technology (ICT) developing drastically and the Internet in particular, political participation takes a new form of expression, a virtual one. Social media sphere is very broad and includes different types of communication, e.g., communication between online games players, so we have chosen social networks as a subject of our research.

Social media also serves as a major factor in influencing various aspects of consumer behavior including awareness, information acquisition, opinions, attitudes, purchase behavior, and post-purchase communication and evaluation (Mangold, & Faulds, 2009, p. 358).

In this case, political participation can have both an individual and a group character. Under Internet group participation on social media such as social networks can be understood as membership in communities (communities of political parties, politicians, candidates for elections, community supporters of a particular political ideology), the use of social networks as a means of exchanging information between the members of a particular group (working groups on specific issues, neighborhood community, a group of civil society activists), attracting new members. You can also select individual political participation, which manifests itself not only through individual commitment to a particular group, but also by demonstrating their political views, preferences, opinions, broadcast by an individual profile on the social network (this last aspect will be discussed in detail by us in this study). Individual actions through the Internet were studied within the concept of networked individualism (Rainie, & Wellman, 2012).

In the study, we relied on the paper of T. Makse and A. E. Sokhey (Makse, & Sokhey, 2014), based on the analysis of social activity of citizens of the USA during the 2008 presidential campaign. Signs installed by Americans on the lawns near their house were chosen as empirical material. As the authors emphasize, yard signs are not only as “an important symbolic aspect” reflecting the political preferences of citizens, but also their desire to take part in campaigning for favorite candidate (Makse, & Sokhey, 2014, p. 210-211).

It is noteworthy that active blogging could be considered as the easiest way of political participation: Users do not need special knowledge and skills to participate.

However, participation may be considered especially in various communities in social networks. On the one hand, the fact itself of existence in communities equates to group participation, however, on the other hand, in the Internet space, it could take an individual form. By itself, the specificity of virtual reality implies a contradiction: The individual has the illusion of

communication with the world, but the possibility of the construction of the self (up to the age and sex change), that is available to other users, turns it into a highly-personalized environment.

We have reviewed four popular groups of the political orientation of "VKontakte" Russian social network (taken into account the statistics of unique visits per week 01.12.2016-08.12.2016) – "Politics", "Atypical Politics", "Hot Politics", "USA – Aggressor (News, Humor, Politics)". The choice of the site was due to the fact that by analyzing the discourse of the virtual community we initially identified a general set of the Russian-speaking audience (as the specifics of conducting interviews, political traditions are largely due to national characteristics, and taking into account the multilingual audience of Facebook is provided to a number of difficulties in including in terms of semantic interpretation), and is the most popular social network of Russian part of the Internet (incidentally, one of the most visited sites in the world as well – over 380 million users).

N. Fairclough's three-dimensional model of the critical discourse analysis was used for study of users' content and public's content. This model involves study of reproduction and perception of the text, analysis of the text itself and analysis of the social context (Fairclough, 2006). As a methodological framework M. Castells' idea of network society was used (Castells, 2009; Castells, 2012).

Communities considered lower were selected for the following reasons. Initially, in the aggregate group all political content was presented in this social network. We did not account for communities of political parties, associations, unions and political ideology, as they are just a platform for communication between people with similar views, to some extent, allies. Also, we excluded communities associated with political humor, because of the specificity of the content and the fact that such materials often flicker in other communities. So, we focused on communities, positioning its "neutrality" and purely informational by itself and having no less than 60 000 participants.

### **3. House Versus Lawn: Politics in "Vkontakte"**

It is noteworthy that the content of these communities are very similar. By positioning itself as news and analytical sources, reflecting the agenda, they are very remote from it. Total discourse, in which there are these communities has an informative character. Content placed in them does not refer to the current situation, but rather to the approval of stereotypes. At the same topics related to domestic politics do not make a majority. The emphasis is on foreign policy in a very special way: Once again the priorities are not topical events but any historical subjects related to the collapse of the USSR, or the Second World War, a theme, unfolding over time (such as the war in Syria, the crisis in Ukraine, migrant problems in Europe). Even the situation with the election of the US President remains unclaimed by responsible for the content moderators of communities, and the users themselves tend not to raise the debates around them (though it does not specifically address the person and work of the current US president Barack Obama and newly elected Donald J. Trump. It is noteworthy that such content uniformity shows a community "US-Aggressor (News, Humor, Politics)", which in addition to the stated problems actively laid out information

on the situation in any other country in the world, as well as the information of historical character.

These pages are updated daily and claim to have some kind of exclusivity, but we can talk about duplicate content: Some videos, images are circulating from community to community. Thus, it saved the illusory nature of the virtual variety. In fact, the problems raised in each of them are similar as well as look at them. Moreover, often the most active participants in the discussions, “wander” from community to community and leave the same links to other political resources, videos, GIFs and pictures.

It can be argued that discourse of discussions under each of the posts is not much different from each other, as well as being built by their composition. Some of the participants expressed their views on the stated issues, followed (usually after a few messages) to other users expressed general comment properties, and all the proceeds into the sphere of the general discussions and transfusion of a sieve, creating the effect of “Divan political scientists”, each of which historically grounded, it has a broad spectrum of knowledge in any field of political science, and owns certain confidential information. Ultimately it eliminates debate, and reduces the possibility of positioning itself – there is a situation of parallel monologues, character wearing a total criticism of anything and everything, or vice versa full acceptance of Russia’s foreign policy. Paradoxically, these groups do not have much reposts. In our opinion, this is because they active participants use communities to relieve stress, as the discussion of the political situation and conflict always possess an emotionally charged character. Discourse discussion boils down to that the participants express themselves as real actors in public policy, with a broad, almost unlimited powers to shape global trends.

Analysis of the content of pages of one hundred of the most active participants in the discussions of these groups revealed their lack of desire to disclose their political views to the online “friends”. If we turn to the metaphor of the houses and lawns in front of them, then we can say that users perceive their personal page as a lawn that needs to be perfect and should not differ much from the neighbors’, while participating in group discussions – this is the freedom of staying behind locked doors of one’s own house. Enormous amount of communities existing in the virtual network leads to a feeling that the personal point of view is very important and the whole world can know about it, on the other hand, the probability that one’s own friends stumble on it is reduced to a minimum.

#### **4. Conclusion**

This study shows opportunities for virtual political participation through social networks which could be both individual and group. This provides an opportunity for the expression of a citizen’s attitude: Everybody can choose to follow any thousands of communities or make a content by himself or herself.

During our study of four popular communities of political orientation of social network “VKontakte”, the analysis of discourse revealed that, despite of daily updates and a claimed

exclusivity of content, all of them have a homogenous content. Diversity is illusive: Issues and views are monotonous. Moreover, most active participants are “nomadize” from community to community.

Discourse of communities of political orientation eliminates any discussion: There is a situation of parallel monologues. Moreover, these groups do not have many “reposts”. In our opinion, this is due to the fact that their active participants use such communities only to relieve personal stress. The participants act and express themselves as real actors in public policy, with broad, almost unlimited powers. Analysis of the content of pages of one hundred of the most active participants in the discussions of these groups showed a lack of desire to disclose their political views to their followers.

This raises the further direction for possible research in this area: How political participation in virtual reality corresponds with the reality of everyday? Does the political process not pass for some people especially in the realm of social media, which can result in conditions of political stability (an example of the Arab Spring is still based on the original discontent and social tensions that existed in these countries) to absenteeism and political passivity? And whether this is evidence that public policy, despite all the power of social media, is still largely the work of professionals and not of ordinary citizens?

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# Developing a Viable E-Participation Model for the Association of Southeast Asian Nations (ASEAN): A Reflection

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*Abstract: In the last decade, three surveys have already been conducted to demonstrate how the Association of Southeast Asian Nations (ASEAN) might foster collective identity building among the ten member countries—Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. These three surveys are important in that they are the ASEAN’s only region-wide surveys that tackled community and identity building thus far; none, however, accounted for the crucial role of digital communications and participatory media in not only bringing the ASEAN publics together, but also steering the direction of this 50-year ongoing regionalization project. This reflection paper puts forward insights and theories on how the ASEAN can learn from a fledgling Facebook community by developing a similar e-participation model. A hitherto expanding online community, the “ASEAN Youth Organization” is by and large representative of Southeast Asia’s interconnected and technologically mediated demographic.*

*Keywords: civic engagement, e-participation, e-democracy, regionalization*

## 1. Introduction

As the Association of Southeast Asian Nations (ASEAN) marked its 50th anniversary this year, 2017, it reiterated its goal of achieving “One Vision, One Identity, One Community” – the ASEAN motto – by way of consensus and consultation, mutual cooperation, and non-interference (Murti, 2016). However, still hounding the ten-country region are issues of global significance that concern not only territories but citizenries, nationalities and diasporic populations (Agustin, 2016; 2014) –

- 1) the competing claims of Brunei, Malaysia, and the Philippines on various exclusive economic zones (EEZ) within the South China Sea against mainland China and Taiwan;
- 2) the dispute between Malaysia and the Philippines in occupying Sabah or North Borneo;
- 3) the tensions arising from China’s construction of artificial islands and structures around the Spratly Islands and Scarborough Shoal; and
- 4) the Rakhine State dispute within Myanmar that sparked the Rohingya refugee crisis.

By way of international mainstream media, the ASEAN integration is finally gaining worldwide relevance and traction alongside the interminable challenges its member countries are collectively

facing. It is as if the fifty-year regionalization project has been made more difficult by boundaries and gaps (Agustin, 2016) – not to mention the changing political structures and rise of contemporary populism – an experience the European Union (EU) is not unfamiliar with.

While the institutional bodies that govern the ASEAN attend to integrating the economies of the ten member countries, a growing number of interested “netizens”, most of which are Southeast Asian citizens, are also doing their part by promoting cultural integration. This is exemplified by the social media campaign of the ASEAN Youth organization (AYO) which started as early as 2011 (see Figure 1). Formerly and informally known on Facebook as the “ASEAN Community”, it evolved into a Jakarta-based nonprofit organization, thus gaining closer ties with the ASEAN Secretariat which is similarly headquartered in the Indonesian capital.

Figure 1: ASEAN Youth Organization Facebook Community (Formerly "ASEAN Community")

As online participatory media (e.g.. social networking sites, mobile apps and devices) are becoming more and more accessible to and affordable for Southeast Asian citizens, they are also finding more ways of putting them into use (Agustin, 2016; 2014). After all, the region has hitherto a huge and almost untapped potential in terms of harnessing digital media, despite it already being leveraged as a social media powerhouse (McKinseyandCompany, 2014); four of its major cities have even been touted as the world’s top “selfie capitals” by TIME (Wilson, 2014). Hence, it is not difficult at this stage to imagine the region harnessing its technologically driven society by way of online civic engagement and e-participation. Scholars of today must find this not only interesting but also compelling; how Southeast Asian netizens are engaging in collective identity building via its emerging network society (Agustin, 2016). For a region as culturally diverse –not to mention ethnically and linguistically –as Southeast Asia, online participatory media plays a significant role in its regionalization efforts.

## 2. Literature Review

Southeast Asia's regionalization project targets the year 2020 as implementation year, touted as the "ASEAN Vision 2020" (ASEAN, 1997a; 1997b). However, only three ASEAN-wide surveys provide clues to the ten countries' community and identity building efforts:

- 1) Thompson and Thianthai's "Attitudes and Awareness Towards ASEAN: Findings of a Tension Survey" in 2008;
- 2) The Straits Times' "Are We A Community?" online survey in 2015; and
- 3) Thompson, Thianthai and Thuzar's "Do Young People Know ASEAN?" in 2016.

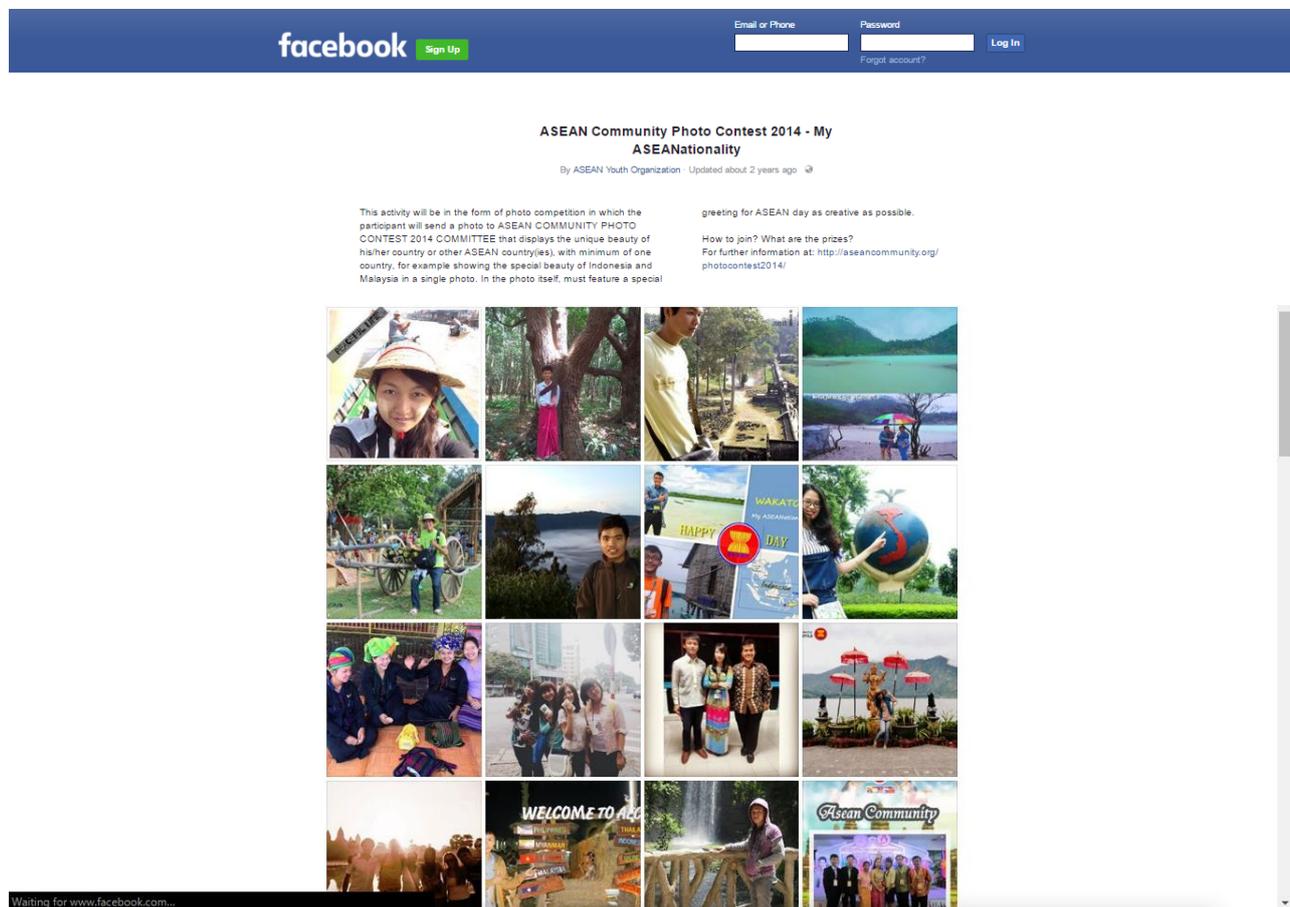
These three extensive surveys are important in that they are the only region-wide surveys that have tackled thus far varying public opinion and perspectives regarding the ASEAN's collective identity; however, in effect, these surveys also demonstrate the region's need for cultural integration, especially at the grassroots level. Perhaps, the ASEAN must now find ways to make its integration efforts more concrete and visible for the general Southeast Asian public to fully appreciate. Albeit smaller in scope than the three abovementioned public opinion polls, two earlier ASEAN-wide surveys conducted by Roberts (2009) also provide insights that support why the ASEAN needs to be more visible: "to build more trust in the region, both policymakers and the media need to undertake—in rhetoric and in practice—a more significant transition towards the behavior of a 'community'" (2009, p.20). Thus, to expedite the envisioned progress of the ASEAN integration, a vehicle for public engagement, interaction, and participation must be developed.

Several published journal articles may also provide contrasting insights on the community and identity building efforts of the ASEAN. While some emphasized the role of cultural integration in the process of regionalization (Koh, 2014; Frith, 2009; Kassim, 2009; Jetschke, and Rüländ 2009; Hall, 2001), others mainly accounted for diplomacy and political strategy (Lai et al, 2014; Quayle, 2013; Kim, 2011; Cockerham, 2010; Acharya, 2007). In addition, only very few doctoral thesis pursued the ASEAN's community and identity building efforts as a topic (Agustin 2016), and these include Rattanasevee's (2013) *Explaining the Dynamics of Regional Integration: Democratisation, Identity, Institutions, and Leadership in the Case of the ASEAN* (University of Bath); and Zuo's (2009) *Research on the Evolution of ASEAN Identity-constructing and Higher Education Policy during the Process of ASEAN Integration* (East China Normal University). Hence, a scholarly work (especially at the doctoral level) on the ASEAN's community and identity building efforts may already be long overdue (Agustin, 2016; 2014).

Thus, the AYO Facebook community page might prove useful as a case study, especially in pursuing a research project that is aimed at demonstrating how various members of the ASEAN publics are tapping participatory media to discuss and, more importantly, to participate in the collective identity building exercise of the ASEAN, complementary to (or even in contrast to) how the governments of the ten member states, as well as the political and economic elite of the region, control legacy and traditional media. In effect, the online activities and discussions initiated by the AYO effectively brings into mind a "conscious" region-building exercise, borrowing from Acharya (2000, p.134), which is not only driven by the region's political and economic elite but also—more importantly—steered by public discourse. For instance, AYO's "My ASEANality" social media campaign promotes civic engagement and e-participation by way of crowdsourcing (see Figure 2).

Using Facebook as a launching pad and photographic images as memes all the more makes the campaign accessible, popular, and relevant.

Figure 2: "My ASEANationality" Contributions from ASEAN Youth Community Followers on Facebook



### 3. Theoretical Review

By looking at the ways netizens use social media for this purpose, this proposed study will differentiate and account for "official" images such as those produced during annual ASEAN summits as well as "unofficial" images such as those circulated through online social networks.

#### 3.1. Collective Identity Building

Theoretically this study intends to offer new ways of looking at and understanding Alberto Melucci's "collective identity building" (1989) process of self-organization and social participation through contemporary studies of the network society model. E-Participation initiatives such as the ASEAN Youth Organization's online community offers model for regional collective identity building in the form of what Melucci described as "cultural laboratories" (1989, p.60). Building on the context of social movements, Melucci (1995, 1989) theorised "collective identity" as a process that entailed identifying and sharing the purpose and place of a group's action which could be enacted or ritualized through language, cultural artefacts or practices, and other signifying

practices (Agustin, 2016). Only when members of a group are able to identify its self-defined “we”, then solidarity is forged (Melucci, 1989). Melucci’s framework, therefore, is useful in explaining the ways members of the ASEAN publics are engaging in collective identity building via social media.

### 3.2. Network Society

While it is arguable that the ASEAN collective identity building is increasingly being facilitated by various “cultural laboratories” within the region, there must be a way that these groups can come together to exchange ideas. A globalized information and communications technology is just about the answer, as it serves the purpose of communication and connection among the region – paving for the rise of “new communities” (Castells, 2010, p.386), regardless whether they are deemed virtual or not. By tapping social media, for example, these cultural laboratories can interact with each other and build networks.

In theory and practice, digital communications and participatory media serve as today’s building blocks of collective identity building—bringing together members of the public into a virtual space. While it is arguable that collective identity building is largely a cultural process, it is strongly hinged on avenues of communication that are linked via what Fuchs described as a “transnational space” (2007). It is therefore not very hard to imagine the rise of “imagined communities” (Anderson, 2006, pp.6-7) and “new communities” (Castells, 2010, p.386) that rely on digital communications. Studies have shown how social media, for instance, has served the purpose of community-building (Kavoura, 2014; Markham, 2014; Theodorelis-Rigas, 2013; Craig, 2012; Salanova, 2012; Gruzd, et. al 2011; Fuchs, 2008, 2007). The conduct of this proposed research thus puts into practice the above-mentioned theories. This is exemplified by “offline” activities that are more often tethered to mobile or social media activity (e.g., instant messaging, photo-sharing, cashless transactions to name a few.), or by “online” activities that are generally hinged on offline factors (e.g., tourism and leisure, online payments, data/financial security, et cetera), essentially proving what van Dijk once predicted: the offline and the online becoming “interwoven” (1999, p.222).

## 4. Summary

Theoretically this study intends to offer new ways of looking at and understanding Alberto Melucci’s “collective identity building” (1989) process of self-organization and social participation through contemporary studies of the network society model. E-Participation initiatives such as the ASEAN Youth Organization’s online community offers model for regional collective identity building in the form of what Melucci described as “cultural laboratories” (1989, p.60).

By looking at the ways netizens use social media for this purpose, this proposed study will differentiate and account for “official” images such as those produced during annual ASEAN summits as well as “unofficial” images such as those circulated through online social networks.

Conducting this research project will hopefully contribute to the scholarly work on the ASEAN integration with new perspectives on community and identity-building in the field of communication and media studies, cultural studies, and international political economy.

Moreover, this research project may prove useful in investigating the renewed interest of Southeast Asian netizens in the ASEAN discourse, especially in terms of collective identity building. More importantly, this study intends to examine whether or not the said discourse is shifting from the elite to the general public.

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# Do We Need a Fundamental Right to Internet Access?

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*Abstract: The implementation of e-democracy depends on functional Internet access. At present, only 75 percent of European residents have such access. Do we need a fundamental right to Internet access in order to ensure citizens' participation? The present study argues that considering the wide scope of state surveillance on the Internet, the fundamental right to Internet access, which can be interpreted as a creation of public service of Internet access, could potentially be dangerous in respect to human rights online. At the same time, universal service of Internet access constitutes a necessary legal base to satisfy the need for a functional Internet access.*

*Keywords: right to Internet access; universal access; universal service; Internet surveillance*

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## 1. Introduction

E-democracy requires functional Internet access that is available to everybody. At the same time, only half of the world's population is connected. In Europe, only 75 percent of residents use the Internet regularly. Almost one in six Europeans has never used it (Eurostat, 2016:167). In these conditions, it would be appropriate to think about introducing a fundamental right to Internet access in order to ensure citizens' participation necessary for implementation of e-democracy.

A right becomes fundamental after its inclusion in the constitution or a binding international treaty such as the European Convention on Human Rights (ECHR). However, human rights exist before any formal support and thus transcend their recognition by the laws. These rights are freedoms; they become fundamental through their formulation in legal texts (Rivero & Moutouh, 2003:7). From this point of view, it may seem that the right to Internet access cannot be fundamental since the Internet was only created in the 1970s. Yet, this right can be analyzed as a corollary of the right to freedom of expression, which is "inherent in all human beings" (Weston, 2016). Nowadays, its enjoyment depends, at least partly, on the right to Internet access, so the latter becomes equally protected. In fact, the French Constitutional Council (CC) has already retained this in a ruling from June 10, 2009 (Conseil Constitutionnel, 2009). However, this does not mean that the Council recognized a fundamental right to Internet access, i.e., a right to access

available to all. This right is still not autonomous. At the same time, recognition of a new type of human rights, which are not freedoms, but “a claim against society, which is required to provide positive benefits involving the creation of public services” (Rivero & Moutouh, 2003:8), raises the question of the right to Internet access as an autonomous right.

The right to Internet access can be understood as a right to access infrastructure and as a right to access online content (UN, 2011). This study will concentrate on the former, i.e., the right to access infrastructure, without discussing the availability of technologies, equipment and software needed for such access. This exclusive approach is necessary to compare and to distinguish such a right implemented through public service from other related concepts: universal service and universal access.

In fact, in some countries, the right to access the Internet infrastructure was already recognized as an autonomous right and enjoys a constitutional protection. However, in Europe this is not yet the case. Here, the access to Internet is progressing towards its recognition as a universal service. This will be achieved most probably in the near future. In the meantime, it might be useful to consider the question of a fundamental right to Internet access. How can it be apprehended and conceived in the European context? What will be the consequences in the case of recognition of such a right? Would it be feasible and desirable to create a public service of Internet access?

Part II will give international examples of constitutional recognition of such a right as well as of generalized Internet access deployment initiatives. Part III will define and distinguish the notions of public service, universal access and universal service in order to demonstrate that if fundamentality of a right implies a creation of a public service, this means a close State control on the latter. Part IV endeavors to demonstrate the threat of State control in this case – potential Internet surveillance. Part V compares practical implementations of concepts of universal service and of universal access in order to conclude that these two concepts allow fulfilling the main task of a fundamental right: Internet access to those who cannot have it. Part VI discusses how a concept of the right to Internet access may be conceived considering the threats of mass surveillance. Such a concept would meet the concept of universal service that is to be achieved in Europe in the near future. Therefore, the introduction of a fundamental right to Internet access does not provide a sufficient gain as compared to the already implemented concept of universal service. Ultimately, the Article concludes that State Internet surveillance is harmful not only in the case of the right to Internet access but also for developing e-democracy and democracy itself. Thus, a large public debate is necessary in order to define its limits.

## 2. International Context

It seems that the first country to recognize an autonomous right to Internet access was the Republic of Ecuador. Article 16 of the Constitution of 2008 establishes universal access to information and communication technologies. Furthermore, Article 17 fixes a positive obligation of the State of Ecuador to facilitate universal access for those who do not have this access or have only limited one. Thus, the right fixed in the Constitution is limited to universal access.

In 2010, the Constitutional chamber of the Supreme Court of Costa Rica spoke in favor of universal Internet access (Lucchi, 2014:848). In the ruling, the Court refers to the above-mentioned ruling of CC, which it interprets as granting a fundamental right to Internet access.

At the same time, some private companies have begun to deploy regionwide or worldwide Internet access. For example, a Facebook-led initiative Internet.org aims to connect, free of charge, up to four billion individuals in Asia and Latin America who do not have Internet access or have poor access. Yet, this initiative provides only limited access to some basic websites including Facebook. Another American company, SpaceX, filed a request with the U.S. Federal Communications Commission in order to get authorization to operate a network of more than 4,000 satellites that would provide high-speed, global internet coverage from space (Klotz, 2016). For the moment, this demand is still under examination and there are no project details available. However, it seems that generalized Internet access at least in Asia and Latin America is almost at hand. Europe, which is promoting the concept of universal service, is also not far off.

### 3. Universal Access, Universal Service and Public Service

Universal access fixed in the Constitution of Ecuador can be interpreted as follows: “everyone in a population has access to publicly available communication network facilities and services. Typically, it is provided through such means as pay telephones, community telecentres and community Internet access terminals” (ITU, 2016). In fact, the fundamental right of universal access in Ecuador, in reality, does not mean free access to infrastructure that is available for everyone. Even if there is a public Internet provider amongst private ones, Ecuadorians still pay for Internet access. Moreover, not all households are provided with access to infrastructure. This could be a task for universal service, which is defined by ITU as “[p]olicies in this area generally focus on promoting or maintaining universal connectivity of all households to public network facilities and services, and at affordable prices.” (ITU, 2016).

After 2020, every resident of the European Union should be able to access the Internet with a minimal speed of 30 Mbit/s. After 2025, every European household should be able to connect to the Internet at a minimal speed of 100 Mbit/s. These ambitious plans (EC, 2016) are being implemented through imposition of universal service obligations on Member States. The directive 2002/21/EC of March 7, 2002 defines universal service as “the minimum set of services, [...] of specified quality which is available to all users regardless of their geographical location and, in the light of specific national conditions, at an affordable price” (EC, 2002). The directive 2009/136/EC of November 25, 2009 limited the universal service obligation to a fixed telephone network that has to provide “data communications at data rates that are sufficient to permit functional Internet access” (EC, 2009). In other words, universal service of Internet access through a fixed telephone network has been already achieved. However, one can doubt that functional Internet access by a fixed telephone network is possible considering the growing complexity of Internet content, developing from texts and messages to calls and videos. In this sense, a limited connection speed may end up limiting the freedom of expression, the mother of the right to Internet access. In any case, universal service imposes an obligation to provide functional and affordable Internet access to all residents, including inhabitants of rural or geographically isolated areas, disabled persons

and consumers with low incomes (EC, 2015). For instance, in France, certain categories of underprivileged consumers are entitled to special price conditions that are ensured by a universal service fund. Private operators are obliged to contribute to this fund; the amount of contribution is estimated according to their revenues.

Universal service is a component of public service (Vivant & Rapp & Warusfel, 2016). The latter can be defined as “an activity of general interest, either exercised directly by a public body or under its close control” (Morand-Deviller, 2015:464). One can identify three criteria of public service: a mission of general interest as a purpose, public bodies or private companies as actors and a close control of the State on the activity. Such control can be expressed in the appointment of executives by a public body, in the financing provided regularly by the latter, in delegation of certain functions, to name a few.

Considering that Internet providers are normally private companies, it therefore seems that there needs to be close control of a public body in order that this activity could be qualified as public service. Yet, this criterion is not confirmed in practice. Furthermore, one should reflect if such a control is desirable from the point of view of the protection of fundamental rights.

#### **4. The Threat of State Control of Internet Access**

In fact, claiming the protection of national security and the necessity to fight terrorism, states largely use the means provided by the Internet in order to organize unprecedented surveillance and espionage. M. Edward Snowden’s leaks drew attention to these activities. In parallel with deviances of the U.S. NSA, the British intelligence service Government Communications Headquarters (GCHQ) began a mass surveillance of the Internet years ago. In 2010, up to 25 percent of all Internet traffic would be intercepted by the GCHQ. The collected data did not concern particular, “selected targets”, but online activities of ordinary people, including browsing histories, search engine queries, social media activity, etc. (Gallagher, 2015).

*“When accessed and analysed, even seemingly innocuous transactional records about communications can collectively create a profile of individual’s private life, including medical conditions, political and religious viewpoints and/or affiliation, interactions and interests, disclosing as much detail as, or even greater detail than would be discernible from the content of communications alone” (UN, 2013).*

In other words, the British intelligence service could intrude and analyze the details of the private lives of a large number of persons, both British and foreign, without any established connection with terrorist activities which were the primary aim of this surveillance program. In October 2016, the investigatory powers tribunal, a special court to hear complaints against intelligence services said. “the security services operated an illegal regime to collect vast amounts of communications data, tracking individual phone and web use and other confidential personal information, without adequate safeguards or supervision for 17 years” (Travis, 2016). Both regimes of collection and retention of personal data failed to comply with article 8 of the ECHR protecting the private life. Recently, the Investigatory Powers Act was passed into law to legalize bulk surveillance measures, which requires Internet operators to store web-browsing history for one

year and provides the security services and police with powers to hack private communications and to operate mass collection of communications data.

Similar laws were passed in France in July and November 2015. Henceforth, it is legal to collect and to store communications data for four years for domestic communications and for six years for international communications and to install software that scans all Internet traffic in order to detect suspicious behavior possibly related to terrorist activities.

In the meantime, Internet traffic passing by an Internet-exchange point DE-CIX that connects more than 700 Internet providers has been intercepted by the German Foreign Intelligence Agency BND since 2009 (Meister, 2015; Meyer, 2016). In October 2016, the Bundestag adopted new laws that broaden the powers of the BND, which will be able to spy massively not only on international but also on domestic communications (Conrad, 2016).

These are only several examples of very large state powers with few control mechanisms concerning electronic communications interception. Furthermore, these powers even accrued legal status recently through adoption of new laws. If states start to control Internet access also, which is presupposed by the notion of public Internet service, would it not contribute even more to their enormous powers to the point of creating a totally state-controlled Internet? Would it be possible to develop e-democracy initiatives knowing that everybody is being under constant State surveillance? Would it be safe to organize a democratic public debate and to welcome all points of view, even unconventional ones? In fact, any traffic concentration in one's hands, whether public or private, is potentially dangerous. That is why the Facebook or SpaceX projects to connect half or all the world population might represent a potential source of problems for protection of human rights.

All the above compels one to admit that at present the introduction of a fundamental right to Internet access and, consequently, the creation of a generalized public Internet service, are not advisable. Nevertheless, a certain dose of public Internet service seems necessary.

## **5. Practical Implementations of Universal Access and Universal Service**

The right to universal Internet access in Ecuador was implemented by creation of Infocentros comunitarios. They offer free Internet access using the provided equipment and free training to inhabitants of the countryside and underprivileged urban areas. The aim is to reduce the digital divide and to promote the use of information technologies. At present, there are 854 public Internet centers that represents a penetration rate of one center per 19,000 residents (Ministerio de Telecomunicaciones y Sociedad de la Información, 2016).

In France, the right to Internet access does not have constitutional status and another concept, universal service, is being promoted. However, the situation is quite similar to Ecuador. The State created about 5,000 Espaces publics numériques that offer free Internet access and free training to underprivileged categories of population. This represents a penetration rate of one center per 13,000 residents (NetPublic, 2015).

Comparing these two different concepts of implementation, one can notice that in reality, universal access and universal service are quite close when it comes to their implications. The aim of both is to ensure Internet access to everyone, whereas underprivileged persons are assisted in getting Internet access and education. The conceptual difference between the two is that universal service is focused on connecting all households including those in geographically isolated areas or low income whereas universal access aims to provide public Internet centers. Nevertheless, on a practical level, it seems that the concept of universal service does not preclude universal access from developing, by means of public service.

## 6. Discussion

In this sense, one might ask whether, if a fundamental right to Internet access was introduced, it would make a big difference. As we have seen, it would not be desirable to generalize a public Internet service at the risk of mass surveillance, censorship and State market control. At the same time, the provision of free Internet access by private operators “might be associated with content filtering, advertising, or intrusive data collection” (UNESCO, 2015:32). Furthermore, fundamental status of a right does not mean that its enjoyment has to be free. On the example of the fundamental right to education, one might see that it does not suppose a free education, even if it is obligatory (CEDH, 1968). As for the fundamental right to a fair trial, even if one can have a matter heard by a court free of charge or at a symbolic price, most of the time judicial procedures require an intervention of a professional; moreover, it is sometimes obligatory, so the final price of this public service is far from free or symbolic. It is possible however for underprivileged persons to receive financial aid for this purpose.

The right to Internet access can be conceived in a way to provide access to the infrastructure available for everyone, rather at an affordable price than free, in order to ensure necessary investments. Underprivileged persons could make recourse to aid. It would not be an option to limit access to a restricted number of websites or to reduce connection speed for not hindering the enjoyment of the freedom of expression. In fact, such a concept of this right is already met by universal service that provides access to the Internet to all households and at an affordable price. In addition, universal access ensures a certain dose of public service connecting those with low income or without necessary digital skills by offering public Internet centers. For the moment, universal service in Europe is limited to a fixed telephone network, but, according to the European Commission, after 2025 broadband Internet will be available for all European residents and households. The possible input of a fundamental right therefore remains uncertain.

## 7. Conclusion

The example of the right to Internet access challenged by potential State surveillance shows the extent to which the latter can become harmful for development of e-democracy. Considering Europe’s past, even a possibility of State surveillance may prevent people from participating in e-democracy initiatives, expressing their points of view, joining online political movements, or even browsing political sites. The future of Internet voting at political elections is equally threatened. It

seems that a large public debate on the limits of Internet surveillance is necessary to ensure the development of e-democracy and democracy itself.

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# In Blockchain We Trust? Blockchain Technology for Identity Management and Privacy Protection

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*Abstract: Blockchain technology, a distributed ledger that maintains a continually growing list of publicly accessible records cryptographically secured from tampering and revision, has the potential to solve challenges facing identity management and privacy protection. Although when ideally operating, blockchain technology is said to create a persistent, immutable, and trusted public ledger, there are grounds to question how much trust really can be placed in this technology and the solutions for identity management and privacy protection that may be built upon it. This suggests that a balanced approach to public policy is needed to take the best advantage of the unique capabilities that blockchain technologies offer while avoiding risks.*

*Keywords: blockchain, distributed ledger technology, identity, privacy, security, trust, governance*

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## 1. Introduction

Blockchain technology offers a novel architecture and operating model based on distributed consensus that purportedly allows transactions, and any other data, to be securely stored and verified without the need for a centralized authority based on participation of a large number of nodes in a distributed network (Karame & Androulaki, 2016). Combined with smart contracts, computer scripts that encode contractual provisions on the blockchain (Narayanan et al, 2016) – the emerging blockchain ecosystem is said to offer unique features (e.g., cryptographic validation, transaction transparency, and decentralization) that, in combination, offer higher degrees of trust than other systems (e.g., centralized ICT systems, laws and courts). Blockchain developers are working on a number of solutions leveraging these unique features with the aim of addressing a wide variety of societal and business problems. Identity management and privacy protection – the focus of this paper – are just two of the many application areas for which there is much enthusiasm and in which there is now heavy investment. This paper aims to make a contribution towards understanding the application of blockchain technology for identity management and privacy protection by reflecting upon both its potential, in the context of specific use cases, and possible pitfalls.

## 2. Blockchain Use Cases for Identity Management and Privacy Protection

This section explores the application of blockchain technology for identity management and privacy protection in three specific areas: 1) legal identities, 2) digital identities, and 3) entity identities. The discussion presents a purposive sampling of examples of the application of blockchain technology in each area; these examples are for illustrative purposes only and not intended as endorsements.

### 2.1. Legal identities

Legal identity records, such as birth certificates, passports, drivers' licenses and marriage certificates, are among the most relied upon records the average person will use throughout his or her lifetime. For lack of a legal identity and associated birth and civil registration records, many people are denied access to benefits and opportunities and have their human rights violated (Ladner, Saunders & Jensen, 2016). Refugees are one such group. Typical approaches to establishing legal identities for refugees entail creating centralized databases that combine biometrics with biographical information. This can create security risks, since centralized information stores are increasingly vulnerable to attack from private and state-sponsored hackers. Another issue relates to the possibility that information gathered for the purposes of providing refugees with legal identities will be used for a future purpose (e.g., racial and ethnic profiling) that may deprive these individuals of their human rights, particularly the right to privacy. In addition, where individuals are stateless migrants, a legal identity rooted in the nation state as a geopolitical unity may be undesirable and prove difficult to establish. A number of experts see blockchain-based technologies as offering a solution to these problems. Blockchain solutions offer the advantage of establishing proof of identity without the need for a centralized authority or database that may be vulnerable to attack or manipulation, since a change in an identity record on one node would quickly be discovered and a change to all records across a vast distributed network of nodes is computationally very difficult. Moreover, by giving individuals control over their encryption keys, it is possible to protect against unauthorized access and use of identity data. Finally, the decentralized nature of blockchain technology means that legal identities that transcend a specific state could be established.

Development work has already begun toward realizing this vision. As an example, Bitnation (n.d.) is a governance 2.0 platform powered by blockchain technology which aims to foster a peer-to-peer voluntary governance system unconstrained by geo-politics that has worked out an identification solution which includes a blockchain passport and a marriage certificate. Microsoft is partnering with ConsenSys, an Ethereum-coder collective, and Blockstack Labs, an application stack for decentralized, server-less apps secured by the blockchain, to develop a legal identity solution (Prisco, 2016). Some initiatives have attempted to apply blockchain technology to various refugee crises. For example, in the Dadaab refugee camp in Kenya, the blockchain platform BanQu (2016) has been helping displaced Somalis create "economic identities" formed, for example, using a person's selfies, key physical characteristics, and biometrics, and uploading them to a secure distributed ledger as an identity, along with other information, like relationship-based credit profiles made up of individuals attesting to successful business dealings with the person profiled.

And, Bitnation and NevTrace have both worked on applying their solutions in the context of the Syrian refugee crisis (Warden, 2016).

## 2.2. Digital Identities

On the Internet, it is exceedingly difficult to establish identity of a person unambiguously. A digital identity, which consists of a set of attributes about a person used by computer systems to represent that person, attempts to do this. Existing solutions to identity authentication, usually also accompanied by authorization of user privileges within or across system- and enterprise boundaries, typically rely on federated authentication and identity network services provided by a centralized broker. Even though digital identities enable some level of trust that the person is who they purport to be, the approach is not perfect. Identities can be changed, masked or replaced. In addition, in the course of associating attributes with a person to create a digital identity, considerable information about a person's online activity is gathered. This may include usernames and passwords, online search activities, birth date, civil or tax registration numbers, and purchasing history. The gathering of this personal information can result in privacy concerns. The architecture of existing approaches also relies on a single point of trust and failure (the broker). These shortcomings in existing systems have led some to see blockchain as a solution because it does not rely on a centralized broker architecture and uses cryptographic technologies and protocols that enable protection of user privacy.

With ShoCard, for example, a user's identity is encrypted, hashed and then the hash is written to the blockchain where it can be called up when needed. Users can give banks or other organizations temporary access to the private side of this blockchain record in order to verify identity (Amit, 2016). Digital Bazaar (2016), a developer of technology and services for internet payments, is developing a web-based, linked-data digital credentials solution that can be used to "verify identity, a capability, or right to access protected data in a wide variety of situations including for professional licenses, passports, membership information, single-sign-on for websites, or access to a particular set of an employer's resources." The Respect Network (2016), a personal data network with a vision of allowing members to share information with strong privacy, security and trust, proposes to use XDI, a standard for semantic data interchange, to produce identity rights contracts with blockchain-based cryptographic smart signatures in order to establish commitments about use of private data, that are "well-defined, non-abstract and non-reputable, and enforceable between individuals, corporations and governments."

## 2.3. Entity Identities

"Internet of Things" (IoT) technology is an Internet-based development in which devices, such as sensors of all types - from fridges to books - have network connectivity, allowing them to send and receive data. IoT networks raise many issues of security and privacy, however, and this has slowed progress on implementation of IoT solutions. These range from social and political issues, to trust mechanisms, to communications security, to user privacy (Weber, 2016). For example, current approaches to securing IoT networks rely upon device identity and authentication, but if a device or sensor is compromised by malware, then the integrity of the entire network may be at risk. Current architectures also leave device configurations vulnerable to tampering, which can

permit unauthorized access and spying. Integration of blockchain-based device authentication is seen as a means of securely authenticating devices to an IoT network without revealing information about the device or a user of the device that may threaten privacy, while use of the blockchain to record a hash of a device configuration offers a novel method to prevent tampering.

One company working on the application of blockchain technology to the IoT is Factom (DHS, 2016), a US-based company that recently received a large grant from the US Department of Homeland Security to develop a blockchain-based solution to authenticate IoT devices to prevent spoofing and ensure data protection. Factom proposes to create an identity log that captures the identification of a device, who manufactured it, lists of available updates, known security issues and granted authorities while adding the dimension of time for added security. The goal is to limit would-be hackers' abilities to corrupt the past records for a device, making it more difficult to spoof.

### **3. Can the Blockchain be Trusted?**

Two of the main claims for the superiority of blockchain-based solutions in comparison with other approaches are: 1) the assertion that blockchain-based records are more trustworthy, largely based on their immutability and 2) that blockchain-based records are more persistent. The following discussion frames critical reflection on the application of blockchain technologies to identity management and privacy protection in relation to these two claims.

#### **3.1. Risks to Trustworthiness**

Many of the solutions proposed for identity management do not address the issue of records reliability, a key feature of trustworthiness. For example, if, as in the BanQu (2016) example, "economic identities" are assembled from various digital sources, the accuracy and reliability of which have not been ascertained, it is possible for someone to seed these sources to generate the basis of a completely fictional identity that games the system. Once the identity becomes established in the blockchain, it then would have an imprimatur of trustworthiness that may be hard to root out in the event the identity was found to be unreliable. Considerations such as this remain completely outside of what many solutions address and protect against.

Maintaining authenticity through cryptographic validation and a decentralized architecture to thereby achieve immutability is at the heart of what blockchain technology claims to offer. Yet, even in this regard, the technology is highly dependent upon how vulnerable the system is to faults and security breaches. While a full information assurance and security risk assessment is outside the scope of this paper, issues such as Man-in-the Middle attacks, Sybil attacks, SYN floods, coding errors, timing errors and attacks, and cryptographic key management are possible sources of blockchain system vulnerability (Karame & Androulaki, 2016).

#### **3.2. Risks to Persistence**

Blockchain technology offers a new distributed model for preservation premised on redundancy through decentralization of nodes. Blockchain solutions are volatile, however, and the persistence

of entire blockchain networks is not guaranteed. If a blockchain community were to shut down, or if miners moved on to a new fork or system, the specific records preserved on the obsolete fork or system may no longer be preserved and, moreover, there may be no backup archive proving the existence (or execution) of these records. Even where records are preserved, the larger question may be: Which version is considered legitimate and authoritative?

Questions about persistence raise related questions about the ability to maintain privacy. If blockchain-based privacy protections rely on blockchain-based contracts (aka “smart contracts”), as many of them do, and the blockchain(s) in which these contracts are recorded no longer exist or have legitimacy, it is possible that information that had previously been protected by these contracts could be exposed.

In the case of solutions that anchor only hashes of original records on the blockchain, the originally hashed records must be archived separately in a form that is unchanged and inviolate to later determine authenticity. The level of organization and investment needed to preserve originals is not inconsiderable, involving the establishment of trusted digital repositories and such additional elements as technical, policy and institutional capacity to ingest records and for archival storage, data management, access, dissemination and migration to new media and forms (ISO, 2012). These functions and investments are beyond the scope of most blockchain solutions, but are, at the same time, critical to the effectiveness of some blockchain solutions.

### **3.3. Questions Surrounding Governance**

Researchers have noted a systemic tendency towards centralization, at least in the case of the Bitcoin blockchain (Walch, 2015), and private or permissioned ledgers are controlled by an organization or a consortium of organizations, public or private. Given this, it is crucial to ask how truly decentralized some blockchains really are, and whether concentration of nodes with their combined computing power could allow collusion among nodes, eroding the basis of trust upon which these networks are built, and allowing manipulation of blockchain entries.

## **4. Conclusion**

There is currently great excitement about the potential of blockchain technology to solve challenges around identity management and privacy protection. This excitement is not without a basis; however, blockchain technology also is not a panacea. Technical vulnerabilities, design flaws, and governance issues exist and can leave information stored in the blockchain open to alteration, manipulation or loss. Dissenting voices must be brought into conversations about the application of this technology to ensure that blind spots are not missed and that risks are identified and can be addressed. Ultimately, it is a balanced approach to public policy making in relation to this emerging technology which will ensure that new releases of blockchain solutions take better advantage of the unique capabilities that blockchain technologies offer.

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# Undeclared Virtual Work: An Emerging Problem for Governments?

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*Research on the topic of undeclared virtual work has been scant and there are many knowledge gaps with regard to its extent on national and international levels, exact forms and conditions as well as practical solutions to it. The rapidly growing platform economy and factors driving undeclared work suggest that if not addressed by governments, undeclared virtual work could endanger social security systems and debase government budgets within the next few decades. With this reflection paper we hope to raise awareness about the looming problem and stimulate the discussion on its drivers and magnitude as well as the possible remedies which could be found through the means of open government and e-democracy.*

*Keywords: virtual work, undeclared work, tax avoidance, crowdsourcing, platform economy*

## 1. What is Undeclared Virtual Work?

Undeclared virtual work (UVW) is a combination of two phenomena. One – undeclared work – is well-known, albeit mainly through estimates, the other – virtual work – emerged recently and is growing in its extent and as a research field. While the former has been the subject of the attention of researchers and authorities for decades or even centuries, the latter describes recently emerged and still evolving work models that rely on ICT and a flexible work force.

### 1.1. Definition of Undeclared Work and its Estimated Extent

The term “undeclared work” has numerous synonyms. “Illicit work”, “undeclared labor”, “moonlighting” and “illegal work” are among the more commonly used ones. They all define work and services that are hidden or concealed from tax and social security authorities. This can take on the form of a second, undeclared job, total non-participation in the official labor market or the employment of people that are not allowed to work in the official economy, e.g., foreigners without a work permit (Schneider & Williams, 2013).

Extending the perspective presented here to less developed economies would provide an interesting analysis on the international momentousness of virtual work, however, due to lack of space, we limit our considerations to developed economies. Survey data from the EU suggests that on average about one in ten Europeans acquire goods and services believed to be the result of

undeclared work (Enste, 2015). Estimations of the supply of undeclared workers in the EU range up to 20 million or about four to five percent of people aged 15 years or older (ibid., 2015).

## 1.2. Virtual Work and the Difficulties of Determining UVW

Virtual work is neither uniformly defined in the literature nor is the term always used to describe it. For example, a recent study funded by the EU (Eurofound, 2015) calls the phenomenon “ICT-based mobile work”. It is generally understood to be an employer-employee relationship with a spatial distance between the two and for which it is of no particular importance where the actual work activities are performed. A broader definition by Cherry (2009) includes work in virtual worlds (“Gold Farming”) as well as self-employment and freelancing in the form of crowdsourcing and clickworking. These last two work models are also commonly referred to as “BaaS” (Business-as-a-Service), “platform” or “gig economy” and consist of outsourced processes for which online platforms act as intermediaries between the virtual worker and the end user. This broader definition is the more relevant one for the purpose of this reflection, as it encompasses the work mediated through crowdsourcing platforms which is possibly the main source for UVW.

The hitherto existing neglect of UVW is exemplified by its absence from the list of activities within the digital shadow economy in Gaspareniene and Remeikiene (2015) as well as the lack of a commonly used definition for it. In principle, UVW includes all activities from which income is generated but remains undeclared vis-à-vis social security and tax authorities. A complicating factor is the ongoing debate about the legal status of virtual workers. While some are clearly self-employed, many seem to fall under the term “bogus”, “fake” or “false self-employment”, at least in situations where they are dependent on a single principal or in the case of crowdworkers a single intermediary. This poses challenges to established systems of social security and income tax in developed economies. They rely on clear employer-employee relationships or the disclosed status of legitimate self-employment as well as the compliance of the involved parties.

## 2. The Drivers and Contributors of UVW

By studying the literature on traditional undeclared work and then deducing plausible hypotheses for UVW, we can furnish an educated guess about the possible magnitude of UVW and its human, corporate and institutional contributors and drivers. However, there are obvious limits to this approach. For one, the barriers for UVW are likely to be lower than for traditional undeclared work, as it is easily possible to work for foreign principals without the need for physical movement. Also, unlike in traditional forms of undeclared work, employers from countries with lax labor regulations or weak enforcement can be accessed by virtual workers from other countries without difficulty. In combination with the emergence of peer-to-peer payment systems that eliminate the need of intermediaries such as banks that might be obliged to provide records to authorities, UVW seems to be more favored by recent developments than traditional undeclared work.

## 2.1. Supply and Demand of Online Labor

Over the last decade or so crowdworking platforms have become prevalent as intermediaries for the growing demand and supply of virtual labor. According to Leimeister, Zogaj, Durward and Blohm (2016) they regularly have ten thousands of registered virtual workers and one example, Crowd Guru, mediates 15 Million projects and tasks annually. Kässi, Lehdonvirta, Graham, Barnard and Hjorth (2016) conclude that the growing platform economy even "... entails a waning of corporate careers and internal labor markets and a rise of increasingly entrepreneurial, mediated, and precarious forms of earning a living." (p. 26).

A new economic indicator, the Online Labour Index (OLI) representing at least 60% of the English speaking market by traffic, tracks what occupational categories are in demand on crowdsourcing platforms (Kässi & Lehdonvirta, 2016). This allows for a first overview of who supplies the labor and what the associated skills could be. By mid-November 2016 these were:

- software development and technology 35 %
- creative and multimedia 24 %
- clerical and data entry 16 %
- writing and translation 12.5 %
- sales and marketing support 10 %
- professional services 2.5 %

The last and currently smallest category is probably about to see a pronounced growth soon because any professional service that does not require physical interaction but has a certain degree of complexity like accounting, law, real estate, insurance and some medical services can be provided with a virtual workforce (Hixon, 2012). Steinmetz's (2016) observation that "...highly skilled jobs, like consulting and teaching, are shifting to more gig-like models too" supports this idea.

From Leimeister et al. (2016) we get a picture about the demand side of labor. Their categorization or rather clustering of global intermediaries based on what types of tasks they mediate represents an interesting complement to the OLI. It is representative of the job opportunities for crowdworkers as well as an indication of the online labor market (Leimeister et al., 2016).

Table 1: Crowdsourcing Platform Clusters with Associated Tasks and Their Global Share of All Platforms (Source: Leimeister et al., 2016)

Cluster	Types of tasks/projects	% of global intermediaries
Marketplace	Support tasks with high complexity and low granularity	31
Design	Design tasks with high complexity and low granularity	20
Innovation	Tasks in innovation development with either low or high complexity and very low granularity	20
Testing	Software development, tests and marketing with high complexity and low granularity	15
Microtask	Support tasks with low complexity and high granularity	14

Platforms seem to have become important matchmakers between the supply and demand of virtual or online labor. It is difficult to imagine how the contracting bodies could find each other efficiently without their intermediation. Even if some tasks could be performed by the demand side, it cannot be assumed that outsourcing only replaces in-house capacities. Thus, platforms might be important contributors to the creation of work itself.

## 2.2. Selected Drivers of UVW

**We hypothesize that the drivers of UVW are a combination of factors conducive to traditional undeclared work and the dynamics of the growing platform economy. We briefly discuss some of the more pertinent but not necessarily obvious ones here.**

**Social trust:** Research based on Danish data (Sørensen, 2011) reveals that if social trust in societies is high, the probability for undeclared work increases. According to this piece of research, this result is reflected in the Eurobarometer 2007 survey (p. 888) and contradicts an older paradigm. Sørensen (2011, p. 894) suggests that: "...you have to trust your partner 'in crime', because if the verbal contract is not fulfilled, you cannot go to the courts and plead your case." As virtual work will catch on in relatively affluent countries with high social trust, it can be assumed that UVW will increase.

**Salary on result:** Popescu, Cristescua, Stanilaa and Vasilescu (2016), examined the drivers of undeclared work with data from the Eurobarometer survey conducted in the 28 EU countries in 2013. Their results show, that workers who have their salaries based on results have a relatively high probability for performing undeclared work. Since a result-based salary is a condition that applies to many crowdsourcing activities, this driver of undeclared work can be expected to have an even greater impact on UVW in the wake of the growing platform economy.

**High taxes/social security contributions:** Popescu et al. (2016) also show that the perception of high taxes and/or social security contributions is one of the most stated reasons for accepting undeclared payments (13 % of the surveyed). Combined with the other most important reasons identified by Popescu et al. (2016) low salaries (19 %), lack of regular jobs (16 %) and lack of control by authorities (13 %), they indicate favorable conditions for UVW that is performed through

crowdsourcing platforms. As these intermediaries leave it to the worker to manage his or her own social protection including unemployment insurance, retirement pension, occupational sickness provision (Degryse, 2016) as well as the taxation issues related to self-employment, many will simply chose to neglect and forget about these issues, as worker status is not a preoccupation of theirs (Steinmetz, 2016) and the hard earned income is not likely to be shared voluntarily with the state. Especially, if earnings can be hidden quite easily.

**Self-employment/freelance work:** Schneider and Bookmann (2015) consider self-employment to be one of the most important causal factors for activities in the shadow economy (p. 11). Fegatilli (2009) confirms this with survey data from the Eurobarometer 2007. At least two factors contribute to the impact of this driver. The first is the rise of entrepreneurship education and a growth in startup promotion by governmental authorities, educational institutions and large corporations. Often startups are encouraged to be lean, i.e., to function without a large workforce and the associated responsibilities of employers (e.g., in Leimeister, Zogaj, Durward, & Bretschneider (2015)). The second, most important causal factor, which to a certain degree feeds the first, is discussed in the next paragraph.

**Increasing importance of the platform economy:** According to a representative poll for the United States by Time Magazine about 7 % of all Americans are not only earning extra income by offering goods and services through platforms, but either earn more than 40 % of their income in this way, describe it as their primary source of income or cannot find a traditional job (Steinmetz, 2016). In America, 22% of adults, or 45 million people, have already offered some kind of good or service in this economy, while 42 % have experience as a buyer (ibid, 2016). The poll included ride sharing, car rental, service platforms, accommodation sharing, and food and goods delivery.

The surveys by Huws and Joyce (2016) illustrate, that the platform economy has also reached a certain importance in Europe. Table 2 shows some of the most interesting results of the surveys. Contrary to the US survey, the results from Huws and Joyce only include crowdworking platforms.

Table 2: Crowdworkers in European "Gig" Economies (Source: Huws and Joyce (2016))

Country	Crowdworkers in % (of population aged)	% of income earned through crowdsourcing platforms		Prefer not to say in %
		100 %	< 100 %; > 50 %	
UK	11 (16-75)	5	24	5
Austria	23 (18-65)	2	11	10
Germany	14 (16-70)	2	18	5
Sweden	12 (16-65)	4	23	7
The Netherlands	12 (16-70)	6	14	6

### 2.3. Potential Magnitude of UVW in the Near Future

Much depends on the assumed growth and consequences of the platform economy on the labor market in exploring the potential magnitude of UVW. An extreme scenario is suggested by Sundararajan (2016) who predicts an eventual total replacement of traditional employment by peer-to-peer interactions between the supply and demand of labor. Even if this does not transpire, it must be assumed that soon in Europe alone, millions of people will participate in the gig economy and generate income as contractors that will become increasingly important for their livelihoods. Degryse (2016) identifies the erosion of the tax base and social security financing as one of the threats posed by the digitalization of the economy and the associated growth of labor platforms without explicitly considering UVW. Even if only a small percentage of the incomes generated on platforms remains undeclared, the consequences for governments could be grave, especially, as people might shift from declared and taxed traditional work to undeclared and untaxed virtual work.

## 3. Conclusions and Future Work

Under the described conditions i.e., the supply and demand situation of virtual work and the drivers of undeclared work, the problem of UVW is likely to continue to grow largely unnoticed until its damaging impact on systems of social security and government budgets can no longer be ignored. In order to find answers, governments should develop and assess policies through transparent and inclusive procedures. Given the affinity of virtual workers and intermediaries in the gig economy toward ICT, deliberative e-democratic processes could be the ideal approach, minimizing the disruption of the important mediating function of platforms and of the market for virtual work in general.

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# PhD Colloquium





# Political and Economic Factors Explaining Open Government Data Availability

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*Abstract: Lately national governments have started to provide their citizens with government information pro-actively as open data. In some countries, providing government information as open government data (OGD) has represented a natural extension of freedom of information (Fol). However, OGD has also been made available in countries that are known for their reluctance to adopt Fol and low protection of democratic freedoms. This is just one aspect in which countries adopting OGD policies, building OGD portals and publishing datasets vary. The main aim of this article is to explore what possible predictors of OGD availability are, provide preliminary findings and identify typical and deviant cases in OGD availability to select for in-depth case studies.*

*Keywords: open government data, quality of democracy, Internet use, economic development*

*Acknowledgement: I am grateful to my supervisor Dr Heinz Brandenburg for his support and input that helped me to improve this article.*

## 1. Introduction

Since President Barack Obama adopted the Open Government Directive in 2009, many countries have followed the US example and taken different measures to provide government information pro-actively as open government data (OGD). Up to date, 75 national governments worldwide have joined Open Government Partnership – a multilateral initiative, which encourages better governance through securing concrete commitments from governments. Others have been cooperating with multilateral organisations, such as the World Bank to progress in the open data agenda.

Although countries have to fulfil certain eligibility criteria for either joining the Open Government Partnership or receiving support from the World Bank, they vary greatly in different aspects. For instance, to join Open Government Partnership, countries must have freedom of information legislation (Fol), publish budget documents on time, disclose politicians' income and assets and protect civil liberties (Open Government Partnership, Eligibility Criteria, 2016). However, in order to meet these criteria, it is enough to have relevant legislation in place; how it is applied in practice is not considered. As a result, for instance, the quality of political rights and civil liberties can vary greatly among Open Government Partnership members. The achievements

in making OGD available also differ. At the moment, there are two main indices that measure countries' performance in OGD: Open Data Barometer and Global Open Data Index. For reasons explained further, this article will draw on Global Open Data Index, whose ranking suggests that the level of economic development and quality of democracy may affect OGD availability. Nonetheless, this has not been empirically tested to date. This article aims to provide a preliminary answer to the following question: *What conditions are associated with open government data (OGD) availability?*

In order to explain what accounts for variation in OGD availability across different countries, this article offers a quantitative cross-country comparison examining the association between OGD availability and Internet use, quality of democracy and levels of economic development. This article starts with a history and definitions of open government and OGD. It continues with explaining different perspectives and motivations governments may have when deciding to make OGD available. Then, based on relevant literature the article proposes several hypotheses, discusses methods used to test them and offers preliminary findings.

## 2. Literature Review

### 2.1. Open Government Data

OGD is usually defined as any data that has been collected or produced using public resources and is made publicly available unless it is privacy-restricted, confidential, and classified (Janssen, Charalabidis, and Zuiderwijk, 2012, p. 258). In addition, OGD shall be easy to access, machine-readable and openly licensed to enable re-use (Open Knowledge Foundation, 2016).

Although OGD is a new phenomenon, the term open government has its roots in the end of 18th century and has been used in different political and geographical contexts. It can be traced to the adoption of the first FoI legislation in Sweden in 1766, and the Declaration of the Rights of Man and of the Citizen in France in 1789 (Yannoukakoua and Arakab, 2014, p. 334-335). In more recent times, the concept reappeared in the US after the Second World War, when the American Society of Newspaper Editors created pressure on the government to provide newspapers and public with government information and encouraged the adoption of FoI legislation in later years in the US (Yu and Robinson, 2012, p. 184-185). The use of the term open government in scholarly work then, and in the following years, was tied narrowly to access to information (Raab, 1994; Birkinshaw, 1997).

Although this approach has been present in OGD discourse too, it is not exclusive. As Heeks and Gonzales-Zapata argued governments may have different motivations to adopt OGD (2015). Based on these motivations they identified four approaches to OGD. And although governments may take political perspective to OGD and see it as an opportunity to increase government transparency and accountability or at least public perception of it through providing greater access to information (political perspective), they may have far less noble (but no less useful) motivations. They posit that in some cases, governments' sole aim may be to improve government data infrastructure, and along with that they decide to make OGD publicly available (technological

perspective). In other cases, OGD availability may be a result of governments' effort to improve their data storage and management, reduce costs, and provide better services (bureaucratic perspective). Other governments may be motivated by predicted benefits, such as economic growth and make OGD available with an expectation that businesses will use it to develop new products and services and create new job opportunities (economic perspective) (ibid). Whilst this often is a political decision, there are other factors that may be conducive or detrimental to governments' performance in making OGD available, such as Internet penetration and use, quality of democracy and levels of economic development.

## **2.2. Open Government Data Availability: A Starting Point, not an End in Itself**

At the moment there are two indices that provide a cross-country comparison of OGD performance and availability: Open Data Barometer, developed by World Wide Web Foundation and Global Open Data Index, which was developed by Open Knowledge International. While Open Data Barometer examines governments' readiness to reap benefits from OGD as well as its use and early impacts of open data initiatives, the scope of the Global Open Data Index is narrower. It captures OGD availability looking at selected key datasets (Open Knowledge International, 2015).

Although the Open Data Barometer provides rich contextual information, this information does not assess the state of open data necessarily. For instance, Open Data Barometer considers in its OGD assessment the existence of relevant legal and policy framework (e.g., existence of open data policies, FoI legislation, personal data protection legislation etc.), and Internet use, as it argues these are necessary preconditions for OGD. However, although this may be true, it also makes Open Data Barometer as a measure of OGD availability of limited use for further research.

This article aims to examine how OGD availability is associated with Internet use, quality of democracy and levels of economic development. If it draws on Open Data Barometer, which already includes most of these factors in its assessment, it will create a bias towards less democratic and developed countries, which still may publish OGD. Thus, using Open Data Barometer, in this case, will inevitably support the theory that more developed and democratic countries do better in making OGD available. In addition, it results in conflating independent with dependent variables and from a methodological perspective this will lead to an indefinite research design, as independent variables will be present on both sides of the equation. For these reasons, Global Open Data Index has been chosen as more appropriate and neutral measure of OGD availability for the purposes of this article. Nonetheless, although it captures OGD availability more accurately, neither Open Data Barometer nor Global Open Data Index is an ideal measure of OGD performance and availability, as it does not examine factors such as the quality of data provided, the frequency of updates, the existence of feedback loops. Peled and Shkabatur who conducted a cross-country comparison of how open data diffused internationally concluded that in many countries that have made OGD available for reputational benefits and have failed to establish appropriate institutional reforms along, OGD has become a one-off success rather than a long-term game-changer (2016). Together with other scholars, they emphasize that making OGD available is just a starting point, which needs to be followed by robust policies and institutional reforms. Although this suggests that Global Open Data Index may be a flawed proxy for

measuring OGD availability, it is the best available at the moment. Moreover, the analysis as a unique effort to explain variation in OGD with quantitative cross-country data is itself a test of the usefulness of Global Open Data Index as a proxy not only for measuring OGD availability but its quality too.

### **3. Pre-Conditions for Open Government Data Availability (Hypotheses)**

#### **3.1. Internet Use as a Pre-Condition for Open Government Data Availability**

Many researchers argue that the potential benefits resulting from OGD adoption and developments do not come automatically with OGD availability, but are derived from OGD use (Susha et al, 2015). To use OGD, people need to have access to the Internet in the first place. In this view, OGD availability will be more likely associated with countries with greater Internet penetration and a higher ratio of Internet users. In light of this, I propose the following hypothesis: *'Countries with a higher ratio of Internet use are more likely to make key government data available as open data' (H1).*

#### **3.2. Quality of Democracy as a Pre-Condition for Open Government Data Availability**

Many researchers have assumed that OGD publication will lead to greater transparency and thus, greater government accountability (Noveck, 2009). However, this theoretically proposed causal relationship will be only possible to assess in years to come; but the more obvious causal direction is the opposite anyway and can be formulated as *'Democratic countries are more likely to make key government data available as open data than non-democracies' (H2).* For instance, it is questionable whether countries that restrict democratic freedoms will be willing to publish any politically sensitive or valuable datasets, such as government spending data.

#### **3.3. Economic Development as a Pre-Condition for Open Government Data Availability**

A country's wealth may be another important factor conducive or detrimental to OGD availability. Undoubtedly, governments need resources to build OGD portals and publish OGD. Low-income economies or countries that were hit by economic crisis may prioritize other more pressing issues than OGD when distributing financial resources. Therefore, I hypothesize the following: *'Countries with a higher level of economic development and/or less affected by the economic crisis are more likely to make key government data available as open data' (H3).*

## **4. Methods**

The above hypotheses are tested below using multiple linear regression as a statistical analysis and datasets specified below. OGD availability is a dependent (response) variable and is measured as a Global Open Data Index country score.

This article proposes four independent (predictor) variables for explaining OGD availability:

- Internet use, which is measured as Internet users per 100 people in the World Bank dataset;
- A country's quality of democracy, which is measured as an aggregate country score in the Freedom in the world index constructed by the Freedom house;
- Levels of economic development, which is measured as a gross domestic product (GDP) per capita in USD from the World Bank dataset
- Percentage change in GDP per capita in USD after the economic crisis in 2008. There is an expectation that countries that experienced a stronger economic downturn in the wake of the financial crisis will not prioritise to invest in OGD, and thus will perform worse in the Global Open Data Index.
- Lagged dependent variable - Global Open Data Index score from a previous year

The data for all these variables is available from 2013 to 2015, and all these years are chosen for analysis to capture possible changes.

## 5. Findings

Table 1 below summarizes the findings for the regression models with OGD availability as a dependent variable. Models for all individual years test the hypotheses that Internet use, quality of democracy measured as a country score in the Freedom in the World Index, and levels of economic development measured as a GDP per capita in USD and percentage GDP change after the economic crisis in 2008 affect OGD availability.

The proposed model works best for 2014. In 2013, there was no statistically significant relationship between any of independent variables and dependent variable. In 2014, the model 1 explains 55% of the variation in OGD availability. Both Internet use and quality of democracy had significant effects on OGD availability. As expected, OGD availability increases with greater Internet use. That provides some support for H1. For every additional percentage of Internet use, there is a 0.225 increase in OGD score. Similarly, there is a positive relationship between quality of democracy and OGD score, and an increase in the Freedom in the World Index by one score is accompanied by a 0.292 increase in OGD availability. That means also some support for H2. In 2015, the model 1 is weaker and explains only 37% of the variation in OGD availability. In line with the model 2014, quality of democracy had a significant effect on OGD score. Thus, only our hypothesis H2 finds support. In none of the models, GDP per capita or percentage GDP change have an effect on OGD availability.

However, when a lagged dependent variable, i.e., OGD availability in the previous year is added to the models (the 2014 and 2015 model 2), it can be observed that the effects of Internet use or quality of democracy on OGD availability were either weaker or no longer statistically significant. However, the lagged dependent variable was an important predictor explaining the OGD availability in following years. It also is an evidence of incrementalism in OGD change over time.

Last but not least, it is important to mention a variation in adjusted R Square, which suggests that the model is not sufficiently robust. This could be caused by a year-on-year variation in Global Open Data Index score. Since the results are not robust, an additional small-N analysis should be conducted with the aim of building a new more robust model.

Table 1: Regression Model (Political and Economic Factors Explaining OGD Availability)

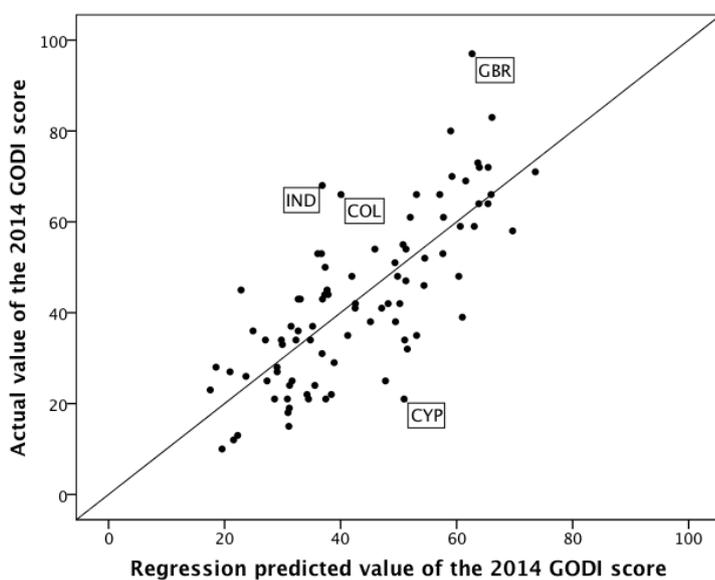
MODEL: OGD availability in 2013, 2014 and 2015					
	Model in 2013	Model in 2014		Model in 2015	
		1	2	1	2
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
Constant	14.790 (11.512)	5.265 (5.703)	0.667 (6.491)	8.862 (4.560)	6.649 (3.735)
Internet use in a given year (per 100 inhabitants)	0.120 (0.145)	<b>0.225**</b> (0.079)	0.019 (0.081)	0.088 (0.079)	-0.043 (0.059)
Freedom in the World Index country score in a given year	0.222 (0.128)	<b>0.292***</b> (0.074)	<b>0.181*</b> (0.071)	<b>0.263***</b> (0.057)	0.049 (0.053)
GDP per capita in USD in a given year	0.000251 (0.000142)	0.000178 (0.000101)	0.000022 (0.000080)	0.000161 (0.000101)	0.000057 (0.000077)
% change in GDP per capita in USD (given year - 2008)	0.072 (0.088)	0.075 (0.044)	0.026 (0.044)	-0.007 (0.044)	-0.067 (0.031)
The 2013 Global Open Data Index country score			<b>0.690***</b> (0.076)		
The 2014 Global Open Data Index country score					<b>0.710***</b> (0.076)
Adjusted R square	0.351	0.556	0.788	0.370	0.783
Number of cases	56	90	55	108	74

\*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05, Results in bold are statistically significant

In conclusion, although this article has confirmed that Internet use and quality of democracy can help in explaining OGD availability, more democratic countries with a higher ratio of Internet users are indeed more likely to make OGD available, however, the results were not robust. Therefore, drawing on Lieberman's methodological work, the multivariate linear regression model above will be used to identify cases for additional inductive model building small-N analysis through an analysis of residuals (2005). In the figure below, actual values of Global Open Data Index score in 2014 (this model has been chosen as it works best) are plotted against regression-predicted values of Global Open Data Index scores in 2014. As Lieberman suggests, both typical and deviant cases should be considered for case study selection (ibid). Country cases that are on or close to the 45-degree line are well predicted by the model, i.e., typical cases. These are those countries, for example, Norway, Sweden, Iceland, which perform expectedly well, but also those

countries, for example, Senegal, Saudi Arabia, Zimbabwe or Cote d'Ivoire, which perform expectedly poorly. There are also a few deviant cases that cannot be explained by the proposed model. These are Great Britain, India, Colombia, which perform better than expected and Cyprus, which, on the contrary, performs worse than expected. Both typical and deviant cases deserve closer examination of legislative and policy environment related to OGD and access to information, institutional reforms, media environment, datasets published on OGD portals and its use. This is crucial in order to understand fully what conditions lead to grasping benefits that are expected from OGD publication. Some of these cases will be chosen as in-depth case studies for my doctoral thesis.

Figure 1: Deviant Cases (Predicted OGD Availability Versus OGD Availability)



## 6. Conclusions

With more and more governments adopting OGD strategies, building data portals and publishing datasets, OGD has been growing as a research field too and deserves careful attention for different reasons. First, OGD innovators and early adopters as defined by Roger's diffusion of innovation theory (2003) vary greatly in many respects (e.g., founding members of Open Government Partnership include such diverse countries as Brazil, Indonesia, Mexico, Norway, the Philippines, South Africa, the United Kingdom and the United States). Second, predicted benefits bound to OGD availability in terms of government transparency and accountability. Civic participation is grand, but little has been done to confirm or disprove whether countries making OGD available manage to reap these benefits. It is important to understand fully why some countries make OGD available, and others do not.

This article has demonstrated that Internet use and quality of democracy in a country may play a significant role in making OGD available. It is an important finding per se, as it encourages a more critical approach towards new OGD initiatives that are being launched with grand pledges.

It suggests that an OGD initiative can only be successful if it has potential users (a large part of a population is able to use the Internet and, ideally, uses it for engaging politically too). Also, it can succeed only if democratic freedoms are guaranteed and widely valued, and people are able to use OGD to hold government accountable without facing negative repercussions. Eventually, the article proposes a systematically selected list of countries, which represent typical and deviant cases in OGD availability, and a potentially fruitful avenue for further research providing more detailed explanation of variation in OGD availability, use, and impact.

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### **About the Author**

Mária Žuffová is a Ph.D. student in Politics at the University of Strathclyde in Glasgow, Scotland. She has been working with Open Government Partnership as an IRM researcher for Slovakia. Her main research interests include transparency, access to government information, and online government-citizens interactions.





# Designing and Evaluation Transparency in Open Government

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*Abstract: One of the objectives of opening data is the creation of transparency. However, transparency is an ill-defined concept. My PhD thesis aims to help designers, architects and policy-makers develop portals and applications to enable transparency for the diverse society. Literature will be reviewed to understand the concept of transparency and to identify factors that enable and impede transparency. Thereafter, these factors will be refined using case studies resulting in a model showing the main factors influencing transparency in applications (apps). Finally, they will be validated using a survey. The factors can be used to design apps having higher levels of transparency.*

*Keywords: transparency, open government, open data, accountability, design science.*

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## 1. Introduction

Transparency is one of the keys principles that drives public administration in the world (Armstrong 2005). Transparency can enable enhancement of governance (Heeks 2001), improve accountability (Pina, Torres et al. 2007), or help to fight corruption (Bertot, Jaeger et al. 2010). Although it is generally agreed that transparency is an important principle (Dawes 2010), the term is commonly used as a magical concept (Ward 2014) with different synonymous (Matheus and Janssen 2015), or worse, more preached than practiced (Hood and Heald 2006).

Practitioners are implementing public policies for creating transparency in governments and designers are creating Open Data Portals (ODP). A big quantity of data sets are being disclosed following rules created by academics such as five stars of linked data (Berners-Lee 2009) and practitioners, for example, the eight open data principles (OpenGovData.org 2007). However, the disclosure of this data sets following both rules and principles, named as Open Government Data (OGD), does not likely improve accountability (Peixoto 2013) and the benefits of transparency are not realized (Welch and Hinnant 2003, Bertot, Jaeger et al. 2010).

Some authors take a positive look at open data and stress the benefits (Bizer, Heath et al. 2008, Berners-Lee 2009), whereas others are more sceptical and point towards impediment and challenges (Gurstein 2011, Janssen and Zuiderwijk 2014). In my PhD thesis, the focus is on governments as a provider of datasets. Applications (apps and websites) created by developers and using data analytics provided by data scientists function as an ICT-intermediated channel between the data providers and the public (citizens, journalists, others government). In turn their outcomes can be used to influence government priorities and to improve their plans, storytelling for news, and public service improvements. This overview is schematically shown in Figure 1.

Figure 1: Transparency Schema for Open Government Data Use

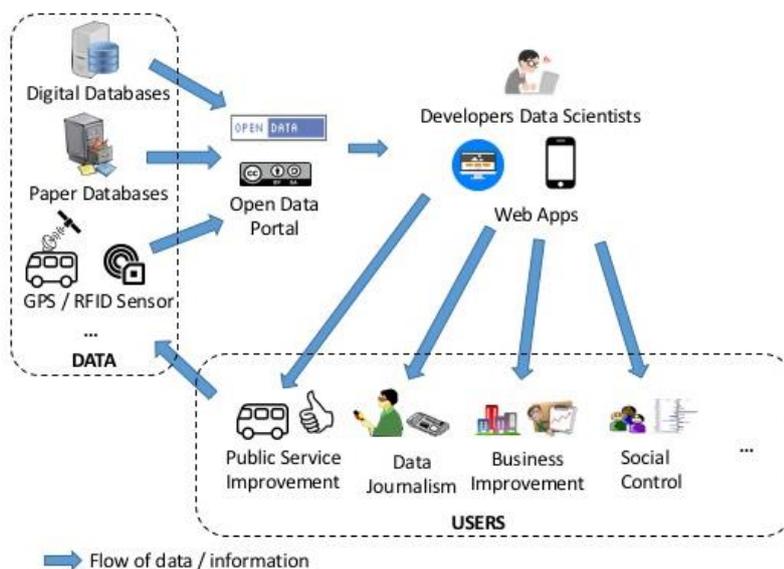


Figure 1. shows some challenges for creating transparency, as there is a diversity of data, there are many stakeholders involved and each way of disclosing data might add other levels of transparency. Apart from privacy-sensitive data that cannot be opened, an issue for the opening of data are the bias and errors that may lead to misuse and misunderstanding by developers and final users. Any hiccups or failures in the process to collect, treat, analyse and visualize data will hamper transparency. If governments do not disclose data sets from files and sensors, there can be no transparency. Figure 1. shows that only opening data by government is not enough to create transparency. In conclusions, the creation of transparency is not easy and is influenced by many factors.

## 2. Research Questions, Methods and Status of Deliverables

Releasing data might not result in transparency. My dissertation is aimed at *identifying factors enabling or impeding transparency using OGD from ODPs*. This should encourage policy makers, architect and designers to create transparency when opening their data. Four auxiliary research questions help to answer the main research question aforementioned:

1) *What is transparency?*

Transparency is a multi-dimensional concept. For open data, this is often viewed as the disclosure of data, however, just opening data might not result in transparency. Transparency is created by collecting, processing, analysing and using data. The research method to answer this question is a literature review of transparency definitions, concepts, and views. Part of this question already has already answered (Matheus and Janssen 2015). The expected deliverable is a chapter detailing the overview of transparency definitions, concepts and views (Chapter 3).

2) *What are the factors influence on the level of transparency?*

Transparency is not easy to reach and there are many views on what constitutes transparency. Literature is reviewed to create an overview of barriers that include social and technical aspects. A literature review of barriers for creating transparency and case studies is used as the research method to answer this question. The expected deliverable is a chapter with a list of barriers that prevents transparency creation from an individual and organizational level (Chapter 4). An initial list of barriers has already been described (Matheus and Janssen 2016) and (Matheus, Vaz et al. 2014).

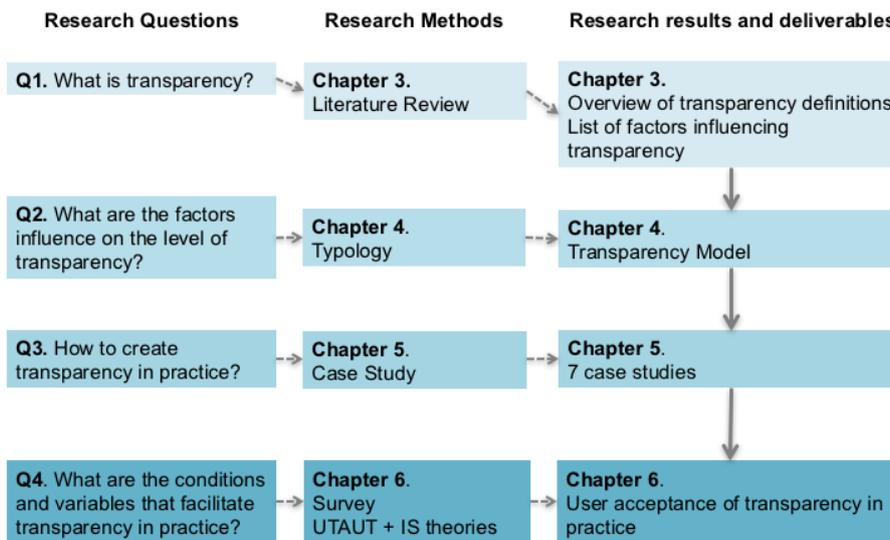
3) *How to create transparency in practice?*

Once the barriers are clear, factors are identified influencing the level of transparency. These factors also range from the technical to social. The focus will be on how apps can be designed and what the expected contribution to create transparency in practice. This collection of barriers will enable the creation of a transparency model and will be presented as deliverable on a chapter of the thesis (Chapter 5). The initial Model of Transparency is described at (Matheus and Janssen 2013).

4) *What are the condicions and variables that facilitates transparency in practice?*

After identifying a wide range of factors influencing transparency, the model will be validated. This research question allows us to identify those factors that have the most influence on transparency and those who hardly influence the level of transparency. For this purpose, a survey will be conducted. The expected deliverable is the validation of the Model of Transparency. In Figure 2 the research questions are summarized, including the research methods and deliverables (chapters).

Figure 2: Research Questions and Phases

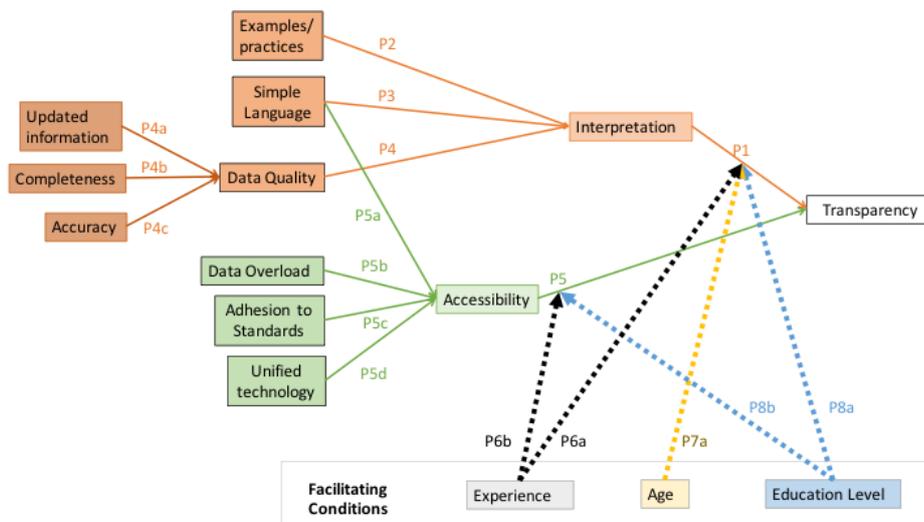


### 3. Next Steps

I am conducting the literature review to answer questions 1 and 2, what is transparency and what are the factors influencing the level of transparency. For this, I decided to search the list of journals in information system, electronic government and public administration areas at Scopus. To be selected, the journals should have an impact factor of 1.0 or higher. The keywords used were “transparency” and “government”. Complementing the Scopus search, it is planned to use the EGRL and Google Scholar, avoiding the papers already selected on any previous step. After selecting those papers, the titles and abstracts will be read and checked if they are on the scope of my dissertation. If not, papers will be excluded.

The selected papers will provide a long list of transparency concepts that will be used to operationalise the main concept used on this dissertation. Further, the list of factors that influences the level of transparency, such as data quality, timeliness, privacy and others. Based on these factors, I will develop a model of factors, improving the current model created by Matheus and Janssen (2013) and presented at Figure 3. This model is based on the Unified technology acceptance model created by Venkatesh, Morris et al. (2003).

Figure 3: Current Transparency Model



Being a hard concept to bring to reality, seven selected case studies will be conducted to identify if stakeholders, type of data and other potential factors identified on literature review influence transparency on practice. This allows us to test the model created by checking if the variables and conditions influence transparency and in which level they influence transparency. It will help public managers to implement better transparency public policies and developers can design transparency portals and disclose data sets taking in consideration factors that clearly influence transparency.

#### 4. List of Articles Already Published

Some parts of this thesis already were written and presented on the follow list:

- Matheus, R. and M. Janssen (2013). Transparency of civil society websites: towards a model for evaluation websites transparency. Proceedings of the 7th International Conference on Theory and Practice of Electronic Governance, ACM.
- Matheus, R., J. C. Vaz and M. M. Ribeiro (2014). Open government data and the data usage for improvement of public services in the Rio de Janeiro City. Proceedings of the 8th International Conference on Theory and Practice of Electronic Governance, ACM.
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# Online Deliberation and Diversity: Voices of Kanaka Maoli Women in Hawaiian Sovereignty Discourse

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*Abstract: Online deliberation has increasingly attracted scholarly attention and stirred the hope for more diverse and inclusive public conversations to inform policy making. However, little research has been conducted to understand the realities, opportunities and risks of people who are voicing their political views online while holding challenging positions in the matrix of power. This study begins to address this gap by focusing on the expressions of Kanaka Maoli women in the Hawaiian sovereignty movement. This paper presents preliminary finding from the first step of a multi-methods research for my dissertation. The project aims to contribute to the understanding of how social media may support or hinder the expression of diverse perspectives online. Understanding the experience of Kanaka Maoli women can shed some light on women's variable participation in online deliberation. The recognition of shared experiences can also lead to practical guidelines for using social media in safe and possibly empowering ways.*

*Keywords: online deliberation, gender, diversity, participation, Kanaka Maoli women*

## 1. Introduction

The Internet, and the social web in particular, have been argued to both support the emergence of a participatory and diverse society, as well as to reinforce preexisting power structures and publics polarization (Sunstein, 2003; Dahlberg, 2007; Hindman, 2008). When one focuses specifically on the participation of women, the attribution of empowering or disempowering affordances to online media proves particularly slippery. From a striking inequality among Wikipedia editors, where women are estimated to be 12.7%, or 16.1% simulating adjustment for nonresponse bias (Hill and Shaw, 2013) to apparently equal participation and influence in institutionally deliberative online forums (Polletta and Chen, 2013), women's participation appears to vary widely in different contexts. Even assuming that there are contexts where women, or other social groups commonly less heard in traditional mass media participate equally online, one can still argue that the networked person is hardly a rounded, empowered one but rather a participant-consumer whose agency is limited to choosing from a catalog of political expressions accessible by wire. (Dean, 2007; Dahlberg and Siapera, 2007).

Generally, network analyses tend to expose social media's polarizing structures (Sunstein, 2001, Conover et al. 2011), while surveys and content analyses often leave some hope for the internet as a diverse and relatively open deliberation forum (DiMaggio and Sato, 2003; Rainie and Smith, 2012). However, content analyses tend also to reveal a quite poor discursive quality according to deliberation standards (Dahlberg, 2001; Kies, 2010), while network analyses that are more attentive to contents and contexts of the analyzed structures also show instances of less polarized results (Conover et al. 2011; Rathnayake and Suthers, 2016).

Network, survey, or content analyses commonly utilized to address the internet potential to support diverse participation tend to present two main limitations, which may account for the lack of consistent results. Firstly, they do not consider that relatively isolated public clusters are actually vital to maintain a diversity of views in the broader political discourse system. Radical groups and dissent would not survive without safe spaces (albeit temporarily so) to meet like-minded people and at the same time are necessary to break through manufactured consent and dominant biases that would otherwise remain unchallenged (Herman and Chomsky, 1988; Sunstein, 2003; Dahlberg, 2007). Secondly, these approaches tend to conduct analyses within a specific platform (mostly Facebook, Twitter, or ad hoc deliberation systems), which also precludes any insight on the status of the larger system of deliberations across different platforms (Mendoça, 2015). One way to begin to address both limitations is to engage in critical conversations with participants and learn about their lived experiences deliberating online. For instance, Eckert (2014) interviewed women about their experiences blogging political issues around women and maternity; the same author in a later work analyzes the reception of the topic of feminism across different online platforms (Eckert, 2016), while Burgess and Duguay (2015) developed a walkthrough method to trace techno-cultural and economic constructs that mediate meanings across different platforms.

This paper builds on the latter approaches and describes preliminary results from an initial phase of observations and discourse analyses as part of a larger multi-methods research. First, I have identified a social group, women of the lāhui (Kanaka Maoli women in the Aloha 'Āina movement), whose online voicing might be particularly challenging in two ways relevant for this study: On one hand, they stand in a difficult position in current power relationships, and on the other hand the same position is a powerful one to shake those same dynamics, show their paradoxes, and lead to change. The larger project entails iterative steps of online and offline participant observation, discourse analyses of online discussions and interviews. Interviews and observations will focus on women of Hawai'i who voice their political opinions using different online platforms on issues they consider relevant to them both as Kanaka Maoli and as women.

## 2. Study Context and Theoretical Background

I am a Haole woman living in Hawai'i and I consider myself an ally of the Aloha 'Āina movement. Haole means foreigner, particularly of European descent, and although the word is the object of controversies, I try to own it in the simple sense I have just stated. Aloha 'Āina can be translated as love of country, love of the land, and patriotic. Although the expression "Hawaiian sovereignty movement" might be heard more often, especially outside of the movement itself, it suggests that

Hawai'i is not yet independent while there is widespread agreement within this otherwise very diverse movement that Hawai'i is a sovereign nation under US occupation (Aluli Meyer, 2016). The word "movement" can be misleading in this context as well. For the rest of the paper, I will refer to the participants in the movement as the lāhui (commonly translated as nation), a term widely used by Hawaiian activists, scholars, and cultural practitioners.

In the contexts of nations of European origins, I do not often sympathize with patriotic sentiments, yet the meaning of lāhui is not necessarily that of nation-state (Goodyear-Ka'ōpua, 2011) and as a Haole woman living in Hawai'i I feel it is my responsibility to support the continuous efforts perjured by the people of this land to restore independence since the overthrow of Queen Lili'uokalani in 1893. It is becoming increasingly well known that most Native Hawaiians alive in 1896-1897 signed the Kū'e petition to resist annexation to the US. However, neither Lili'uokalani's diplomatic resistance, the Hawaiian people's resistance to the overthrow, nor the later petition or mass protests against annexation were mentioned in Hawaiian schools until the 1970s.

In the seven years, I have spent in Hawai'i I have been struck by the strong presence of outspoken women leaders in the lāhui. Polletta and Chen (2013) state that women's variable participation and influence in public talk can be accounted for by implicit contextual messages about the value of women and stereotypically feminine modes of talk and action. For instance, the presence or absence of women in leadership positions, the emphasis on narrative or rational argumentation, the encouragement of competition or collaboration may affect the likelihood of women participation and influence more than the gender composition of the discussing group, the presence of moderators or facilitators, or the gender coding of the discussed topic (Polletta and Chen, 2013). The Hawaiian culture as well as the more recent tradition of resistance to occupation offer a context rich of strong models for women leaders (Linnekin, 1990; Silva, 1997; Wilson, 2008), starting from Queen Lili'uokalani herself. These models have survived despite strong pressures from missionary and other foreign gendered power dynamics. As some of them emerged in the analyzed discussions, I will talk more about women from history and mythology in the results section below. The assumption that I will attempt to bracket till further steps and reiterations of analyses is that these figures can offer a deeply rooted source of inspiration to online deliberating women who defy today's gender and race-based discriminations and stereotypes.

Although this work positions itself in the field of online deliberative democracy, it is particularly important in the context of this study to bracket theoretical frameworks and normative expectations about deliberation processes. Definitions of deliberation vary in different traditions and studies (Mutz, 2006; Sanders, 1997)\* but most share two elements: First, hearing different perspectives on a given topic and second, reaching "enough common ground to move ahead" (Melville, K., Willingham, T. L., and Dedrick, J. R. 2005:47)\*. "Ahead" meaning the next phase in the discussion or in a decision-making process (Towne and Herbsleb, 2012). In this context, deliberation has a broader scope, that is: any political discussion that involves exposure to differing perspectives (Mutz, 2006). This broader definition allows researchers to include common everyday experiences and expressions that may not fit formalized conceptions of deliberation; in addition to that, classic deliberation protocols may be particularly removed from the sociocultural

context of interest here (Coleman and Moss, 2011). The aim here is not to measure the Hawaiian movement discourse against some foreign standards of political discussion, nor to interpret it through online deliberation lenses. The objective is to contribute to the understanding, and possibly the enhancement, of diversity in the online deliberation system by learning from the experience of Kanaka Maoli women, understanding their “realities, opportunities and risks” (Fuchs, 2014) as online deliberators from standpoints that challenge mainstream views on multiple dimensions of the matrix of power.

Furthermore, scholarly works utilizing indigenous and decolonization perspectives to study Hawaiian history and culture are sometimes criticized on the premises that Kanaka Maoli are not indigenous to the islands (Polynesian settlements date around 1-600 CE) and Hawai‘i has not been colonized but occupied after the overthrow of a constitutional monarchy. Nonetheless, decolonial and indigenous perspectives can be extremely valuable for a Haole scholar to learn to step back from normative expectations about the representation of knowledge and accept multifaceted approaches to learning and knowing (Duarte and Belarde-Lewis, 2015: 678-686).

### 3. Research Questions

The general research questions (RQs) underlying the broader project are:

- RQ1: How are participants empowered or constrained in the expression of a rich diversity of standpoints throughout their mediated conversation?
- RQ1a: Particularly, do voices typically less heard in traditional mainstream media find expression?
- At this first step I am inquiring in particular:
- RQ1: What do women’s posts in a public forum of the Hawaiian movement say about their lived experience of voicing their political opinions online?
- RQ2: How are women and female gendered characteristics valued in the context in which these deliberations occur?

### 4. Methods

This paper covers a preliminary study for a larger multi-methods research project for my dissertation as described in the introduction. It presents preliminary observations from a phenomenological study of posts and comments by Kanaka Maoli women in a public Facebook group about Hawaiian sovereignty.

Morse and Richards (2002) state that phenomenological methods are particularly appropriate to address questions about the core of phenomena intended as shared lived experiences, it allows indeed to uncover shared perceptions via a qualitative methodology (Higginbottom, 2004). Drawing from phenomenology (Husserl, 1963; Giorgi, 1997) and standpoint epistemology (Brook, 2007), I described in the previous section my personal standpoint, biases, and assumptions that I am aware of, which I will attempt to bracket, suspending judgment and reflecting upon them reiteratively during future analyses (Husserl, 1963; Giorgi, 1997).

During this preliminary study, I identify possible shared experiences that could be conversation prompts and will be part of the interview guide for the future interview study. In this phase, I am also identifying potential participants with whom I will request to schedule an interview. A purposeful snowball sampling will follow to recruit other interviewees and analyze conversations in further groups and platforms.

The observations have been conducted primarily for one to two hours daily during the month of December 2016, five to six days per week, and continue more sparsely for the following months to check for possible new emerging themes. I utilize Facebook's feature to save posts whenever I identify contents and interactions which appear to reveal something about the experience of voicing one's own political views as a woman of the lāhui. I then note separately, without scraping any personal data from the posts, any reoccurring themes. In addition, I have noted themes that I have seen only once yet seem interwoven with the observed context to such an extent that I believe many future participants will likely have related lived experiences, and future interviews may shed light about these relations. In order to identify themes, I utilize both a general inductive approach (Thomas, 2006), which allow me to gain insights into the content of conversations, and a discourse analysis approach (Phillips and Hardy, 2002), which allows me to gain insights into the social and cultural dynamics carried through the conversations.

As mentioned above, the current preliminary study utilizes a phenomenological approach in order to gain some insight into possible shared experiences that can inform the interview guide of a future interview study. I will then ask interviewees' consent to follow their online activities across multiple platforms and will go back to content and discourse analyses of online interactions for triangulation of data. This triangulation will likely provide a more nuanced and deeper insight into the themes that will emerge during the interviews, as well as a better understanding about differences and commonalities in the interviewees' lived experiences of different contexts and affordances across the online deliberation system and its multiple platforms.

## **5. Preliminary Findings**

Below I discuss the most prominent themes that have emerged from my initial observations of the public Facebook group and related public offline events during the month of December 2017. The aim at this phase of the study is not to develop a theoretical model. Instead, the themes that emerge as shared experiences will be conversation prompts in the interview guide I am compiling for the next phase. As mentioned above, these themes are tentative and might not grasp the core of the phenomenon, yet their frequency is not the main criteria for selection but rather their observed interconnection with the broader context in terms of historical circumstances, the wider online discourse, and offline events.

### **5.1. A Tradition of Women Leadership**

Hawai'i has a known a tradition of women leadership (Linnekin, 1990; Wilson, 2008) and – particularly during and after the overthrow of the monarchy – women's resistance (Silva, 1997). In the posts of the public Facebook group I have analyzed, women have been referring to

contemporary women leaders as well as prominent historical female figures. Men honor them almost as often, and the representation of women and men leaders appears roughly equal. Among the contemporary community leaders participants mentioned, for instance, educator and “cultural icon” (PBS, n.d.) Kumu Hina, composer Hāwane Rios, renowned kumu hula (master hula teachers) like Pualani Kanaka‘ole Kanahale and Pua Case, scholars Noenoe K. Silva and Noelani Goodyear-Ka‘ōpua. I have been struggling to find short meaningful descriptions to accompany these names as traditionally as well as today, Hawaiian leaders tend to be well rounded masters across multiple arts.

Kumu Hinaleimoana Wong-Kalu has lead the cultural renaissance of māhū, which I will not attempt to define here but I can comfortably say that it has offered to her as a transgender woman, to her māhū students, and to the people of Hawai‘i a strong cultural foundation to proudly embrace one’s identity when it uniquely encompasses characteristics and roles that are both male and female gendered. I mention this as an example of community leadership and to clarify that participants in the study may be cisgender and transgender women, as well as māhū who identify as women.

Among prominent historical figures participants mentioned is of course Queen Lili‘okulani, particularly in relation to events occurring in about a month from the date of the observations, on the anniversary of the overthrow (January 17, 1893). In the same contexts, posts depicted events and documents honoring Emma Nāwahī and the women of the original Hui Aloha ‘Āina o Nā Wāhine, loosely translated as Women’s Patriotic League, who organized alongside the Hui Aloha ‘Āina o Nā Kāne (men's counterpart) the opposition to the overthrow and later to the annexation to US. Other posts honored, among others, Queen Emma on her birthday and Princess Bernice Pauahi Bishop for a quote on individual self-determination.

Moreover, the four administrators of the group are women, therefore each participant to the group is added by a woman. Women active in the groups are often outspoken leaders offline and on other media as well. I noticed hosts of radio shows, grassroots video news services, contributors to local and US newspapers, leading scholars, activists, poets, and composers.

## 5.2. #ManaMoana

While conducting these observations Disney released the animation movie *Moana*, featuring as main character a fictional Polynesian voyaging girl. Although some in the lāhui welcome a successful movie that artfully represents and internationally recognize aspects of Polynesian cultures, the debate about the cultural (mis)appropriation, particularly concerning the demi-god Maui, has been heated. More to the point of this paper, a shared sentiment is that Polynesian cultures do not need Disney nor a fictional young girl character to offer powerful female role models as Polynesian mythologies and histories offer a wide array of existing examples of strong, voyaging women and goddesses (Silva 1997; Wilson, 2008). The need to fill the gap of female lead roles is foreign. The only positive comment about *Moana* by a Hawaiian woman in the Facebook group currently analyzed concerned the actress’ skilled performance.

### 5.3. Connection with Indigenous Women and Women Issues Worldwide

Another reoccurring theme is the sharing of posts of indigenous women in Moku Honu (Hawaiian for Turtle Island that is North America) and elsewhere: posts from Standing Rock's water protectors against the Dakota Access Pipeline, indigenous women posts about midwifery and childbirth in Standing Rock, sovereignty, childrearing (e.g., a post about "freedom babies"), gendered and race-based violence and human trafficking endured by native women. The later had often a powerful emphasis on love and healing rather than victimization (Schiller, 2017).

Many of this posts express the perception that "the personal is political" (Hanisch, 1969) a perception shared with women movements like US' second wave feminism, and that in this case found expression for instance in videos or pictures of breastfeeding and extended families and are represented as sources of power.

### 5.4. Whose Space? Perceived Risks and Obstacles

The Hawaiian movement in general, and the women in the movement in particular, seem to challenge the online counterpublics discourse that constructs the Internet as a place for radical and dissident groups to create their own spaces, gather, and assertively build and share their perspectives. Firstly, there is a shared principle in the lāhui, Kapu Aloha, that explicitly distances the movement from a purely oppositional stance against the enemy, and instills a sense of respect for the other and fundamental connection beyond all divisions. Secondly, I have read posts that opened with tactical disclaimers about their content in order to avoid backlash. These tactics suggested the awareness to speak and act in a space that is still to some extent other and foreign (de Certeau, 1985: 36-37). The authors of these posts seem painfully aware that the "counterpublic" is permeable to foreign views, misinterpretations, and divisiveness.

Moreover, there seems to be a shared concern about the lack of control of how information shared on facebook can be misused in ways that undermine the movement and the people participating in it, including covert censorship.

## 6. Discussion

The context of the analyzed Facebook group seems to provide a "feminized" environment (Polletta and Chen, 2013) where women leadership is valued and modeled by participants and the content of their posts. The representation of women and men leaders appears roughly equal. Although I have not conducted systematic observations in other online platforms, I can state that this equality or representation is not always the norm in other online platforms of sovereignty discourses. However, the concept of the feminization of the context does not seem completely adequate here. Characteristics that seem valued in the group and are stereotypically female gendered in foreign cultures may not be female gendered in Hawaiian culture. Further aspects that may affect women participation and influence in this and other contexts and need to be investigated.

The perception of obstacles and risks associated with online deliberation even in a group of relatively like-minded people such as the one studied here shows that the counterpublics literature

might not be taking enough into account that a technological space is always to some extent the space of the “other”. The theory of fluid public clusters (Eckert, 2014) seems to describe more accurately the phenomenon and provides important insights into gendered harassment in online deliberation. However, Eckert (2014) does not deepen the analysis of risks and obstacles and admits that she would have liked to interview more brown and black women, which would have possibly yielded a deeper understanding of women’s perceived risks and obstacles associated with online deliberation.

The observed involvement of many Kanaka Maoli women in multimedia projects across and beyond social media platform can be seen as a positive affirmation as well as a sign of the distress of a group of people whose culture and language have long been barred the access to mainstream education and communication channels and its expression takes many different rivulets, which makes it more difficult to build shared narratives and to bridge internal contradictions (Riggins, 1997).

## 7. Conclusions

This paper presented very preliminary results from a phenomenological study of posts and comments by Kanaka Maoli women in a public Facebook group about Hawaiian sovereignty. Several themes emerged as possible aspects of the shared experience of women of Hawai‘i voicing their political perspectives online. These themes are tentative topics for the interview guide of the next phase of the study and will be explored more in depth during interviews.

This observed group seems generally supportive of women participation yet three women expressed the perception of risks and obstacles to voicing their views. In the next phase of this study, I will further inquire shared sources of these perceptions. The recognition of shared experiences can lead to practical guidelines for using social media in safe and possibly empowering ways. Indeed, it has been observed that women voicing their political opinions online can endure gendered online harassment (Eckert, 2014). This study may shed light on specific strategies for the lāhui to limit and counter gendered harassment that may conceivably be endured by some participants in the study as they stand at the intersection of gender, race, and political viewpoints that challenge existing power structures.

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# Performance of Participation on Radical Left-Wing Online Community Platforms

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*Abstract: This project explores participatory practices on micro-level, namely on three online left-wing alternative media platforms that aim at maximising participatory intensities by equalising decision-making processes. Approaching these practices from the poststructuralist perspective, it seeks to critique participation by focusing on the unstable character of subjectivity engendered by participatory processes. The analysis should provoke a critical discussion on the scope of power equalisation in the platforms, and generate new insights into the emancipatory potential of maximalist-participatory media practices.*

*Keywords: participation, power, alternative media, discourse theory, poststructuralism*

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## 1. Introduction

The project explores participatory practices on the micro-level, namely on three online left-wing alternative media platforms that aim at maximising participatory intensities. Approaching these practices from the poststructuralist perspective, it seeks to problematise the notion of participation by focusing on the unstable character of subjectivity engendered by the participatory processes. Three levels of analysis – power, identity, and organisational structure – should provoke a critical discussion on the scope of power equalisation in the platforms, and generate new insights into the emancipatory potential of maximalist-participatory media practices.

The research question is: How is participation performed on maximalist-participatory radical left-wing online community platforms?

Three secondary research questions (SRQs) are posed:

- 1) SRQ1: How does the co-decision-making process look on the media platforms?
- 2) SRQ2: How do the participants understand their engagement, contribution, and the collective identity of the platforms?

- 3) SRQ3: In what way does the content of the platforms reflect the plurality of voices within the communities?

Three platforms have been selected for the study: Avtonomnoye Deystviye (Russia), Rebellyon (France), and Libcom (UK). These countries were selected because of the relative similarity of the challenges that left-wing activists face in the face of the rise of authoritarian right-wing parties (as in France and the UK) and government (as in Russia).

The three platforms aim at maximising participation by rejecting any formal hierarchies and enabling Internet users to upload their texts directly on the platforms. Once uploaded, the texts either become a subject of a co-editing process or are directly positioned in a certain section of the platforms, with some getting more visibility and others less. In other words, the content becomes both a part and a consequence of power relations in the platforms, becoming what Carpentier (2011) calls content-related participation. Thus, the research project addresses both structural participation (in terms of the platforms' internal structure) and content-related participation (in terms of decisions on what texts to publish or promote).

The study is highly timely in the sense that recent years progressive politics have been waning, with the three countries providing a clear illustration of this phenomenon. Some authors (e.g., Mouffe, 2005) have argued for a political vision that exceeds institutional politics, instead considering *the political*, a broader dimension of the social. The proposed project is preoccupied with the question of whether participatory processes can make possible an alliance of progressive movements in one such area beyond institutional politics: the media. Such vision has been dubbed populist (Laclau, 2005), and, at times when right-wing populism is gaining ground, it is highly relevant to address alternative, progressive forms of populism outside institutional politics. The Russian case, furthermore, may contribute with a fresh perspective on challenges for participative progressive politics outside the context of Western liberal democracies. While there is still a significant degree of difference between the three contexts, the research will require a careful segregation between context and analysis. Similar patterns in the data may provide important conclusions for the studies of maximalist participation.

## 2. Theoretical Framework

The project approaches participation as a contested terrain, constituted and simultaneously endangered by power struggles. The notion of decision is the key analytical tool in exploring participatory processes. From an ontological point of view, participation is enacted in the context of structural undecidability, a concept which accounts for the impossibility of rational decision-making amidst limitless competing possibilities (Clegg et al., 2007; Derrida, 1992). Any decision, therefore, entails activating power mechanisms, and decision-making as such amounts to an exercise of power (Laclau, 1990, 1996). At the level of social practice, decision-making will be approached as a performance. Butler (1994) defines performance as a discursive practice that brings into being that which it names; in this case, performance of participation brings into being subject positions of the actors of participatory processes. Furthermore, following Butler's (2004) approach to performance as an improvisation, and Carpentier's (2011) distinction between

maximalist and minimalist forms of participation in media, decision-making in the platforms, where power is intended to be equalised, is approached as an improvisation between minimalist and maximalist forms of participation. Once taken, decisions establish a temporary fixity and shape power structure in the platforms in a certain way. Participation is thus approached as a set of arbitrary decisions that shape participatory intensities. These decisions are taken from certain subject positions and legitimised by certain discourses on participation, which the study aims to explore.

The three alternative media platforms under study are characterised by a high level of power equalisation, but also by a high diversity of actors involved in the production process. Such positioning opens the way for creating a media platform representing a wide variety of social struggles, in line with Laclau and Mouffe's (2014) notion of radical and pluralist democracy, i.e., a form of politics that opens up participation from numerous spaces and subject positions. Laclau and Mouffe analyse social processes on a macro-level, focusing on broader social processes, yet there is a need for understanding of how radical democratic politics can be performed on a micro-level. With SRQ3, the study aims to see whether and how discourses on participation in the platforms encourage proliferation of voices in the media content or delimit them in one way or another (for instance, by privileging particular social cause).

### **3. Methodology: Discourse Theory**

Seeing as the study accentuates social fluidity and unstable power dynamics, it is situated in the poststructuralist tradition, more specifically drawing on the discourse theory of Ernesto Laclau and Chantal Mouffe (2014). Albeit fairly criticised for not providing clear methodological guidelines (Winther-Jorgensen & Phillips, 2002), discourse theory is still highly useful in that it suggests a number of sensitising concepts (Carpentier & De Cleen, 2007; Carpentier, 2010) for conducting a social analysis. In this section, I focus on four of the concepts: primacy of politics, social contingency, power and resistance, and radical and pluralist democracy. They are further supported with a number of other methods (ethnography, formal interviews, and discourse-historical approach), which will be considered in the following section. Still, the sensitising concepts, developed in the writings of Ernesto Laclau, Chantal Mouffe, and Michel Foucault, inform a number of theoretical points of departure.

#### **3.1. Primacy of Politics**

By stating the primacy of politics, Laclau and Mouffe (2014) mean that social relations are shaped in and through political struggles. Social relations tend to become institutionalised into rules, norms, and values; once sedimented, the political nature of social reality gets obscured (Torfing, 1999). Yet, the openness of the social implies that no sedimentation is irreversible, and the political origin of social practices can be re-activated. Emphasising the primacy of politics, discourse theory provides a framework for questioning taken-for-granted social practices by showing their inherent contingency. Primacy of politics is a relevant starting point for the project as it enables to emphasise the inherent conflictuality of the social struggle.

### 3.2. Social Contingency and Non-Essentialism

Social contingency, or fluidity, is understood as the fundamental instability of social relations and identities (Laclau, 1990). Any meaning and identity has an ultimately unstable foundation, seeing as it lacks any founding principle within itself and relies on an external 'Other' to come up with a coherent discourse supporting its identity. In other words, we deal with a field of purely relational identities with no positive meaning (Laclau and Mouffe, 2014). This renders possible re-articulation of meaning, which is dependent on a continuous process of identification (Žižek, 2008), made possible by the inherent social contingency. Any subjectivity, therefore, is fundamentally split and unstable. Yet, temporary fixations of meaning are possible. Applied to the project, this point suggests that various competing visions for the participatory intensities on platforms articulated by different participants can only temporarily inform the identity of these platforms, will never be completely fixed, and remain an object of struggles.

### 3.3. Power is Practiced, not Possessed, and It Produces Resistance

Given the collaborative character of decision-making on the platforms, it is analytically relevant to employ Foucauldian perspective on power (Foucault, 1998). Foucauldian analysis of power rejects the idea that power has any central point from which it emanates; in fact, "power is everywhere" (ibid., p. 93) and comes from everywhere. Furthermore, power "is not something that is acquired, seized, or shared, something that one holds to or allows to slip away; power is exercised from innumerable points, in the interplay of nonegalitarian and mobile relations" (ibid., p. 94).

Furthermore, according to Foucault, power has a number of productive effects – one of them is the production of resistance, whose inevitability whenever power is at play he enunciates (Foucault, 1998, p. 95). Power is exercised from a multitude of points, and so is resistance. And, much like power forms a network passing through apparatuses and institutions, points of resistance tend to unite across stratifications and individual unities. Although Foucault did not directly inform discourse theory, Laclau and Mouffe (2014, p. 136) admitted sharing similar concerns in relation to power.

Participation is approached as a contested notion, with its definitions by some actors continuously challenged by others (who thus exercise power and resistance, respectively). The equalised power structure on the platforms enables seeing power as multidirectional and mobile, feeding into the poststructuralist logics of instability. Furthermore, this perspective invites one to take into account competing visions and voices struggling for dominance and not to focus on a seemingly dominant vision of participatory intensities by certain participants.

### 3.4. Radical and Pluralist Democracy

Radical and pluralist democracy ('radical democracy' henceforth) is, in a broad sense, a political programme suggested by Laclau and Mouffe (2014) to support their call for rearticulating the Left politics based on an acknowledgment of the precarious character of the social. Radical democracy is essentially a framework for a practical implementation of ideas proposed by discourse theory.

Laclau and Mouffe renounce the idea of a universal, privileged position that could speak on behalf of all the variety of emancipatory social struggles, as classical Marxism does. Instead, they acknowledge the partial character of all struggles. The political task for the Left is to articulate them into an equivalential-egalitarian chain of a single project. For that, Laclau and Mouffe's (2014, pp. 142-3) suggest to extend the equivalential-egalitarian logic to a series of social relations by questioning new forms of subordination. Articulating together anti-capitalist, anti-racist, anti-sexist, environmental and other discourses should enable, in Gramsci's (1971) terms, to construct a new historical block - without privileging one struggle over another and fully acknowledging that no necessary links exist between these various elements which remain open for articulation by very different discourses.

Radical and pluralist democracy is used as a normative concept to critically evaluate participatory practices on the selected platforms in terms of their ability to provide space for various voices to be heard, without excluding or privileging some of them over the others.

## 4. Method

A set of qualitative research methods will be used to approach the three secondary RQs (see pp. 1-2). Three levels of analysis correspond to each of them: participant observation, formal interviews, and analysis of content.

### 4.1. SRQ1: Participant Observation

To get an understanding of the participatory practices in the cases under study, participant observations will be carried out in the three settings in Russia, France, and the UK. The observations will take place at the meetings of editorial teams of the three media platforms. When impossible (due to reasons of secrecy and/or lack of physical meetings between participants that take place online instead), a few separate participants will be asked to take part in an ethnographic study, during which the researcher will be able to get a grasp of the context in which they involve in activism, and conduct 'conversational interviews' (Patton, 1990), that is, have informal dialogues with them.

The data will consist of participant observation notes. In case of observation of physical interactions between participants, the notes will describe their discussions and co-decision-making process. In case of observation of separate participants, the notes will focus on the *context* of decision-making, such as daily routines and engagement with activism on the platform of the selected informants. In both cases, the data will also include notes from conversational interviews with the informants.

Two aspects of participation will come into focus at the observation (after Carpentier, 2016):

- 1) Actors: performance of subject positions by different participants;
- 2) Decisions: practices of equalisation of power on the platforms, both on the level of management and content-related participation.

Furthermore, the data from the field notes will be used for subsequent interviews.

#### 4.2. SRQ2: Formal Interviews

The focus here shifts towards individual perceptions of 10-12 selected informants, including both the projects facilitators and other participants. By this stage, connections have already been established with a few of them. What presents interest now is how the participants understand power structures and mechanisms of the communities, and eventually shape the heterogeneous identity of the platforms, characterised with a diversity of the participants' backgrounds, articulated (counter-hegemonic) discourses, and limited resources. For this purpose, 10-12 semi-structured formal interviews (Babbie, 2004; Gorden, 1975), involving the platforms' participants (contributors) and facilitators, will be conducted and recorded.

The participants will be invited to reflect upon two groups of issues:

- 1) Individual: reasons/motivation for engagement; significance of engagement; interaction with other group members; self-positioning towards the rest of the group.
- 2) Communitarian: reflections on the positioning of the platform in relation to other actors in the social field; significance of the platform for the social.

#### 4.3. SRQ3: Analysis of Content

The stage of textual analysis seeks to answer two questions: 1) From what subject positions do the authors of the texts speak? 2) What voices get representation in the texts, and which of them are more visible/privileged in the platform?

What presents interest (and concern) here is whether some of the voices on the platforms get lost in the din, thereby subverting the strife for maximising content-related participation and putting into question the efficiency of structural participation on the platforms.

50 texts will be sampled from [www.rebellyon.info](http://www.rebellyon.info), [www.autonom.org](http://www.autonom.org), and [www.libcom.org](http://www.libcom.org) (150 items in total). The intention here is to combine various texts in the sample, some of which got published and made it to the top of the websites, whereas others were rejected by the platforms and either did not get published or did not make it to the top.

#### 4.4. Data Proccession

The data from the three stages of analysis (participant observation notes, interviews transcripts and texts from the websites) will be processed with the combination of discourse-theoretical approach (Carpentier & De Cleen, 2007; Laclau and Mouffe, 2014) and discourse-historical approach (DHA) (Reisigl & Wodak, 2009). Two major aims of the analysis are: 1) Identification of discourses on participation on the platforms; 2) The use of discursive strategies (with a focus on the articulation of subjects, their positions and agency).

DHA's linguistic component will be addressed when necessary, but is not deemed indispensable given that the study does not intend to highlight the problem of language per se.

## 5. Implications

By the moment of submission of this paper, the study is situated at the stage of finalisation of theoretical framework. However, some initial presumptions can be made regarding its implications in relation to participation, alternative media, and progressive politics.

The project aims to contribute to the existing theory in two ways. First, the poststructuralist perspective will allow to reimagine participation in media, providing much-needed empirical evidence to how participation as a set of struggles is enacted on media platforms that explicitly renounce hierarchies within them. The study seeks to stress the performative character of participation in that it engenders a variety of subject positions supported by certain discourses. Due to the inherently political character of subjectivity, the subject positions cannot be permanently fixed. Instead, actors of the participatory processes relentlessly shift between the variety of subject positions, rendering their identity (and the identity of the platforms) highly elusive. The multitude of voices further complicates the identification process, often leading to conflicts between intentions to maximise diversity and the actual decision-making practice. In this sense, the performative character of participation also relates to this fluctuation between maximalist and minimalist participatory forms.

Secondly, the study will offer a fresh perspective on how an alliance of social struggles can work in practice, suggesting new ways to think of progressive politics in areas beyond institutional politics, such as media. It intends to open a discussion on the potential of maximalist-participatory media in facilitating an equal expression of voices on the political Left, ensuring an expansion of the space for proliferation of discourses from a variety of subject positions, envisioned in projects within democratic theory such as radical and pluralist democracy.

The project restrains from a celebratory and deterministic attitude to participation and alternative media as a means of enhancing democracy. On the contrary, it seeks to put into question the scope of their emancipatory potential, stressing the unstable character of power relations.

## 6. Time Plan

Year	Month no. of the PhD programme	To do
2016 (March) - 2017	2-14	Theoretical framework
2017	15-22	Case study 1
2017-2018	23-32	Case study 2
2018-2019	33-42	Case study 3
2019-2020	43-47	Revisions

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# Influencing Factors on E-Participation on Local Level - Who Participates Why?

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*Abstract: If the Internet has paved the way for low-threshold participation in politics and social decision-making processes, then why do so few people participate and why is the circle of participants so selective? Regarding the participants, this PhD project intends to give a possible explanation for the potential and existing differences in motivation and intensity of use as well as differences in used forms and in essential success factors for e-participation. One main focus is on differences between social groups, especially between men and women. Reasoning determinants of the established participation theories like the one by Verba, Schlozman and Brady (1995) are supplemented with other influencing factors and applied to e-participation on the local level. Against this research background these determinants are empirically tested and analyzed on three different e-participation platforms on the local level in cities in North-Rhine Westphalia, Germany. First results show a widely diffuse picture of local e-participation and of differences in influencing factors like political interest or political efficacy between men and women, factors which are further considered in the ongoing PhD project. The results can be seminal for future online tools and can be used for a more gender equal political participation via the internet.*

*Keywords: e-participation, participants, citizen participation on local level, social inequality, gender.*

## 1. Introduction

E-participation as a possibility to increase the involvement of citizens in local political decision processes is more and more on the up. If the opportunities to participate expand beyond the traditional tried-and-tested forms, citizens, politicians and lawmakers will face new challenges, for example, how to involve citizens with different social backgrounds and how to involve both genders in the political decision-making-process.

Online-participation has been discussed vastly in scientific literature. Focusing on local citizen participation, studies often rely on analyzing single cases and projects (e.g., Kubicek et al. 2011) or they concentrate on one sort of e-participation, for example, participatory budgeting (Weber et al. 2015). Moreover, some studies make the implementation and use of e-participation from a more administrative point of few a subject of discussion (e.g., Royo et al. 2014). Several studies focus on the diffusion of e-participation. For example, the distribution of local e-participation processes in

North Rhine-Westphalia (NRW) as an administrative unit is exemplified by Gladitz et al. (2017). Nevertheless, there are still open questions to answer, especially with a more sociological focus on the participants. There are already some studies on influencing factors on e-participation (e.g., Jensen 2013; Oser 2013; Oser et al. 2014). Yet, it is still not sufficiently known and analyzed, if there are any gender differences in local online-participation, and if so, where these differences originate, for example, in different social structural factors that influence e-participation. This study would like to answer these open questions focusing on gender differences in motivation, used forms and success factors for e-participation.

First, a short conceptual overview on theoretical constructs will be given. One focus of the theoretical framework is on participation theories and on influencing factors which can potentially differ between genders. In chapter three, the research questions and hypotheses will be described. As a next step, the described research design will be implemented. In the next, chapter, the method and implementation is illustrated. Three follow-up surveys from three different cities in North-Rhine Westphalia were carried out, evaluated and analyzed. The results will be described in the final chapter, followed by a short discussion and a brief outlook.

## **2. Conceptual Framework and Research Goal**

In order to concretise the research objective, it is necessary to look more closely at the corresponding theories. Several different theories have political participation as a topic, but not all are relevant when it comes to showing the motivation, the necessary forms used and the success factors, especially with focus on gender differences and on participation via the internet.

### **2.1. Impact of Sociodemographic Factors on E-Participation**

Focusing on the theoretical framework, established and frequently-cited participation theories, such as those by Almond and Verba (1989); Verba, Scholzman and Brady (1995); Brady, Scholzman and Lehman (1995); Milbrath and Goel (1977) or that by van Deth (2014) provides some possible explanation as to why people participate politically, for example why they vote, sign a petition, go to demonstrations, or even why they do not.

In respect of e-participation, the question arises which factors of explaining these established theories of political participation can be applied to participation via the internet. The impact of sociodemographic factors like gender, age, education or income on offline-participation are essential to be tested for citizen participation via the internet as a new medium, background and possibility for political engagement (see also Jensen 2013).

### **2.2. Potential and Challenges for Political Participation via the Internet**

The internet allows low cost and easy participation for a broad spectrum of the population. It can present a valuable opportunity to allow political discussions before final decisions are made and may reduce gaps in political participation (Norris 2001). Nevertheless, new factors like effort or requirements, technical or computer skills replace the conventional theories and explanation patterns of political participation.

Whether the internet leads to more quantitative and qualitative participation, is now doubted in recent literature (Schlozman et al. 2010; Jensen 2013; Norris and Reddick 2013). Moreover, participation projects vary vastly in regard to topics, types and design in order to adjust local needs. Consequently, there are varying contextual and content-related factors influencing citizen participation online, what must be included in the considerations and analyzes. All in all, new special standards and skills must be considered when it comes to analyzing local e-participation.

### **2.3. Importance of Equal Participation for Democracies**

However, equal citizen participation, offline as well as online, can be regarded as essential for solid Western Democracies. According to normative theoretical approaches of democracy, unequal participation can lead to social inequality: If one is not politically active, one's interests find no expression in the political decision-making process. Furthermore, political decisions are not legitimate unless the demographic profile is sufficiently representative of all political views and genders, which also applies to e-participation.

No fundamental part of the population may be excluded from decision-making-processes (Schmidt 2000). Political commitment must be regarded as a wide-ranging issue. One idealistic aim of online-participation should be to create participation for the whole population. Citizen participation via the internet should therefore be equally accessible for everyone, no matter what social background or gender.

### **2.4. Focus on Local E-Participation in North-Rhine Westphalia**

Of all German federal states, North-Rhine Westphalia is the one with the highest population, with nearly 18 million inhabitants as well as being the highest industrialized state. Furthermore, online-participation can be seen as an ongoing and salient innovation process in the political debate of the state, because NRW has recently adopted an e-government law which explicitly names minimal standards for e-participation. As a result, the state is following an open government strategy. For this reason, this PhD project concentrates on citizen participation platforms in NRW. Additionally, the described research design was tested in the cities of NRW as a manageable administrative unit.

Furthermore, one of the reasons for focusing on local participation is the closeness to citizens and their daily life, which will be displayed in the participation processes on local level. On the local level, in contrast to national policy, very citizen-oriented decisions are made. For example, it is very close to the citizen when it comes to the fact that sports facilities should be opened in their own place of residence or children's day care centers should be closed.

## **3. Research Questions and Hypotheses**

Leading over from the theoretical background to the empirical part of the study, this PhD project wants to give adequate answers to the following research questions: What are the differences in the motivation between social groups, especially between men and women for e-participation in general and specifically in the use of different forms and types of e-participation, like for example of platforms like 'Participatory Budgeting', local 'Defect Management' or local 'Action Planning'?

Where do we actually find differences in political online participation between men and women? What are the key success factors for e-participation platforms, especially top-down organized ones on local levels like in various cities in North-Rhine Westphalia?

Moreover, a further step of this PhD project is to provide possible answers to the following question: To what extent does this engender, reproduce or remove social inequality, especially between the sexes? As of now, the literature has not answered this question.

Regarding e-participation in this context, hypotheses are based on theoretical models explaining conventional, traditional forms of political participation. To mention one, it is expected that education and income positively correlate with the motivation and intensity of online participation. Moreover, impacts like access to the internet, certain effort or requirements like internet or computer skills are expected to make more or less strong differences between conventional political engagement and e-participation. With a focus on motivation and influencing factors on e-participation on local levels, the different developed hypotheses are examined empirically.

#### **4. Method and Implementation**

These statements and research questions will be answered by empirical surveys. Three different e-participation platforms from different cities on local level in Germany, North-Rhine Westphalia, are under examination. Two completed rounds of 'Participatory Budgeting' also called common households, of the city of Bonn and the city of Troisdorf as well as a citizen participation project about urban planning in the city of Wuppertal are part of this accompanying research on e-participation.

As part of the PhD project, three standardized quantitative follow-up online-surveys were sent to former participants via a newsletter in Fall 2016. Among other things, participants were asked about the motivation for participating and their assessment of the platform. Furthermore, questions concerning sociodemographic factors were asked, as well as questions about the constructs of political efficacy, gender stereotypes and the 'Big Five Personality'. For the current analyses of the data, there are three dependent variables in this model. First, the motivation for e-participation, second, the intensity and the way of using e-participation platforms and processes, and as a third one, the influencing factors and the evaluation of it.

#### **5. First Results, Discussion and Brief Outlook**

First results of the empirical analyses of the follow-up surveys show a widely diffused picture of local e-participation, of the participants and the influencing factors. The most frequented type of use on the three different platforms was the evaluation of suggestions by other participants or by the municipal administration. Other forms like commenting on the suggestions already being written or making an own proposals for the debate, were used much less. In the way of use, measured like this, there were only slight differences between men and women. However, a closer

look at the potential influencing factors on e-participation reveals gender differences. To illustrate this, political efficacy can be seen as one example.

The analyses show, that women tend to be less political self-confident than men, which influences their behavior in politics and on e-participation platforms as well. As another influencing factor on e-participation, the political interest, expressed by the participants, varies between genders: According to the results, men tend to be more interested in politics than women. Focusing on the internet as the relatively new medium for participation, men claim that they use the internet more frequently and more intensively than women do.

As one of the next steps during the ongoing research process, further analyses will be carried out. In linear and multiple regressions, the three different dependent variables will be tested and further multivariate analysis methods will be applied as well.

As a result, possible influencing factors for the use of different forms of e-participation will be pointed out. This PhD project strives for providing a possible framework of explanation for the potential and existing gaps in e-participation among social groups. The reasons for potential and existing gaps between social groups, especially between men and women will be considered and moreover, possible cause-effect relationships will be concluded. From the results of this research, success factors for e-participation can be deduced.

According to the current state of research in scientific literature, it is not quite clear yet, whether or not the low-cost and easy way of participation online will make it possible to have a better level of participation in the next years. There are a lot of opportunities for using the internet for political purposes, but we do not know yet how this will develop in the future, for example in mandatory elections. Having a closer look at the results of this PhD project, it is conceivable that men and women prefer different ways of political participation, which should be considered in the future. New ways of political participation, leading to social and gender equality, can be established by taking the results into account: Results of this research could be seminal for future online tools to make political debates and decisions via the internet sufficiently representative of all political views and genders.

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# Constitutional Law and Electronic Democracy

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*Abstract: Existing legal studies on e-democracy have generally concentrated on practical cases of implementation of some of its instruments. The aim of this theoretical study is to outline a whole picture by proposing a concept of e-democracy within the framework of law and, in particular, constitutional law. It analyses the compatibility of e-democracy with well-established concepts of sovereignty and representation that form the basis of modern concepts of representative democracy. Furthermore, this research examines specific threats to fundamental rights on Internet that could potentially hinder the implementation of e-democracy.*

*Keywords: e-democracy, legal concept of e-democracy, sovereignty, representation, human rights online*

## 1. Aim of the PhD Thesis

The concept of electronic democracy (e-democracy) has become common place in the debates of political scientists, sociologists and political players. Legal science as stayed indifferent to this phenomenon for a long time. However, an increasing number of legal studies have appeared in this field, to which this thesis will seek to contribute.

It is necessary to address the phenomenon of e-democracy in legal terms because the inclusion of e-democracy procedures in political practice requires their recognition and regulation by law, especially in respect of their procedures and legal effects. However, in order to produce the best results, a broader inclusion of e-democracy should be implemented not by means of scattered ad hoc norms but after having elaborated a comprehensive legal concept of e-democracy that is sought to be implemented.

Therefore, the aim of this work is firstly to define a theoretical concept of e-democracy in legal terms. Owing to a lack of previous conceptual legal studies in the field, there is no common approach in how and to what extent law and, in particular, constitutional law can comprehend and incorporate this concept into its reference system. Secondly, this study aims to answer the question of how to conciliate a direct democracy approach promoted by e-democracy with the concept of representative democracy moulding modern democracies. Moreover, the work will consider some practical aspects of implementation of e-democracy. Thirdly, this study will look at which human rights framework is necessary to allow free and informed participation. Finally, this study explores which constitutional protection must be developed fully and without hindrance.

## 2. Method

The thesis is conceived as a theoretical study. Nevertheless, some best practices in the field of e-democracy are analysed by, when possible, interviewing the participants, organisers and local researchers. These practical experiences are used to evaluate the norms and procedures concerned as well as the legal impact of these practices.

## 3. Hypotheses

Firstly, this thesis seeks to analyse the concept of e-democracy from a legal perspective and to remove all the elements that cannot be approached by law in order to develop a legal notion of e-democracy. To this effect, the concepts of e-democracy proposed by the Council of Europe (2009) and OECD (2003) have been examined to identify the elements of a legal concept of e-democracy. Furthermore, it is supplemented with other elements, not considered by above-mentioned studies.

Inevitably, this analysis will raise questions concerning the place of e-democracy in representative government that shapes the majority of modern democracies. We will see that representative government (Manin, 1996; Carré de Malberg, 2003) cannot assimilate e-democracy without reconsidering its own basis. Secondly, we will propose the necessary adjustments to this established concept in order to allow the integration of e-democracy (Rosanvallon, 2008).

Subsequently, this thesis addresses the issue of how to implement e-democracy. Its success is subject to numerous factors, which are mostly beyond legal matters. Constitutional law can nevertheless consider some of them, namely human rights and particularly the framework necessary to assure the proper functioning of e-democracy. So thirdly, this thesis analyses the principal points of tension when exercising such rights as freedom of expression (CE/ECHR, 2015; UN, 2011; ECHR, 2015; CJEU, 2011), right to respect for private and family life (UN, 2015; CE/ECHR, 2015; Lessig, 2000, 2006; CJEU, 2014, 2015) in the digital environment. At the same time, we discuss whether implementing e-democracy requires a broader interpretation of civil and political rights (Rivero, 2003; ECHR, 1984, 1999).

Finally, we will consider a constitutional framework essential for implementing the proposed concept of e-democracy. In particular, we will reflect on a list of human rights that need to be formulated or reformulated in order to provide necessary safeguards for e-democracy development, as well as propose new governance principles and procedures appropriate to this concept.

## 4. PhD Contribution to the Body of Knowledge

The thesis will contribute to legal theories of democracy by presenting an endeavour to outline the contours and the contents of the concept of e-democracy. In addition, this study will systematize menaces to fundamental rights and liberties on the Internet that could hinder the implementation of e-democracy and provide some insights on how to remedy them.

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# Crowdsourcing and Digitalization of Electoral Integrity: A Comparative Analysis of Kenya, Tanzania and Uganda

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*Abstract: The recent, widespread use and access to digital technologies for citizen participation in elections offers amplified opportunity in promoting electoral integrity. Elections with integrity is one of the cornerstones of modern liberal democracies, and digital crowdsourcing is a growing phenomenon for monitoring and reporting electoral incidents. While digital participatory methods, especially crowdsourcing, are becoming more common in monitoring elections, it remains unclear, about modes and methods employed, and its role on sensing electoral events. This exploratory study, using most similar systems design, semi-structured interviews and document analysis, analyses crowdsourced process and citizen-generated voices in the Ugandan 2011, Kenyan 2013, and Tanzanian 2015 general elections. The concepts of invented and invited spaces, blended monitoring and the electoral cycle serve as the analytical framework of this research. The analysis shows “most similar outcome” and “most different outcome”, challenges faced and the potential role of digital crowdsourcing for monitoring electoral integrity.*

*Keywords: crowdsourcing, digitalization, election monitoring, citizen participation, electoral integrity*

## 1. Introduction

It has been observed, that “democracies have emerged in increasing numbers since the beginning of the 19th century” (Berg-Schlosser, 2007, p.17), in which the waves of democratization, especially the “third wave” (Huntington, 1991), resulted in electoral democracies in the form of “universal-suffrage elections”, in order to create legitimacy for a political system and individual incumbents, as well as peaceful change in power to enhance political stability (Kersting, 2007). Monitoring these contests of electoral democracies has become a norm for domestic, regional and international monitoring groups to evaluate the quality of electoral processes (Hyde, 2011a, 2011b), and more recently “the crowd”, observers and reporters, have become digitally enabled. “Norms” in monitoring contests are referred to as “standards about the appropriate conduct of elections” (Norris, 2013a, p.577).

The question that arises is how crowd initiators can engage ordinary citizens in promoting the integrity of elections by ensuring participation, transparency and accountability in the electoral

process. It has been argued, that in the present age citizens are no longer satisfied with only voting and leaving the voting stations, or participating on the “invited space”, rather citizens want to have a more active role, especially in the “invented space” (Kersting, 2012, 2013, 2014, 2015, 2016). Now, ordinary citizens are invited by the civil society to participate in the invented space to monitor, generate and communicate incidences on the conduct of electoral politics using digital communication channels (Diamond, 2010; Kersting, 2012, 2013; Bader, 2013; Bailard and Livingston, 2014; Hellström, 2015). As a result, digitalization of elections through invented space stimulates the emergence of citizen-oriented monitoring and reporting of events across the “electoral cycle” (Kersting, 2012, 2013, 2014, 2016; Norris 2014). However, it is reasonable to argue that nowadays, “democratic innovation seems to be generated mostly in the global South, in the young democracies” (Kersting, 2012). The case of *Uchaguzi* (‘election’) crowdsourcing platform, customized version of *Ushahidi* (‘witness’) software developed in Kenya, is an example of digitally empowered citizens who participate in the democratic process. At this juncture, the *Uchaguzi* platform promotes digital crowdsourced collective action to monitor the conduct of elections, in most of the East African countries, particularly in Kenya, Tanzania and Uganda.

On the one hand, concerns about fraudulent acts have been raised in most of the electoral democracies and yet, the problem of elections with integrity is under-explored (Global Commission, 2012; Vickery and Shein, 2012; Norris, 2013b, 2014, 2015). That said, Kenya, Tanzania and Uganda like any other developing or transitional democracies face similar problems, and other challenges related to the conduct of elections. On the other hand, diffusion of *digital tools* for participatory democracy, such as the *Uchaguzi* platform, and *methods* such as crowdsourcing, and – given existence of fraudulent elections- calls for measures such as undertaking research as an attempt to analyse the magnitude of the problems and propose corrective interventions. This is increasingly important because growing digital technologies, volunteered geographic information, and digital “crowd-sourcing methods have the potential to improve the quality of election monitoring by complementing existing approaches” (Fung, 2011, p. 193), and can act as a real-time powerful tool of communicating the conduct of elections across the cycle. Against this background, “one needs to look at both process and outcome to gauge the full picture of election quality” (Elklit and Reynolds, 2005, p. 149). Advocates of digitally enabled citizens want to know, if citizen-generated voices through digital tools had an effect in terms of monitoring and reporting positive and negative information (Fung, 2011; Meier, 2011a, 2011b; Bader, 2013; Bailard and Livingston, 2014; Grömping, 2014), just to mention a few of them. One would also hope that enabled citizens could support promotion of electoral integrity, so that “citizen observation groups can also play a long-term confidence-building role throughout the electoral cycle, a function beyond the remit of international observers” (Tuccinardi and Balme, 2013, p.97). Therefore, this study extends the focus beyond expert surveys index, proxy indices, public polls, and analysis of established observers reports (Lehoucq, 2003; Birch and Carlson, 2012; Ichino and Schündeln, 2012; Grömping, 2014; Norris, 2015, Van Ham and Lindberg, 2015), and uses comparative perspective to classify, count and analyse largely unexploited sources of big election data, generated by citizens observers, through digital tools in Uganda 2011, Kenya 2013, and Tanzania 2015 general elections.

## 2. Background and Theoretical Framework

### 2.1. The Political Context in Kenya, Tanzania and Uganda

Since 1990s Kenya, Tanzania and Uganda have undergone a major transition with the re-introduction of multiparty politics, but have retained the electoral system of plurality first-past-the-post of the British colonial administration (Berg-Schlosser, 2008), and they had multi-party politics with universal franchise (Berg-Schlosser and Siegler, 1990). The three countries experienced a one-party state after independence, with an authoritarian state, military government and no-party democracy in Uganda, as well as ethno-linguistic, religious and regional cleavages in Kenya and Uganda (Berg-Schlosser, 1984a; Bratton and Van de Walle, 1997), while in Tanzania, single-party structures embraced a variety of ethnic and other interests (Berg-Schlosser, 1984b). Now the installation of liberal democracy is characterized by periodic elections; Kenya and Tanzania accounts for more than two decades, and one decade in Uganda. The 2013 Kenyan elections were the fifth “competitive elections”, whereas in 2015 Tanzania also saw its fifth, while in Uganda the 2016 election was the third such election.

It is argued that for countries which follow democratic principles, “elections are celebration of democracy and considered the backbone of democratic processes that should ideally be trusted by everyone and not just a selected few, and this is important, in particular when it comes to using ICTs in elections” (IDEA, 2014, p.2). The case of post-election violence in Kenya 2007/2008 is considered as an example of lack of confidence and trust of the electoral results due to “electoral fraud and executive abuse” (Diamond, 2015, p.145). As a result, *Ushahidi* software in 2008 was developed to gather information and act as a violence prevention tool by monitoring and reporting hate speech and mapping incidents of violence (Meier 2011b; Omenya, 2013). Now, the Uchaguzi platform, a customized version of Ushahidi, is a dedicated platform for monitoring and reporting the conduct of electoral processes. Thus, the Uchaguzi platform, is a “liberation technology” that enables ordinary citizens to “expose wrongdoing, monitor elections, and deepen participation” in electoral politics (Diamond, 2010, p.70), that can prevent problems of fraud and malpractices in elections.

### 2.2. Crowdsourcing and Electoral Integrity

There have been multiple definitions of the term crowdsourcing. The term coined by Howe (2006), describes the term as the process by which many (undefined) can be involved (through open-call) to accomplish tasks that were once performed by few individuals. Sharma (2010, p.1) described crowdsourcing as “the act of outsourcing a task to the crowd, is one of the most important trends revolutionizing the internet and the mobile market at the present”. In this case, Web 2.0 is creating environment for engaging “many” rather than the “talented few” (Surowiecki, 2004), and “collective wisdom of crowds” in promoting and protecting integrity of elections (Norris, 2015). Estellés-Arolas and González-Ladrón-de-Fuevara (2012) provided detailed definition of crowdsourcing, and this study is about the analysis of “the crowd, the task at hand, the crowdsourcer or initiator of the crowdsourcing activity, what is obtained by them following the crowdsourcing process, the type of process, the call to participate, and the medium” used to generate citizen

voices to promote integrity of elections (Estellés-Arolas and González-Ladrón-de-Fuevara, 2012, p.198).

Digital crowdsourcing monitoring of elections entails three types of crowdmonitors from bounded and unbounded to passive crowdsourcing. *Bounded crowdsourcing* term coined by Meier (2009) comprises few crowdmonitors, who are also called “trusted” observers (Meier, 2011a), who increases the likelihood of participation and reliability of their reports (Bardall, 2010; Grömping, 2013). In *Unbounded crowdsourcing*, the crowd are engaged through “open-call” in the invented space to generate observation data in the dedicated crowdsourcing platform, but their incoming reports are processed and verified by crowd data verifiers. *Passive crowdsourcing* generates election information in the undedicated crowdsourcing platform such as social networking sites, but digital volunteers through data mining capture and communicate generated information (Bott et al., 2014). Digital crowdsourcing project of elections monitoring, “*hybrid program* could be developed that allows both *bounded* and *unbounded crowdsourcing* to take place with a single project, thereby realizing the benefits of both approaches” (Bardall, 2010, p.5; Hellström, 2015).

### 2.3. Digital Communication Channels

The rapid spread of the internet has been presented as a means to ensure greater participation in political electoral politics, and created new forms of political communication (Kersting and Baldersheim, 2004). Digitalization underlined the need for citizen participation in elections, and ICT is seen as a powerful tool of open communication channels between key democratic institutions and citizens in modern electoral democracies (Kersting and Baldersheim, 2004; Kersting, 2009). The move towards crowdsourcing allows wider use of digital tools that enable citizens with mobile phones or internet access to expose any kind of wrongdoing anywhere and anytime during the course of electoral processes. Due to an increased adoption of technology in developing democracies, crowdsourcing can be seen as one of the complementing factor to the problems of electoral integrity, non-free and unfair conduct of elections, exclusion of citizens in politics and other electoral malpractices that liberal democracy is facing (Fung, 2011; Bott et al. 2014). It can be argued that the crowdsourcing method, challenges the notion of digital divide, especially in East Africa which is considered deficient with regard to digital communication technologies (Ekine, 2010; Livingston, 2011). Digital tools entail the use of mobile phones, smartphone, emails, social networks, and web form. It is worth noting that the penetration rates of mobile phone per 100 inhabitants by 2015 in Kenya (80,5), Tanzania (75,8) and Uganda (53,5) (ITU, 2016), were a promising tool for participation, and exchange of election observation information.

In sum, the new forms of invented space (advocates bottom-up approach) and invited space (top-down) offered by government (Kersting, 2013) deliver a blended program that engaged both bounded and unbounded crowdmonitors (Meier, 2009, 2011a; Bardall, 2010) and stages of electoral cycle (Norris, 2014), which in turn are used to analyse crowdsourced systems in comparative perspective. It is argued that “invited space” platforms offered by government “fail to attract the attention of crowds because they seem too static, are too centrally controlled, or do not offer direct benefits” (Bott et al., 2014, p.13). In this context, digital “invented space” formed and controlled by citizens and civil society provides amplified opportunity to the crowd as potential contributors, to share their information on the conduct of electoral process.

### 3. Objective and Research Questions

The aim of this study is to contribute to the understanding of digital crowdsourcing collective action in promoting and protecting the integrity, and adherence to the principles of democratic conduct of elections.

This study attempts to investigate the following research questions:

- 1) How were crowdsourced method used to engage “the crowd” in observing, generating and reporting election observation data?
- 2) Do crowdsourced monitoring detect positive and negative experiences of electoral contests? And if so, what are the evidences?
- 3) In what ways do digital crowdsourcing and traditional monitoring complement each other in promoting elections with integrity?
- 4) What challenges, if any, were encountered in digital crowdmonitoring of elections?

### 4. The Cases

This study sets out to use “case-oriented research” (Ragin, 2005) or “small-N comparative study” (Berg-Schlosser, 2012), to analyse Uchaguzi crowdsourced method in Kenya, Tanzania and Uganda. The engagement of citizens as election watchdogs through the Uchaguzi platform were championed by civil society, in Kenya by the Constitution and Reform Education Consortium (CRECO), Tanzania Civil Society Consortium for Election Observation (TACCEO) and Citizen Election Watch with Information Technology (CEW-IT) in Uganda. Together with other local and international partners, the countries deployed the Uchaguzi crowdsourcing platform. The Uchaguzi platform was launched as regional effort to bring transparency and citizen participation to elections in East Africa (Omenya, 2013). In this case, Uchaguzi was deployed in the three countries to monitor and report, and visually mapped approved and verified reports on the conduct of electoral processes. The comparative analysis of the three countries is because of the programme called “Election Watch for East Africa” initiated under the brand name of *Uchaguzi* to promote citizen participation in election observation using digital technologies (Omenya, 2013; Omenya and Crandall, 2013), and the three countries somewhat share social, political and cultural values.

### 5. Methodological Procedures

#### 5.1. Research Design

In relation to cases, this study employs “most similar system” research designs that focus on finding *dissimilarity* among *similar* systems (Przeworski and Teune, 1970; De Meur and Berg-Schlosser, 1994; Berg-Schlosser and Quenter, 1996; Berg-Schlosser, 2012). In most similar systems design two or more cases are relevant for comparison to the extent they share some elements in common (Berg-Schlosser, 2012). This study compares three cases, for “most similar outcome” and “most different outcome” in crowdsourcing method promoting electoral integrity.

## 5.2. Collecting Primary and Secondary Data

For this research to provide a basic familiarity with crowdsourcing, this is an exploratory study that seeks to gain insights into crowdsourcing *methods, tools* and *citizen-generated voices*. Primary data were collected through qualitative semi-structured interviews, especially for this study where there is limited knowledge about the phenomenon under investigation (Neuman, 2007), and secondary data were collected through analysis of relevant document. The analysis of Uchaguzi datasets focus on the categories of data, days, structure, crowdmonitors, verified and unverified, citizen-generated voices in detecting election fraud, and medium that is used to generate reports.

## 6. Crowdsourced Monitoring Information

This section, partly presents some of the findings of my doctoral dissertation. Methodological procedures and analytical framework used for analysis generated crowdsourced data on “most similar outcome” such as medium, actors in the invented space, initiator, call to participate, blended monitoring, how Uchaguzi operated and managed, quality control measures, and categories of election data. And, “most different outcome” in election fraud (see Table 1), verification process, days platform operated, technological penetration, and crowd data on electoral cycle. The use of blended monitoring, in Kenya, all categories of data, bounded monitors generated (58,7%) and unbounded (41,3%) of the reports, of which approved and verified reports (71,8%) and unverified (28,2%). In Tanzania, bounded (7%) and unbounded (93%), and verified data (70,1%), unverified (29,9%), while in Uganda, bounded (41,5%) and unbounded (58,5%), and verified (48,5%) and unverified (51,5%) reports on the Uchaguzi datasets. The exceptional case with this data is the percentage of the reports generated by bounded and unbounded monitors in Tanzania, compare to Kenya, and Uganda. The dominant medium for generating crowd data was mobile short message services in Kenya (96,4%), Tanzania (96,1%) and Uganda (98,4%).

The analysis shows that digital “invented space” can generate big data on the positive and negative conduct of elections. Especially, Table 1 is the sum of verified crowd data generated by bounded and unbounded monitors, in detecting election fraud. The categories of observation were refined to generate specific election fraud data. This study analyses approved and verified data. In sum, findings imply that digital crowdsourcing is a promising method to ensure the integrity of elections, and there are opportunities for stakeholders to plan early in engaging “the crowd” as sensors in the observation of elections. The case of crowdsourcing detecting election fraud, illustrates that resource poor countries can engage citizens in promoting electoral integrity using mobile ICT of short message services (Ekine, 2010). Despite the challenges faced, namely late deployment, building partnerships, funding, quality of incoming reports, and verification for data integrity, response and feedback, as well as interference with crowdsourced technologies; there are potentials of crowdsourcing, *inter alia*, back and forth communication, information dissemination, mobile technology, keep stakeholders on check, and monitoring election cycle. In general, creation of synergy between crowdsourcing and traditional monitoring, and other stakeholders is highlighted in observation, evaluating quality of election data, verification and dissemination.

Table 1: Crowdsourced Detection of Election Fraud

Phase	Fraud category	Kenya 2013	Tanzania 2015	Uganda 2011
Pre-election	• Manipulation of vote registry	89.3%	75.6%	69.1%
Campaign	• Vote buying	82.5%	82.6%	69.8%
	• Voters threatened with violence	11.7%	61.4%	50.2%
	• Voter intimidation	88.9%	56.8%	46.4%
Election-day	• Ballot box stuffing	79.3%	75.5%	63.9%
	• Secrecy of the vote	92.5%	50.9%	66.7%
	• Multiple voting	90.3%	66.7%	-
	• Voting fraud	59.7%	71.7%	66.7%
Post-election	• Miscounting of votes	80.5%	84.2%	46.7
	• Intimidation of counting officials and observers	80.4%	77.8%	-
	• Election triggered violence after voting	31.6%	94.4%	44.2%
	• No. of reports	1125	801	753

Source: Uchaguzi datasets in Uganda 2011, Kenya 2013 and Tanzania 2015 general elections

## 7. Conclusion

Citizens were invited to participate in electoral politics, through digital invented spaces, by civil society organizations. Therefore, citizens are playing a crucial role in the transition process, and more so, in the consolidation of democracies. The diffusion of technology in East Africa, particularly Uchaguzi open-source and cell phones, paves the way for crowdsourcing monitoring of elections. The rise of these new forms of “invented space” for citizen participation, and initiative of civil society use of digital tools, enabled “the crowd” as sensors in the collaborative production of big election data. Blended approach of bounded and unbounded monitors was used in the three countries to generate and verify information. Comparative analyses show “most similar outcome” and “most different outcome” in the crowdsourcing method. Digital crowdsourcing using mobile phones makes it easier to capture and share election fraud, malpractices and positive incidents. Evidence suggests that the use of new digital participatory *tools* and *methods* in monitoring, can create an agenda for reform, partnerships among election watchdogs, centralization of observation data in a digital platform, and sharing of best practices in near-real time, in order to complement other methods. Moving forward, explorative work set an agenda for research, especially how crowdsourced big election data interrelate with established monitoring data, and what motivates the crowd, voluntarily to participate in sharing observation data in a dedicated digital platform.

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# Validation Methods of Fuzzy Cognitive Maps for Political Simulations

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*Abstract: This contribution aims to investigate which methods are suitable to validate simulations of policy decisions using Fuzzy Cognitive Maps. In general, simulation models represent complex relationships in an easy way. Fuzzy Cognitive Maps are specific simulation models, which are increasingly used in to simulate relationships and scenarios of decision-making in different research fields. To validate the modelling processes of Fuzzy Cognitive Maps the need of standards and theoretical foundations was highlighted by Grey et al. (2014). The research on this validation processes and methods will focus on the review of possible methods for validation of political simulations and their transferability on Fuzzy Cognitive Maps. A framework for validation requirements must be designed to be applied on already completed studies. Such a framework will allow a critical view on the quality and significance of political simulations using Fuzzy Cognitive Maps.*

*Keywords: Fuzzy Cognitive Maps, validation, methods*

## 1. Introduction and Aim

The aim of the investigation is to analyse which methods can be used for the validation of simulation models of political simulations using Fuzzy Cognitive Maps. A short overview about the use of Fuzzy Cognitive Maps is given, with a focus on open methodological research questions as described in the literature. The main research question and the applied methodology are described to elaborate the steps to derive validation requirements for a validation framework of political simulations using Fuzzy Cognitive Maps.

## 2. State of the Art of Fuzzy Cognitive Maps

For Scheer (2013), simulation models allow simple framing of complex processes and systems in a computerized environment. This perspective can transfer real life situations into simulation models, which in the case of Fuzzy Cognitive Maps can be viewed as knowledge and communication tool for decision-making. Buchholz (2016) stresses the need to validate conclusions drawn from simulation models that must lead to similar results as their application in a reference system. On the one hand, this implies to examine the precondition if the modelling and experimentation are providing the required results, and on the other hand it must be analysed

which methods can be used to assess differences in the behaviour between the model and its reference system.

Fuzzy Cognitive Maps were introduced by Kosko in 1986. Kosko's original concept of Fuzzy Cognitive Maps is described by Carvalho (2013) and shows that it was already used for modelling and analysing causality in qualitative systems – particularly social, economic or political systems. Nowadays, they are still used by social scientists or economists to model significant and real-world dynamic social systems.

*“Such systems are composed of a number of dynamic qualitative concepts interrelated in complex ways, usually including feedback links that propagate influences in complicated chains, that make reaching conclusions by simple structural analysis an utterly impossible task.” (Carvalho 2013: 6)*

For Carvalho (2013), by then the potential applications of a tool that can be used by decision makers, to model significant, real-world dynamic social systems. The same is true today as social scientists, politicians or economists seek to be able to foresee outcomes of decisions.

According to Papageorgiou (2011), Fuzzy Cognitive Maps were proved as powerful support tools to simulate alternative decision scenarios in diverse scientific areas: social and political sciences, engineering and technology management, robotics, medicine, education, prediction of different environment to name a few. She also refers to many research studies related to methodologies for constructing and enhancing Fuzzy Cognitive Maps, as well as innovative applications. Papageorgiou examined recent applications that focused on improving the performance of Fuzzy Cognitive Maps, which relates to new methodologies of their dynamic construction: learning procedures and fuzzy inference structures.

Fuzzy Cognitive Maps have their origin in the concept of “cognitive mapping”. This means that they aim to represent visually the knowledge of a given domain, as well as the relationships and interactions within this domain. As mentioned above, applications range from management of decision-making to participatory planning in different domains. Their initial use was qualitative in the mean to gain understanding of how knowledge is constructed and how community understanding can be characterized. Fuzzy Cognitive Maps can also be applied quantitatively while using collected data to map and characterize a system (Gray et al., 2014). For Grey et al. (2014: 34)

*“it is necessary to understand the nature and appropriateness of FCM aggregation in order to ensure that interpretations are theoretically sound. Therefore, in an effort to further expand the appropriation of FCM to a new generation of social science researchers, it is of critical importance to: (1) understand what is meant by “shared” knowledge of individuals and (2) establish data collection protocols based on common FCM research goal typologies.”*

As the application of Fuzzy Cognitive Maps is increasing, Grey et al. (2014) also refer to continued research on best practice standards. They summarized their lessons learned due to following main research gaps: appropriate theoretical foundations, alignment of research objectives with appropriate theories and data collection models, justification of used data and aggregation techniques, evaluation of existing methods, which includes the development of new

methods for aggregation of information and data, sufficiency of sample sizes, as well as knowledge heterogeneity and expert credibility.

Carvalho (2013) points out, that even if an enormous amount of research was applied using Fuzzy Cognitive Maps and their variants, they have not always been the most adequate tool to model and simulate the dynamics of Cognitive Maps. He argues in his paper that “FCMs are quantitative (not qualitative) causal maps (a subset of cognitive maps) that only allow modeling of basic symmetric and monotonic causal relations” (Carvalho 2013: 7). He further takes a critical view on following issues for the application of Fuzzy Cognitive Maps:

*“FCM scientific development is increasingly moving FCM away from social sciences; Some FCM works are starting to ignore some of the most basic FCM assumptions; Unfortunately a large amount of FCM works seems to be implemented without considering FCM inherent limitations and reach conclusions ignoring the semantics of FCM” (Carvalho 2013: 7).*

### 3. Research Question and Methodology

Based on the assumption of the need to create a validation framework for the application of Fuzzy Cognitive Maps, the following main research questions is stressed:

RQ: “Which methods are suitable to validate the simulations of policy decisions using Fuzzy Cognitive Maps?”

First starting from the research question described above, the definitions required to determine the research topic will be worked out. In what way will the use of the term “political simulation” be used? Which key words must be used to successfully conduct the systematic literature reviews? Within what timeframe will the systematic literature reviews be carried out to justify a large variety of methods which can be used to validate political simulations in a structured manner?

Results from the systematic literature reviews investigating validation methods will be derived and summarized in a validation framework to determine how these validation criteria could be applied on existing studies using Fuzzy Cognitive Maps for political simulations. This validation framework will be applied on chosen studies with focus on qualitative and quantitative data sources. The evaluation of the results will be concluded in a proposal of a future research design to validate political simulations using Fuzzy Cognitive Maps.

The following research steps are required to investigate the research question:

- 1) Systematic literature review on proven methods for validating political simulations in general.
- 2) Systematic literature review on proven methods for validating political simulations using Fuzzy Cognitive Maps.
- 3) Derivation of a validation framework consisting of validation criteria resulting from 1) and 2) with emphasis on qualitative and quantitative data sources.
- 4) Selection of studies in the field of political simulations using Fuzzy Cognitive Maps to apply the validation framework.
- 5) Application of the validation framework.

- 6) Evaluation and summarization of the results.
- 7) Proposal of a future research design to validate and evaluate political simulations using Fuzzy Cognitive Maps.

## 4. Future Outlook

In year 2017 the definition of the terms, as well as the systematic literature reviews on proven methods for validating political simulations will be implemented. The framework consisting of validation criteria derived from the systematic literature reviews is planned to be finished by the end of the year. This framework will focus on validation of qualitative and quantitative data sources used for political simulations using Fuzzy Cognitive Maps.

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# Lurkers' Contribution to E-Participation

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*Abstract: This PhD looks at the online behaviour known as lurking, the value of lurking and how it contributes to e-participation. Lurking is often defined using negative terms, but the arguments proposed in this paper use Takahashi's definition of "active lurkers" to show how online participation that is not visible is nonetheless still active, valuable and has an impact on online environments and e-participation by engaging in activities such as listening, acting as an audience, using, propagating and sharing knowledge. This work contributes to a more differentiated understanding of online participants, particularly in the context of e-public (online public participation).*

*Keywords: lurkers, definitions, value, e-participation, social networks*

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## 1. Introduction

Online participation is popular, and "never have so many communicated so much, on so many screens, through so many channels, absorbing so many hours of irreplaceable human attention". Businesses and public institutions alike want amateur creators and citizens to participate online (Tapscott & Williams 2006) as the internet seems to overcome a number of difficulties found in offline situations for a number of reasons. First, the internet is easy to use and offers a variety of tools and mechanisms that support online social interaction, so individuals have learned to connect with others at varying levels of involvement (Skitka & Sargis, 2005), enabling participation and collaboration, to fulfill different needs, such as for work, education, leisure, shopping, disseminating and sharing knowledge, and socializing. A second reason is that the internet makes finding others who are similar or share similar interests easy, as there are almost infinite choices (Anderson 2006, 2009), and third, the internet's anonymity and sense of non-identifiability helps and encourages people to openly express what they really think and feel, so users are more likely to contribute to a discussion (Spears & Lea 1994; Spears, et al. 2002; Joinson 2003; McKenna et al. 2005).

There has been a massive growth in online tools and user-driven online applications, and users have responded in a wide range of ways, sometimes in unintentional or unconventional ways. For many, the online environment is an accepted part of or a way of life, and however high the visibility, popularity and enthusiasm for online projects and other visions, online participation has never been evenly distributed among users (Joyce & Kraut, 2006). Some argue that low levels of participation characterise the online environment, even in the successful communities. According to (Nielsen, 2006, 2009) user participation follows a “90-9-1 rule”, where 90% of users are lurkers (i.e., read or observe, but do not contribute), 9% of contribute from time to time, but other priorities dominate their time, and 1% of users participates a lot and account for most contributions (it almost seems as if “they don't have lives” because they often post just minutes after whatever event they're commenting on occurs). The 90-9-1 rule is often found in different contexts, e.g., the open-source communities (Lakhani & Hippel, 2003), in Wikipedia (Tapscott & Williams 2006), online social networks such as Twitter (Heil & Piskorski 2009) or general online participation (Preece & Shneiderman 2009).

This begs the question: What is lurking?

## 2. Aims of the PhD

This PhD aims to contribute to the body of knowledge on online participation, addressing in particular the online behaviour known as lurking, and considering its value in online participation and its impact on e-participation (online public participation). The success and value of online participation platforms, initiatives and networks is often based on the number and analysis of the visible comments, even though these contributions may have been made by a small number of users only. Similarly, evaluations of e-participation often focus on visible participation only, thus often leading to the conclusion that they are not successful (as expected) and that they do not lead to resolutions or conclusions (Schuler 2010), innovation in public administrations or legitimate decisions.

Specifically, the PhD aims to answer the following research questions:

- How is lurking defined?
- Which definitions of lurking should be used in research?
- How does online lurking impact e-participation?

## 3. Methods

The research used to answer the PhD's research questions represents extensive theoretical and analytical work such as literature reviews, analyses of theories and models, and case study work. The PhD begins with a review of definitions of online lurking in research to answer the first question and thus draw some general conclusions about how lurking is defined in online research. The categorisation of the definitions, together with its conceptual analysis allows to answer the second question “which definitions of lurking should be used in research?” and the third research question “How can online lurking contribute value?” The fourth question adopts one of the

definitions of online lurking from the review (Takahashi), and together with the data from an e-participation case study answer the fourth question, “How does lurking impact e-participation”?

## 4. Definitions of Lurking

Lurking is probably the most popular online behaviour found in online environments, made possible by the online technologies and applications. The first aim of this PhD is to define lurking. The review in this PhD is an important contribution as it shows that lurking is defined in many ways.

### 4.1. Negative Definitions

English language dictionaries describe lurking as:

*“to lie in wait (as in an ambush), to move furtively, to sneak, to go unnoticed or to exist unobserved or unsuspected. Synonyms include hiding, sneaking, hide, sneak, crouch, prowl, snoop, lie in wait, slink, skulk, concealment, moving stealthily or furtively” (Collins English Thesaurus, 2012, no page ref.).*

This definition describes the common understanding of lurking in the real, offline world, and is clearly a negative behaviour. It is this definition that has led to online lurking to be defined as a negative behaviour in the online world too, lurking is seen as an inappropriate behaviour, representing the detrimental use of technology (Butler, Sproull, Kiesler and Kraut 2002). Other negative definitions see them as free-riders or free-loaders who take without reciprocating (Smith & Kollock 1999), who want something for nothing (Nonnecke & Preece 2000), an eavesdropper (Webopedia n.d.) or a cyber-trickster “lurking the Web and luring the gullible” (OECD, 2003), p. 145). Lurkers assume false identities (Rafaeli & Raban, 2005), are social loafers, that is, users who contribute less or exert less effort to an online collective task (Ling et al., 2005), their behaviours are antisocial and unacceptable by showing a lack of commitment to the community, eroding the online community, threatening the existence of the online group and its activities (Cher Ping & Seng Chee 2001)

### 4.2. Quantitative Definitions

Quantitative studies of online communication are presented in terms of how much participants contribute online. Lurking is associated with non-participation and non-posting behaviour, although definitions vary regarding the amount of online contributions. Studies vary, defining lurkers as who “never” post (Nonnecke, Andrews and Preece, 2006; Preece, Nonnecke and Andrews, 2004), who have not posted in recent months (Nonnecke and Preece, 2000), who post infrequently (Ridings, Gefen and Arinze, 2006), who have not made a contribution in the first 12 months after subscribing to a list (Stegbauer and Rausch, 2002), provide 1 post per week (Hara, Bonk, & Angeli, 2000), or who contribute less than the average number of postings (Taylor, 2002). (In comparison, active users may be defined as those who publish a comment, statements, text, pictures more than once a month and communicate or post more than 5 times per month, for example, see Haas et al. 2007).

### 4.3. Legitimate Participation

Some argue that characterising readers as free-riders is inappropriate, as it represents a legitimate form of participation and contribution: “if everyone chose to free-ride, Wikipedia would not exist” (Antin and Cheshire, 2010, p. 127). As lurkers represent the largest group, ignoring, dismissing, or misunderstanding lurkers distorts how we understand online participation. Lurking in positive terms shows definitions that prove them to be valid participants, capable of supporting others and contributing to knowledge and innovation, and that lurking, like other online behaviours, involves a complex set of behaviours, rationales and activities in an online environment that is rich with possibilities and options (Anderson, 2009).

### 4.4. Active Lurkers

Willett (1998) differentiates between “active lurkers” and “passive lurkers”, where “active lurkers” make direct contact with posters in an interactive environment or propagate information or knowledge gained from it, whilst “passive lurkers” read for their own use. On this basis, Takahashi and Yamasaki (2005), show that lurkers have a strong and wide influence outside the online community. They suggest that lurkers not only use information or knowledge for their own or work-related activities, but are active as they propagate information or knowledge gained from one community to others outside it. Lurkers are viewed as active members or participants, involved, engaged and participative as propagators (propagating information or knowledge gained from an online community to others outside it) or as practitioners (using the information gained for their own personal or organizational activities), and even active when their thoughts can be changed and influenced by the online environment (active lurker candidates).

## 5. Which Definition for Research?

Researchers use the results to develop models of online behaviour in online contexts and to help design improvements based on their purpose such as sharing and aggregating information or maintaining social relationships (Hogg & Szabo, 2011; Ren, Kraut, & Kiesler, 2007). The second research question, “Which definitions of lurking should be used in research?” considers how the choice of definitions effects how research is conducted and how the results implemented in the development the internet and online environments. The literature review shows that lurking can be grouped into lurking as a negative behaviour, as legitimate participation and as an active online behaviour. Accordingly, definitions that see lurking as detrimental and encouraging participation imply changing participants’ online behaviours (“de-lurking strategies”). Those definitions that see lurking as legitimate, positive participation suggest that lurking (i.e. learning, reading, listening) is a behaviour to be accepted as such, whilst research that sees lurking as an active and valuable online behaviour suggest encouraging even more lurking.

## 6. Considering Lurkers’ Activities

Online users lurk in information or collaborative environments, and some research considers this to be an active behaviour that contributes value to the online context in different ways, and may

even be an activity that needs to be encouraged. This section answers the third research question: "How can online lurking contribute value?" This question considers those definitions that focus on lurking as a valuable behaviour or as a range of active online behaviours, thus contributing to a more differentiated understanding of online participation and the impact of lurking.

Some scholars suggest that lurkers not only contribute less, but that they also receive fewer benefits from passive participation than active participants (Amichai-Hamburger, 2005; Taylor, 2002). Yet lurkers derive value from their activities, are satisfied with their experiences of the online community and the benefits they gain, and would not engage in lurking if they did not (Merry and Anoush 2012). The literature review shows that lurkers derive value and benefits in many ways. Katz (1998, no page ref.) notes that lurkers "cruise from site to site in peaceful anonymity, picking up perspective, information and insight", so gain perspective, information and insight, and use this information for their own personal or organizational activities. Other benefits are interest, enjoyment or learning as an important aspect in the use of social networks, and lurkers gain personal and social benefits by visiting other members' profiles and reading others' personal information. Lurkers scan for information that is important, inspiring, useful; they follow up on ideas they find, draw attention to broken links, seek advice and opinions, communicate with others using alternative channels such as email and skype (Cranefield, Yoong and Huff 2011). By acting as a community advocate, sharing content and influencing others, using online and offline channels and networks, having access to critical information can help save time and take better decisions, learning and saving information for their job or personal life (Ogneva, 2011).

Wallace (2011) states that even without contributing they provide value by encouraging their peers to join, understanding and discussing the issues, pushing community administrators to deliver content that may increase engagement and participation. By using Takahashi and Yamasaki's (2005) definition, which describes them as active participants in networks and focuses on the ways their online behaviours contribute value, rather than forcing visible participation or attracting those who aren't interested anyway (the "ignorers"), their behaviours can be understood as a metric of online social influence, e.g., their value is understood as part of the "return on contribution" (ROC) of a resource, which is based on the number of people who read, view or consume the resource, divided by the number of people who produced this resource (Muller et al., 2009). Harquail (2010) notes that whilst comments made on blogs show that readers are engaging with the ideas presented there, there is nothing wrong with reading and not commenting: Lurkers are neither "self-centred idea scavengers" nor "online introverts lacking in gumption" (no page ref.), but participants who take the information gathered in one context and use it in another. Lurking has become an "asset rather than a hindrance" (Antin and Cheshire, 2010, p. 128), either by providing information that helps complete a task or by reading or being the indicator of the value and reliability of a text. Gossieaux (2010) too subscribes to the idea that lurkers are the "hidden asset" in online communities, as active participants who forward content and information from one community to others using a variety of different channels (e.g., telephone, in conversation, by email). Lurkers are participants able to support and innovate online communities, or, in former Yahoo! Executive Sanders' (2010, 2003) terms, they are "love cats", people who share knowledge freely and with good intent, serving others, facilitating relationship building, and adding to group learning.

## 7. The Impact of Lurking on E-participation

E-participation is a specific online context and the PhD aims to answer the fourth research question, "How does online lurking impact e-participation?" The results from the literature review and a case study of e-participation allows to provide an answer to the question, and shows that lurkers do not represent the disinterested public, but that they actually contribute more to e-participation than evaluations that rely on counting the number of visible contributions only.

The PhD considers lurking specifically in the e-participation context, which is online participation that aims to enable, encourage, broaden and deepen political participation and democratic citizenship. Participation may occur in many ways, and by considering lurking to be an online behaviour that is social and valuable, it can be seen as enhancing democratic principles and contributing to a vibrant, inclusive, transparent and responsive democratic society. In e-participation, as well as other, open and collaborative production processes in government, lurkers participate and contribute by engaging in activities that may not necessarily be visible, such as taking an interest, sharing information, connecting, linking and hyperlinking, providing support and engaging in behaviours that influence peer production, collaboration, innovation and ensure the transparency of e-participation and government processes, tenets central to e-democracy and a functioning and inclusive society.

Sandoval-Almazan and Gil-Garcia (2012) suggest four aspects for seeing to what extent the aims of e-participation have been achieved, and that not all aims must lead to visible postings: (1) The display of information that provides "valuable data and information to citizens" (p. 74), (2) the provision of online services and tools for interaction with citizens so that they can discuss and share ideas and solutions, (3) the provision of multiple channels for participation so as to expand the opportunities for citizens to exchange data and knowledge, add value and information quality to services, and of value for both citizens and organizations, and finally, (4) the provision of opportunities for collaboration based on a relationship that produces trust. The government is thus to be viewed as a network that allows collaboration, decision-making procedures, and is reflected by flows of information and the exchange of data, activities that are not always visible and that lurkers engage in. The new types of digital sharing tools encourage information production, contributions and interactions among all stakeholders, so the evaluation must look at the social actors and the way they interact, create content, and share knowledge (Janssen & van der Voort, 2016). An evaluation of public participation and innovation thus needs to focus on the different types of interaction and relations in order to understand how knowledge-sharing needs and informational benefits are gained from access to other, external sources and informal network contacts (Mergel, 2011) – and these are online activities that many participants, visible or lurking, engage in.

Case studies are an important method of study as they provide an in-depth study of contemporary phenomena using multiple sources of evidence from the real-life context (Yin, 1994). For the case-study online material (blog articles, messages in social media networks) was analysed, field investigations and on-site interviews were conducted. The case study (Edelmann, Parycek, & Schossboeck, 2011) reveals that two factors are particularly important in e-participation: the internet itself and encouraging active lurking.

## 7.1. The Internet Itself

The internet itself, as background infrastructure, is a central factor, but it is also central to strengthening the interrelationship between offline and online activities. The case study shows that the internet and online social media are not used solely for online communication and mobilisation, but also for combining these activities with offline actions. Twitter played a crucial role with mobilisation, whilst Wikis and livestreams enabled the mobilisation of people outside the community. Participants could solidarise from their private home during an online demonstration. Minutes, documents, information sheets and press articles were distributed online and collaboratively edited. The initiative managed to build a highly participative infrastructure that could be recognised all over the web. In combination with Facebook, personal networks were used to spread information, create solidarity among the students, identify with and actively engage in protest. The Facebook group ("Audimax"), launched in the afternoon of the occupation of the Audimax, reached a considerable number of members, 33,000 with a total number of 48,000 interactions by 13 December 2009. Other social media channels like YouTube or ustream.tv were used and integrated into the interactive main website. By integrating different media in the main website, these media had a joined impact mobilising participants and supporters. On the other hand, it makes it difficult to analyse the different tools in relation to one another as multimedia channels were deployed simultaneously.

## 7.2. Mobilising Active Lurkers

E-participation needs to be based on a radically transparent flow of information and low entry barriers for new members, as this enables the transformation of user roles. The definition of a typical lurker, e.g., in the Twitter context, is debatable, but using Takahashi's definition of "active lurkers" allows to show the value they can contribute and the impact they have. Twitter, for example, is an open network, and lurkers may be seen as those who do not own an account and just read other's messages. They might, however, tell other people about their findings offline or in other networks. The threshold to participate (e.g., by 'retweeting' a message) can be very low, and the structure of microblogging systems promotes this low effort. In the context of the e-participation initiative, the majority of users were encouraged to actively use these new networks for political protest for the first time, in whatever way they wanted, as readers, contributors or collaborators.

Other technical tools such as live streams and online demonstrations promoted reciprocal exchange and created bonds with those who could not participate on site. Feedback could be accessed via other channels and feedback systems like Twitter walls, where participants integrated questions asked via social networks into the public debate. The communication opportunities add to the participants' commitment and a broader and more sustainable dialogue. Mobilisation was promoted as users believed that their contributions were important to the group's performance. The exchange of social support (e.g., realised by the support of individual needs in the different subgroups) was another important motivator. As users brought up their own ideas and suggestions, they gained more responsibility and assumed an unspoken obligation towards the group.

## 8. Conclusions

Given the premise “that everyone is likely to lurk at least some of the time and frequently most of the time” (Nonnecke & Preece, 2003, p. 112), evaluating the extent e-participation in terms of achieving its aims cannot be realized only by counting the number of visible outcomes such as postings or “likes”. Lurkers are not the ignorers (Cruickshank), the unplugged (Ferro & Molinari, 2010), the unconnected, or those who “are out of the loop”, socially and otherwise” (Sypher & Collins 2001, p. 101). They are not non-users, online trolls or spammers. Rather, the evidence in the literature shows that there is area of online participation that exists between non-participation and lurkers’ non-visible behaviours.

The articles selected for this PhD mirror the author’s ongoing interests but also a change in understanding the role of lurkers, their contribution to the development of the internet, online participation and e-participation, even though the activities are not visible and the effect is not always immediately obvious. The choice of definitions or choice of words is important, for example, Weber and Rohrer (2012) also note a similar issue with the term “failure” as used in innovation research as being unsuitable for “capturing the evolutionary (and often complex) nature of transformative change and associated needs for policy intervention” (p. 1046). The term “lurker” is itself heavily laden, and the definition has often led, for example, to the aim for a change in online behaviour, by developing de-lurking strategies that focus on encouraging visible online posts online. Whilst such strategies may certainly improve the quality of online participation, turning a lurker into a visible participant (“poster” or “active”) may neither be an ideal aim nor make online participation nor make e-participation (more) valuable.

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Noella Edelmann completed her Psychology Degree at the University of Strathclyde, UK and her Masters' Degrees on Organisational Psychology at the University of London, UK and the on E-Government at the Danube University Krems, Austria. Noella is a research fellow at the Department for E-Governance and Administration at the Danube University, her main research interests are the psychological aspects of behaviour on the internet and Open Access. She is Co-chair of the Conference for E-democracy and Open Government and managing editor of the international Open Access eJournal for E-Democracy and Open Government (JeDEM). She is currently working her PhD on online lurking in e-participation at the Ragnar Nurse School, Tallinn University of Technology, Estonia.



# Workshops





# Collaboratively Analysing Open Research Data in Virtual Research Environments - New Visionary Use Cases

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*Abstract: Virtual Research Environments (VREs) offer new opportunities for collaboratively analysing open research data. This workshop builds on a workshop that we gave at CeDEM16 and aims to refine and discuss requirements for collaboratively analysing Open Government Data (OGD) and open research data through a secure, trusted and multidisciplinary VRE. Presentations about innovative use cases for reusing governmental and research data will be given, and participants will discuss and develop innovative use cases. The conditions for sharing their public or research data with others in a VRE will be discussed. This provides the basis for a discussion on the prioritization of requirements derived from the use cases. Participants are encouraged to provide their view on requirements for a VRE that offers governmental research data as well as directions for VRE projects.*

*Keywords: Open data, Virtual Research Environment, VRE, use case, research infrastructure*

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## 1. Topic

The topic of this workshop concerns Open Government Data (OGD) and open research data. The objective of this 1.5-hour workshop is to refine and discuss requirements for collaboratively analysing Open Government Data (OGD) and open research data through a secure, trusted and multidisciplinary VRE.

## 2. Description and Objectives of the Workshop

Researchers can access and use more and more research data opened by the government and by publicly-funded research organizations (Zuiderwijk, 2015). They can use this data to obtain new insights, especially by combining datasets with other data from other disciplines. However,

researchers who want to conduct multidisciplinary research with OGD and open research data often face various problems in existing research environments, such as issues related to data heterogeneity, user experience, trust and security (Zuiderwijk, Jeffery, Bailo & Yin, 2016). Researchers are often willing to share their data with others under certain conditions, yet no VREs exist that meet the requirements for multidisciplinary research. This complicates the reuse of open data by researchers in other disciplines.

Virtual Research Environments (VREs) offer new opportunities for collaboratively analysing open research data, as they provide access to data, tools, resources from different research infrastructures, co-operation or collaboration between researchers at the same or different institutions, co-operation at the intra- and inter-institutional levels, and/or preserving data and other outputs (Carusi & Reimer, 2010). VREs consist of Information and Communication Technology (ICT) facilities, e-Research Infrastructures (providing for the end-user homogeneous access over heterogeneous data, software and resources, and the VRE with its users, who can work together through the VRE (Zuiderwijk et al., 2016). VREs contribute to solutions for issues related to data heterogeneity, user experience, trust and security.

Several new visionary use cases for VREs have been developed in the H2020 VRE4EIC project (<http://www.vre4eic.eu/>). VRE4EIC stands for A Europe-wide Interoperable Virtual Research Environment to Empower Multidisciplinary Research Communities and Accelerate Innovation and Collaboration. The VRE4EIC project aims to develop a reference architecture and prototypes to be used for future VREs including building blocks that can be used to improve existing VREs. The project addresses the key data and software challenges in supporting multidisciplinary data driven sciences<sup>1</sup>.

In this workshop, a number of new visionary use cases from the VRE4EIC project will be presented. Some examples of such use cases include:

- choosing a travel destination for tourists with allergic diseases (Domains: healthcare, environmental sciences);
- investigating the social consequences of increased debts of EU countries (Domains: finance, economy and criminology);
- studying the capacity of the urban infrastructure in case of an evacuation (Domains: geology, mobility, sociological and housing);
- investigating the historical interest of researchers based on current events (Domain: Digital Humanities);
- analyzing the evolution of electric charging (Domains: urban infrastructure, mobility, power grid topology); and
- predicting transport delay (Domains: environmental sciences, transportation) (VRE4EIC project, 2016).

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<sup>1</sup> [www.vre4eic.eu](http://www.vre4eic.eu)

The use cases are used to start a discussion with the participants concerning requirements for data sharing through an innovative VRE for research and government data.

The objective of this 1.5-hour workshop is to refine and discuss requirements for collaboratively analysing Open Government Data (OGD) and open research data through a secure, trusted and multidisciplinary VRE. The workshop is relevant for participants of the international Conference for e-Democracy and Open Government (CeDEM), since it focuses on topics that are key to this conference, including open data, open access, and open and collaborative government. The workshop is of interest to experts that CeDEM brings together in the area of open government, e-participation and e-democracy. The workshop is aimed at (potential) users of (open) (government) research data. It builds on the results from a workshop that was organized at CeDEM16 (Zuiderwijk et al., 2016).

### **3. Format of the Workshop**

#### **3.1. Presentations (20 Minutes)**

The following presentations will inspire a constructive dialogue:

- Challenges for information sharing of Open Data by researchers. Ricardo Matheus and Anneke Zuiderwijk will present key challenges that exist for sharing Open Research Data with others. Trade-offs and considerations will be discussed. This presentation summarizes the key challenges that were discussed during a preceding workshop at CeDEM16 (Zuiderwijk et al., 2016).
- Visionary use cases concerning the use of multidisciplinary research data. The VRE4EIC project has developed various visionary use cases that will be presented by Anneke Zuiderwijk. The use cases are used to start a discussion with the participants concerning requirements for data sharing through a VRE for research data.

#### **3.2. Brainstorming (35 Minutes): The Development of Visionary Use Cases**

The second part of the workshop is dedicated to group discussions. In groups of three to five persons, participants are asked to develop a visionary use case. Participants are asked to select a topic of a societal problem of their choice and examples of such topics will be discussed by the presenters (e.g., climate change, energy sustainability or crime prevention). Participants are asked to collaboratively brainstorm about datasets, data analysis tools and other VRE resources that they would need to investigate this societal problem. Subsequently, we ask them to discuss the needs of (potential) providers and users of (open) research data according to this use case, including the activities that researchers should conduct to execute the use case. Each group develops a different visionary use case that should offer new insights and result in benefits of research data sharing. Participants of the workshop are asked to participate in the discussion, because they might (potentially) use open government data for research purposes.

### 3.3. Discussion of Brainstorming Session (35 Minutes)

The remainder of the workshop is dedicated to discussion, interaction and gathering ideas from the audience on visionary use cases and requirements for the use of open government data by researchers and directions for VRE projects. The findings of the group discussions will be discussed in the plenary by presenting some first results of the visionary use case development by the participants. This discussion and presentation provide participants with insight in the way that open data might be used by researchers in comparison to how it is currently used, and it shows the key requirements that researchers have to develop the use cases. The results of this discussion will be used to develop and further specify the requirements of the VRE4EIC research environment.

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#### About the Organisers

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Dr. Anneke Zuiderwijk is a researcher at the Faculty of Technology, Policy, and Management at Delft University of Technology. She holds a PhD (with honor) in open data infrastructures. Her research focuses on open data and data infrastructures. She was ranked as one of the most prolific researchers in open data research by Hossain, Dwivedi and Rana (2015). More information:

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de Janeiro, Brazil, (<http://goo.gl/biYnTx>) and worked on the project "Opening the Cities: Open Government Data in Local Governments of Argentina, Brazil and Uruguay" (<http://goo.gl/s1vgCq>).





# Research Priorities in Public Innovation Management

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*Abstract: In the last several decades, public service organizations were considered stable organizations which were an integrated part of the government. However, the classical bureaucratic approach has become outdated due to a fast-changing environment. A changing and increasingly interconnected world enforces public service organizations to change and innovate. We attempt to shed light on the significance of 'Public Innovation Management'. The main objective of the workshop is to identify a set of priority topics worth studying to advance theory and benefit citizens, public managers, and public-sector organizations. In a collaborative manner, we intend to highlight critical issues and challenges in the future of Public Innovation Management.*

*Keywords: Public Innovation Management, change, emerging technologies, agenda-setting, future research*

## 1. Topic

In the last several decades, public service organizations were considered stable organizations which were an integrated part of the government. Under the approach of the Weberian or Neo-Weberian hierarchical system of a traditional bureaucracy, rights and duties are clearly defined and the public sector is shaped by professional bureaucrats. However, the classical bureaucratic approach has become outdated in today's fast-changing environment. Global economic, political and demographic changes associated with a stimulation of a managerial approach to public service provision (New Public Management) has led to a change in public management (Brown and Osborne, 2012). A changing environment forces public service organizations to change and innovate. This especially encompasses digitalization, the rise of new technology, and new forms of citizen-state communication and organizing public service delivery (e-government, open government). In a fast-changing and increasingly interconnected world, innovation and change are not only necessary, but inevitable.

## 2. Description and Objectives of the Workshop

The main objective of the workshop is to identify a set of priority topics useful in the effort to advance theory on Public Innovation Management and benefit citizens, public managers, and

public-sector organizations. This agenda-setting will be done in a collaborative manner by leveraging the global and interdisciplinary perspectives of conference members. First, the authors of this workshop give an introduction on the topic of 'Public Innovation Management' and shed light on the necessity to consider the future of innovation management in the public realm. Second, participants of the workshop are asked to discuss questions prepared in small groups. Third, authors moderate a plenary discussion. Each small group presents their main results and their findings are discussed in plenum. Finally, the objective of the discussion is to highlight critical issues and challenges in the future of Public Innovation Management.

The main steps of the workshop (and post-workshop phase) will be conducted as follows:

- STEP 1 - Information dissemination and seating arrangement. First, we will disseminate information about the workshop goals and topic via leaflets to all participants. Second, we will encourage participants to have a seat around the tables.
- STEP 2 - Workshop goals and topic. Moderators (= authors) will give a short presentation on workshop goals and agenda. (10 min)
- STEP 3 - Round-table discussions. We will disseminate questions for discussion to all participants. (50 min)
- STEP 4 - Discussion. After the group discussion, each group will present its main findings to the audience and a general discussion will be moderated by the authors. (30 min)
- STEP 5 - Evaluation. All innovation-related research topics will be collected and sent to conference participants after the workshop via an online-questionnaire. Participants can then evaluate the significance of proposed topics and rate the need for future research.

### **3. Relevance of the Workshop to the CeDEM Conference**

Innovation concerns a great variety of areas of the public management and encompasses a broad area of topics worth studying. Most of the time, innovation is associated with technology and the changing patterns of how individuals communicate and collaborate with each other by leveraging modern information and communication technologies. Digitalization and individuals' increasing use of modern technology, for example, also influences how public employees and citizens interact. Online platforms, mobile applications, and social media channels enable a new form of communication which further make collaboration possible (e-government, e-democracy, open government).

### **4. Questions to Be Addressed During the Workshop**

The workshop will address the following key questions:

- Overall, what do you think are the most important innovation-related research topics to address in the next five years to advance public management scholarship and practice?
- Why are these topics particularly important?
- What innovation research is needed to address these topics?
- What are the theoretical frameworks, research methods, types of collaboration, and so on, that have been used in the public management field which hold the most promise for

addressing these topics? What new theoretical frameworks, research methods, types of collaboration, and so on, are needed?

- What do you think are the two strengths of the field of public innovation management research that may influence progress, in scholarship and/or practice, on these topics? Two weaknesses?

## 5. Format of Workshop

- 1) Presentations and input by the moderators.
- 2) Round-table discussion (questions and white board paper provided).
- 3) Discussion in Plenum (moderated by the authors).

The authors look forward to a vivid and controversial discussion.

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## About the Organisers

### *Lisa Schmidhuber*

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### *Dennis Hilgers*

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### *Julia Schmitt*

Julia Schmitt is a doctoral researcher at the Institute for Integrated Quality Design of the Johannes Kepler University Linz, Austria. Her research interests include innovation management with a focus on life cycle oriented innovation processes.





# E-Participation in the Urban Planning Process: Challenges to be Supported by Information and Communication Technologies

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*Abstract: Multiples initiatives by the local governments to promote e-participation of citizens in the urban planning processes have been implemented across Europe in the last few years. Nevertheless, one of the biggest challenges for the Information and Communication Technologies (ICT) is to support discussion, deliberation, and decision-making in scenarios where either similar or opposite views and ideas are continuously coming from citizens and from different administrative levels, as neighbourhood, district, and city. Using a game-formatted activity for all participants, this workshop aims to build an ‘ideal’ smart city with Lego blocks to create awareness about the complexity of a participation in the urban planning process and to encourage participants to discuss how the ICT’s can mitigate those complexities.*

*Keywords: e-participation, citizen engagement, urban planning, smart city*

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## 1. Topic

Citizen participation is defined as a democratic process that allows each individual citizen to contribute, join, and/or influence public decisions made by the authorities. E-participation is a public participation process that is powered by Information and Communication Technologies (ICTs). The United Nations define it as “the process of engaging citizens through ICTs in policy and decision-making in order to make public administration participatory, inclusive, collaborative and deliberative for intrinsic and instrumental ends” (United Nations, 2014, p. 61).

In the context of urban life, planning is one of the most important management functions that requires a decision-making process to figure out where to go and how to get there (Babaita, 2005).

Urban planning is a field in which confronting social problems must be balanced with the concerns of a wide range of stakeholders to reach solutions (Rittel and Webber 1973). This leads to a participatory paradigm for urban planning to involve different stakeholders by including communities and individuals to participate in its processes.

Already some pioneering research has been conducted on using different kinds of information technologies to stimulate citizen participation in urban planning process e.g., social media, mobile technologies, public displays and so on. Compared to traditional methods like workshops, exhibitions, and field studies that require participants to be physically present, versatile information technologies based platforms have huge potential to provide citizens more participation opportunities. These methods are usually more flexible, accessible, and attractive for citizens who find traditional channels are too difficult or unrewarding to use. Some governments have made endeavours to implement online participative application or platforms for citizens to actively participate at different levels. For instance, the application “El pulso de la ciudad” (<http://www.elpulsodelaciudad.com/>) in the city of Santander, Spain, allows citizens to report different incidents in the city (for example, broken infrastructure or illegal parking).

Even though, these efforts have attracted a significant number of citizens to participate online, new challenges and issues emerge for more complex scenarios of e-participation. ICT’s now need to support discussion, deliberation, and finally decision-making in situations where either similar or opposite views and ideas are continuously flowing in the urban planning process.

Therefore, we propose this interactive workshop where attendees will discuss a hypothetical scenario, by building themselves an ‘ideal’ smart city using Lego blocks to create self-awareness about the challenges of citizen participations in the urban planning process and to encourage them to discuss how ICT’s can mitigate those challenges. We assume that at the end of the workshop, people can have a better understanding about the challenges of e-participation in the urban planning process and possible strategies about how ICT tools can support and open new potentials for e-participation.

## 2. Description and Objectives of the Workshop

This workshop provides an opportunity for exchanging views on the issues and challenges of e-participation to involve the citizens in the urban planning process towards the development of smart cities as well as how ICT tools, e.g., public displays, can support and open new possibilities to foster citizen engagement and active participation. We welcome people from different disciplines to share their experience and efforts, exchange knowledge from different backgrounds, and discuss major research challenges.

The proposed workshop is designed to be carried out in a hands-on game format, where participants playing different roles will build their ‘ideal’ neighbourhood, then join the parts to make a community, and finally, a city. Using keywords the participants will individually describe their motivations and priorities (e.g. accessibility, energy efficiency, green areas, history and heritage, commercial areas, entertainment etc.) when building their ‘ideal’ neighbourhoods. A role

will be assigned accordingly (e.g., pet lover, elderly, youth, shoppers, etc.). Then, participants will build a district in pairs or small groups of three, and the city in groups of 5 or 6. At this level, participants will describe their motivations as a group. Organizers will encourage the participants to share their experiences and conclusions from the activity after each stage.

The main objectives of the workshop are:

- all attendees should play different roles and participate in the game of building an imaginative smart city;
- use Lego blocks to simulate the participatory process in different levels: neighbourhood, district, and city;
- identify the main concerns of attendees regarding the potential and limitations of e-participation technologies according to their experiences in the game;
- discuss how ICT can provide the functionality for citizens to contribute according to their experiences in the game.

### **3. Relevance of the Workshop to the CeDEM Conference**

Regardless of substantial attention to the topic of citizen participation and smart cities in recent years, many aspects of these fields are in the need of deep understanding, therefore, deeper discussion, research, and analysis is necessary. The CeDEM Conference could be a suitable environment to create a new relevant space for researchers to exchange ideas and discuss advances and experiences that may lead to the development of e-participation platforms which support complex scenarios for the long-term citizen engagement in the context of smart cities development.

### **4. Questions to Be Addressed During the Workshop**

- What are the main issues and challenges in e-participation to engage citizens in the urban planning process?
- How ICT's can facilitate citizen participation in complex scenarios that demand discussion, debate, and finally decision-making?
- What do people expect from e-participation platforms?

### **5. Format of Workshop**

Small group (6 to 12 participants).

From the initial minute, all the attendees will participate in a 'hands-on' activity using Lego blocks. First, participants will be divided into several small groups, and members in each group will play different roles, according to their priorities, to simulate and create awareness of their different preferences in the urban planning process. Then, each group will be given some simple tasks to 'build' their own community. During this process, organizers will observe each group's behaviour. After each group finishes its tasks, both organizers and attendees will discuss the main issues and challenges experienced in this process and finally discuss insights about how to implement the whole process into online platforms.

Then, the organizers will guide a discussion about potential ICT implementations to support complex scenarios in e-participation.

Time limit: 90 minutes (as specified by CeDEM17 Tracks for workshops)

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## About the Organisers

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# The Smart Cities and Smart Government Research-Practice (SCSGRP) Consortium Workshop

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*Abstract: The objective of the workshop “The Smart Cities and Smart Government Research-Practice Consortium” is to continue discussions that began in 2012 among several research teams interested in doing collaborative work by sharing protocols and data with the purpose of advancing knowledge in the area of smart cities and smart government. The workshop will welcome researchers who are current members of the Consortium as well as potential new members to discuss current research in various areas related to smarter cities.*

*Keywords: Smart City, Smart Government, Smart Initiative, Smart Governance, Research Collaboration*

*Acknowledgement: The authors would like to express our gratitude to the Smart Cities and Smart Governments Research-Practice Consortium which is a robust global Smart Cities research community that focuses on innovations in technology, management and policy that change the fabric of the world’s cities. The SCSGRP Consortium is based at the Center for Technology in Government, University at Albany, State University of New York.*

## 1. Topic

The Smart Cities and Smart Government Research-Practice Consortium (SCSGRP) is a robust global research community focused on innovations in technology, management and policy that change the fabric of the world’s cities. Created in 2012, the Consortium now includes more than researchers 30 from 27 universities representing 20 countries, sharing ideas, new knowledge, and research and practice innovations in the interest of increasing opportunity for all those who live in and work in these cities. Specifically, the Consortium:

- formally connects those engaged in cutting edge research on smart cities;
- supports the development of a robust, global and connected smart cities research community;
- creates a foundation for the development of interdisciplinary, multi-institution, multi-national research teams; and
- provides a network to support knowledge sharing among members and the translation of research to practice efforts.

For members who are currently part of the Consortium, the benefits include:

- access to a formal network of scholars and practitioners focused on information and ICTs in the urban setting;
- participation in a set of activities organized to support the exchange of ideas, to facilitate the sharing of research strategies and results and the formation of research collaborations; and
- access, under specific agreements, to data, common interview protocol and other instruments to support research efforts and to increase the potential for comparative research efforts.

## **2. Description and Objectives of the Workshop**

The workshop will be organized as a 90 minutes session, including a series of lightning talks and facilitated discussions related to the main points included in the preceding section. The proposed agenda for the workshop will include the following items:

- welcome and brief introductions of participants;
- lightning talks on current smart city related research;
- a discussion on current research frameworks and projects;
- discussions of collaborations and synergies that are currently underway and identification of future ones;
- building a map of smart city initiatives around the world in a dynamic way; and
- a wrap-up of concepts and definitions.

## **3. Relevance of the Workshop to the CeDEM Conference**

The aim of CeDEM as an international Conference for e-Democracy and Open Government is to connect research and knowledge from academia, politics, government and business in the domain e-democracy, e-participation and open government. The workshop offers an exceptional opportunity to exchange current and future scientific work in the domain of smart city research, as well as experiences in practical and applied projects.

## **4. Questions to Be Addressed During the Workshop**

The purpose of the workshop will be to advance the vision of the Consortium, explore research and frameworks so that current and potential new members can generate new knowledge and build capabilities in cities throughout the world. More specifically, the potential discussion points of the workshop may include:

- the identification of specific research that could be leveraged for future funding;
- common research efforts that might be the basis for a new collaboration;
- the identification of opportunities for data and results sharing among the members; and
- collective work to define a research framework that supports efforts to conduct comparative studies.

## 5. Format of the Workshop

- lightning talks
- presentations
- case studies
- open discussions

### About the Organisers

#### *Gabriela Viale Pereira*

Gabriela Viale Pereira, BSc MSc holds a doctoral degree in Business Administration in addition to her Master's degree in the field of Management Information Systems. She currently holds a position as Senior Scientist at the Department for E-Governance and Administration at Danube University Krems, Austria and is a visiting Post-doc at Fundação Getúlio Vargas (FGV), São Paulo, Brazil. She is the Connected Smart City Minitrack Co-Chair at CeDEM. Her experience covers research on national (Brazil and Austria) and EU-funded project in electronic government, smart governance and smart city topics. Her background and interest in smart cities and open government data focuses on how ICT can contribute to increasing the quality of citizens' life, and she has done in-depth field research in smart city initiatives in Brazil.

#### *Malgorzata Zofia Goraczek*

Malgorzata Zofia Goraczek is a researcher at the Department for E-Governance at Danube University Krems, Austria. She holds a Master Degree in Sociology and her research interests focus on ICT and society, especially on the interface between academia and practitioners. Currently, she is coordinating the research project "SmartGov-Advanced decision support for Smart Governance".





# Open Access Publishing in Academia: Policy and Personal Strategy

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*Abstract: With Open Access (OA), Open Science (OS) and Open Data (OD), researchers profit by sharing, collaborating, and participating in broader research agendas. Open Access (OA) publishing plays a key role in academia, but universities and research organisations must adopt or develop their own OA strategy which may not always overlap with researchers' personal publishing strategies. This workshop aims to gain feedback and perspectives on the topic of OA publishing, focusing on policies and best-practices in academia, personal publishing strategies and motivations to publish in OA.*

*Keywords: Open Access, policies, publishing strategies*

## 1. Topic

Smecher's (2008) editorial "The Future of the Electronic Journal" in *NeuroQuantology* states: "The character of the electronic academic journal is changing rapidly as new technologies, reader habits, and patterns of communication evolve and the Internet is increasingly adopted as a common medium. The obvious changes involve new methods of delivery and subscription, but the underlying structures of academic communication are also changing, presenting a host of new possibilities." (p. 1). While OA is often linked to scientific publications only, Smecher's comment makes clear that these issues are still important today, and that there are more dimensions and contexts that need to be considered. Here, we consider and compare institutional policies and personal publishing strategies.

As previously described (Edelmann & Schossboeck, forthcoming, 2016; Lampoltshammer, Edelmann, & Schossboeck, 2016), in academia gold OA is related to publications and their availability to the public without fees. Researchers have found strong evidence that Open Access has a significant impact on the number of times a paper and a publication cited (Lawrence, 2001;

Harnad & Brody, 2004). In a time where the visibility and credibility of a scientist depends on quantitative metrics such as impact factors or citation counts (Brody, 2013), but where altmetrics<sup>1</sup> play an increasingly important role, these are aspects that cannot be ignored. Green OA is also a publishing option that allows authors to self-archive their publications (Björk et al., 2014). In industry, OA helps businesses move from closed research and development environments towards Open Innovation principles. The aim is to reveal the business's own development processes and share data and knowledge with others (Chesbrough, 2006). Critical voices, however, warn about diffusing relevant knowledge (Rivette & Kline, 2000) and company essentials (Kline, 2003), and the high publication fees (sometimes referred to as "article processing charges") that some OA journals have. OA also plays a role in the public sector. EU-enforced regulations are forcing the public sector to publish information<sup>2</sup> that helps foster innovative business ideas and EU-based economy as a whole. This leads to issues concerning data privacy, conflicts of interests and challenges regarding data publishing and data curation. This global shift towards giving free, online access (open access) to the results of publicly-funded research has been a core strategy of the European Commission to improve knowledge circulation and thus innovation. It is illustrated by the general principle of open access to scientific publications in Horizon 2020 and the Open Research Data Pilot.<sup>3</sup>

Results from previous workshops (held at CeDEM16<sup>4</sup> and CeDEM Asia 2016<sup>5</sup>) show that there are different stakeholders in academic publishing: The researchers, the institutions (who provide the publishing policy), and funding organisations, all of whom may have very different approaches to OA publishing. It is within this context that we aim to gain new insights from scholars working (or not) with OA and other journals, the institutional policies they need to consider, their motivations and personal publishing strategies with OA and other journals. We suggest that the extent to which OA is useful depends on the individual research strategy and the institutional policy.

## 2. Description and Objectives of the Workshop

This workshop addresses current discussions and strategies regarding OA publishing in various application domains found in academia, industry. The main objectives of this workshop are as follows:

- The researcher's personal strategy and motivations for publishing OA;
- The role and influence of institutions in their field of activity, including OA policies established by research foundations

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<sup>1</sup> <https://www.altmetric.com/>

<sup>2</sup> DIRECTIVE 2013/37/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information. Online: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0037&from=DE> (08.02.2016)

<sup>3</sup> <http://ec.europa.eu/research/openscience/index.cfm?pg=openaccess> (24.01.17)]

<sup>4</sup> [www.donau.uni.ac.at/cedem16](http://www.donau.uni.ac.at/cedem16)

<sup>5</sup> [www.donau-uni.ac.at/cedemasia2016](http://www.donau-uni.ac.at/cedemasia2016)

### 3. Relevance of the Workshop to the CeDEM Conference

The CeDEM conference series focuses on the agenda of open government, e-democracy and e-participation and brings together open government experts from academia, politics, government and business to elaborate on innovations, issues, ideas and challenges in today's digital society. The conference brings participants from areas relevant to the workshop who may also be interested in the role and implications of OA in their respective fields.

### 4. Questions to Be Addressed During the Workshop

The main goal of this workshop is to shed light on different aspects of open access, as well as different user groups' stances towards it. The following pool of questions regarding Open Access (OA) will be provided to the audience:

- What policies do you know of?
- What are the policies in your institution?
- What experiences do you have with OA?
- Who pays for OA?
- Where do you publish OA?
- What is the motivation behind OA publishing? Why not use OA?

### 5. Format of Workshop

The workshop consists of two parts. It will start out with a short introduction to the overall topic by Thomas Lampoltshammer, an overview of the OA Journal for E-Democracy and Open Government ([www.jedem.org](http://www.jedem.org)) by Noella Edelman, and a presentation by Karin Siebenhandl from the Danube University Krems regarding its Open Access policies and other funding policies. Participants will be presented with the questions from section 4 and split into groups. Each group discusses two to three questions and presents their results. The workshop aims to generate a discussion about the researchers' publishing strategies, institutional OA policies and practices. Results from this workshop will contribute to a better understanding of the gap between the individual's personal publishing strategy, institutional policy, and the issues editors of OA journals need to consider.

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## About the Organisers

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### *Judith Schoßböck*

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# Social Implications of a Data Market

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*Abstract: The research project Data Market Austria (DMA) seeks to develop a platform on which data owners, service creators, and infrastructure providers will gather to operate in data-driven business models. The platform will provide the required infrastructure elements to unfold a truly self-sustainable data market. The functioning of a data market technically requires core services like (semi-) automated machine-learning for improved decision-making. Computers outpacing humans and eventually replacing them is a current and prominent societal challenge of that development. The workshop will elaborate on the societal benefits of data-driven business-making as well as adverse effects and potential remedial actions.*

*Keywords: business value, societal effects, machine-learning, automation*

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## 1. Introduction to Data Market Austria

ICT of the Future is the funding programme of the Austrian Federal Ministry for Transport, Innovation and Technology (BMVIT) for the promotion of challenging technology development and innovation in information and communication technology, interlinked with application fields and societal challenges. The fund is administered by the Austrian Research Promotion Agency FFG, with its research objectives being defined on a yearly basis. Funding varies from 35% to 85%, depending on the type and size of the applicant as well as nature of conducted research, be it experimental development or industrial research. One of the call instruments is the so-called "Flagship Project". Flagship projects are large collaborative research and development projects which involve several consortium partners and have a substantial impact on one or several economic sectors. Minimum duration is 2 years, minimum funding is EUR 2 million. A flagship project should strengthen the competitiveness of one or several economic sectors, create a long-term growth perspective for technologies, products, processes and services and develop model solutions to important challenges faced by society.

In 2016, a consortium of 17 Austrian partners successfully submitted a proposal for Data Market Austria (DMA) as an ICT of the Future flagship project. The overall goal of the DMA project is to develop the technological, infrastructural, regulatory, and economic foundations for a compre-

hensive, innovation-supporting, sustainable Austrian ecosystem for data services. This ecosystem will support the full spectrum of data, from open data to proprietary data, with the appropriate access controls. Innovative business models involving all potential players in such an ecosystem will be created. Innovative foundational technology will be developed for the ecosystem, including: blockchain techniques for provenance and security, data access constraint-preserving processing and analysis algorithms, semi-automated data quality improvement, and recommender system-based brokerage technology. Concerning regulatory aspects, beyond creating a clear picture of the regulatory environment in which the ecosystem functions, technological enforcement of regulations, as well as smart contracts, will ensure legal compliance of the ecosystem and users. The use of the ecosystem will be demonstrated by pilots in the areas of ICT for mobility and ICT for earth observation, where each pilot will set up appropriate services and demonstrators.

DMA will inevitably share many characteristics of Big Data Analytics, and large-scale data analytics scares people. A survey among 8,000 people within the timeframe August to September 2015 found out that 51% consider Big Data-powered analysis results to have more disadvantages than advantages. In particular, sharing private data for commercial purposes is associated with intense negative feelings: only 10% of the surveyed people claim to have no problem sharing private data for commercial purposes. Interestingly, 43% would share mobility data with well-known routing providers to improve the personal mobility experience, and 44% would disclose that data to public institutions (Deißner, 2016).

While the DMA is tightly associated with economic growth, some people who cannot keep pace with the required skill set or speed of change will be left behind. While DMA will not deliver remedial measures through the platform itself, identified societal challenges will be thoroughly analysed and are expected to happen, besides others, in the area of personalised services. The technological framework is in place to track interactions at the user level, facilitated, e.g., through smartphones (apps) or web site tracking measures (cookies). Analysing the user journey carries enormous potential to improve the UX experience like to be able to offer the next product to buy or to discriminate on the price dependent on the potential buyer. If the product is a service, these services can be tailored exactly to the user requirements (beneficial to the customer), at the maximum price the customer is willing to pay (beneficial to the provider). Considering insurance companies, this could potentially result in services the customer cannot compare to others (because it is an individual service with no match) at the maximum marginal price.

## 2. Description and Objectives of the Workshop

The workshop will:

- Shortly introduce the Austrian and EU agenda towards a data-driven economy and the Digital Single Market;
- Present the motivation, aims, and constituency of the DMA project;
- Delineate the aim of the workshop and the relevance in respect to the workshop;
- Describe the methodological workshop approach.

The objective of the workshop is to gather societal benefits and challenges arising from Cloud Computing and Big Data Analytics, and associated methodologies such as machine-learning and large-scale automation.

### 3. Relevance of the Workshop to the CeDEM Conference

Data-Driven Governance is a topic which currently experiences intense academic discourse. Nonetheless governance-driven and justified by factual proof instead of habitualized acts and feelings is contested by politicians who heavily employ data analytics to present "alternative truths" towards a citizenry which seems to increasingly suffer from data fatigue and fully embrace and prefer social media channels over classic or authoritative news channels<sup>1</sup>. As the CeDEM conference seeks to *critically analyse the innovations, issues, ideas and challenges in the networked societies of the digital age*<sup>2</sup>, this workshop is within the scope of the conference.

### 4. Questions to Be Addressed During the Workshop

Questions raised during the workshop will include, but are not limited to:

- What is the current role of large international companies in Big Data Analytics? Do they have adverse effects on the free market?
- Does the Internet facilitate the formation of monopolies and if so, what countermeasures are required?
- Is a discussion on machine taxation worth to be conducted, feasible to achieve, or a massive hindrance to innovation?
- Do university curricula sufficiently account for data literacy? What topics are missing?

### 5. Format of the Workshop

The workshop will start with a short introduction to the topic, presenting the project and workshop facilitators (max. 10 mins). After a short introduction of the workshop attendants, a quick brainstorming session (max. 10 mins) will be held to gather the societal effects of Big Data Analytics and a data-driven economy in general. This phase is to broaden the context. Based on these outcomes, two topics will be chosen.

The attendants will be divided in two groups and will independently work on one of the previously selected topic regarding the following aspects: What is the problem? Why is it a problem? What are the long term societal effects? What is the role of government? What is the role of economy? Are there remedial actions required? If and to what extent can the DMA project contribute to address these societal challenges? This phase is to deepen the context.

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<sup>1</sup> <https://points.datasociety.net/did-media-literacy-backfire-7418c084d88d>

<sup>2</sup> <http://www.donau-uni.ac.at/en/departement/gpa/telematik/edemocracy-conference/edem/vid/23864/>

Afterwards, an elected speaker of every group will present results of their discussion to the other group respectively. This phase is to aggregate results and to summarize the outcome.

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## About the Organisers

### *Johann Höchtl*

Dr. Johann Höchtl is a senior researcher at the Department for E-Governance and Administration, Danube University Krems. Danube University Krems as DMA project partner is responsible to work on the legal and societal aspects of the data market as well to conduct research in fine grained access to data using block chain technology and data quality aspects in general.

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