Social Inclusion and Digital Divide: eParticipation Dilemmas in Municipalities

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ABSTRACT

Citizen-participation faces a large number of obstacles. eParticipation is considered to be one of the key tools to ensure effective state-to-citizen communication. A number of initiatives have led to the creation of eParticipation platforms, enabling digital participation online via ICT technologies. Even though these solutions have been introduced, the overall citizen participation remains at a relatively low level, and in general eParticipation objectives have not been fully met. One of the main reasons identified, why the initiatives fall short on participation, is the problem of digital divide and social exclusion. We present a study on eParticipation in municipalities, based on an opinion-mining project in an Irish city. We provide preliminary results and our conclusions after conducting a specific initiative. We identify key factors and decisions that have led towards a promising initiative in the field of eParticipation.

Categories and Subject Descriptors

H.4 [Information Systems Applications]: Miscellaneous

General Terms

Management, Design, Human Factors, Theory

Keywords

Public Participation, Public Forum, eParticipation, Digital Divide

1. INTRODUCTION

Citizen participation is an imperative in every modern Democracy. For much of the last century, individuals relied very much on the government regarding policy-making. However, in the latter part of the twentieth century, citizens' expectations have grown such that they could influence more directly government decisions, particularly those that affect their everyday lives [19]. The well-known democracy models such as Liberal, Republican or classic Aggregative are not sufficient anymore [12]. The

Deliberative model, focused on the opinion-formation process and built over ICT technologies (eParticipation), is considered possibly the best solution for future policy making. Studies show that the most effective eParticipation has been performed at the local government level, especially in municipalities [3]. eParticipation tackles participation challenges and barriers to support greater citizen engagement [15]. eParticipation provides a technology-mediated interaction between citizens and the political/administrative elements of government expected to influence the decision-making processes [21]. While the development of eParticipation has been rapid in recent years, it seems that overall citizen participation remains at a relatively low level, and in general eParticipation objectives are not fully met. The emphasis mainly on technology excellence without much attention to greater social inclusion and citizen engagement resulted in very minor improvements in participation. According to an OECD report [18], 78% of individuals have a low interest in policy and/or politics and 48% have a low level of trust in how the government uses its citizens' input. Charalabidis [2] shows that the information dissemination aspect remains a weak point of most of the participation solutions so that eParticipation outcomes remain largely unknown to public. A nationwide survey on eDemocracy among US local governments [4] identified a number of barriers to eParticipation. The limitations refer mainly to social inclusion (small and not diverse enough shareholders set, educational and resources barrier) and digital divide (unrepresented groups, missing knowledge of technology and no support). The digital divide and social inclusion problem is mentioned many times in literature [6, 7, 24]. Multiple studies show that, in fact, some ICT-based government systems may raise barriers and create inequalities between digitally-included and digitally-excluded (who have limited or no access to computers or to the Internet, or find it difficult to use) citizens. The latter group is not offered appropriate alternatives and appropriate assistance to actively contribute to participation. That applies mostly to older generations and people from rural areas. Studies reveal that in some instances the use of new technologies does not lead to greater participation but rather increases the low-value and chaotic informal communication amongst individuals [9]. Considering the eParticipation barriers, the literature identifies a number of success factors for eParticipation[22, 23, 8]: (I) Combining online with offline channels, (II) Promotion, (III) Usability, (IV) Security and Privacy, (V) Quality of participation, (VI) Broad stakeholders set, (VII) Topic and participation complexity, (VIII)Commitment by the government. The success

factors clearly refer to digital divide (I , V, VI, VII) and social inclusion (II, III, IV, VI, VIII) identified as the main issues of modern participation. In this paper, we present a solution that attempts to overcome many of the eParticipation barriers, following the best practices and the success factors defined. We focus our approach on the proper communication channel alignment between citizens and decision makers. We propose a particular combination of digital and non-digital solutions in order to achieve engaged and sustained participation.

2. CITIZEN OPINION MINING SOLUTION

Galway City has developed a national reputation as "Grid-lock City" [1]. The traffic congestion that exists currently in the city has a negative impact on all those living and working in the city, and also on the economy of the city and region in terms of attracting industry, tourism and commercial activity. The Galway Transport Forum (GalwayTF) has been established as a volunteer initiative in order to identify a range of implementable short-term traffic measures that will help alleviate some of the current difficulties. The core idea behind the innovative solution was to face the participation barriers, especially in context of social inclusion and digital divide in order to provide broad and engaged participation. A diverse set of stakeholders set is one of the key elements associated with social inclusion. In order to ensure balanced policy-making process, it is very important to involve major stakeholder groups, ranging from government officials to ordinary citizens, at every stage of the eParticipation project [20]. The visibility and prominent participation of at least one stakeholder group at many different phases of the initiative is necessary for successful eParticipation [22]. According to the stakeholder theory [5], relationships with the stakeholders should be constantly, and carefully evaluated so the communities who are participating will engage appropriately. To ensure relevant input from a broad range of stakeholders, we have assembled a very diverse initiative group that includes: the Mayor of Galway (2011-12), Galway Chamber of Commerce, Engineers Ireland - West Region, representatives of the enterprise sector, academia (especially civil engineering, social science and computer science), along with independent volunteers. The need to address all citizen groups and decision-makers concerned with transport in Galway has been has reflected in the architecture of our eParticipation solution. GalwayTF has been designed to reach possibly wide range stakeholders and engage diverse groups of citizens. In order to maximize social inclusion and avoid digital divide, the architecture of the solution (Fig. 1) follows strictly the eParticipation best practices such as: "Combining online with offline channels", "Promotion" and "Quality of participation". Citizens should not be limited or discriminated by any means in contributing to the initiative, whether it refers to availability of the technology, their education or resources. Many of citizens are still in the so-called digitally excluded group, therefore the eParticipation initiative should involve both online and offline actions [23]. The online suggestions should be reflected in real life and the whole process should run in a seamless loop between the real and online world. At every stage, all the stakeholders should feel rewarded for their contributions. To achieve this, we have implemented a digital forum supported by traditional paper exchange and mainstream media so that none of the citizens

would be missed, especially those not digitally included. Digital technologies significantly increase access to and the availability of participation. Moving participation online increases the confidence of users and in general helps to avoid many of the common negative feelings that occur in real-life communication [10]. Online channels work favorably towards the young, educated and 'tech-skilled' sector of the population. Solutions are perceived by this group as much more attractive if they are advertised online [2, 23, 22]. The digital channels we have been using include standard approaches such as online surveying and e-mail in addition to social media frameworks like a discussion forum and a commenting facility. To ensure high quality input, the online survey has been specifically prepared and developed by social scientists and academics from the civil engineering domain and contains a total of sixteen questions. This survey was intended to be more detailed than the paper equivalent since online surveying offers less time pressure. The digitally-included society represents a high variety of users with different technological skills, and a significant portion still favors e-mail as their primary communication channel. The main input apart from the survey and email has been provided through forum and comments. While the survey is in principle a one-way communication tool, the other digital channels are bidirectional providing a wider communication bus between citizens and decision makers. The forum has been designed according to "open, non restricted discussion" principle highlighted in the literature as crucial for proper, unlimited and not biased flow of discussions [20]. The forum has been realized as a blog where everyone is free to post an idea or a complaint on transportation or post a comment. Each idea can be voted, also a ranking of most popular contributions has been provided for greater information browsing capabilities.
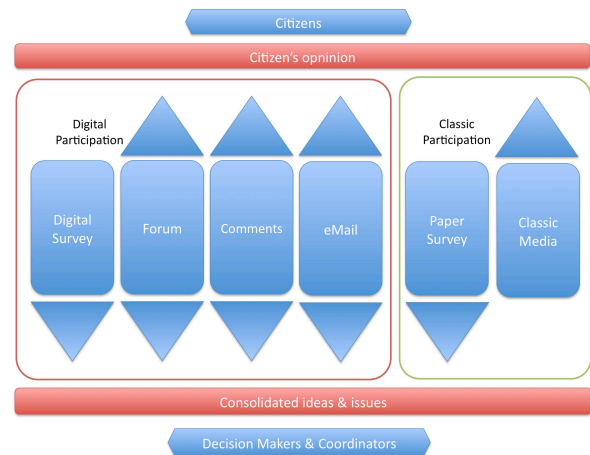

Figure 1 GalwayTF solution architecture

Following the "Usability" principle, the wide Social Media experience has been expanded by the specially created Facebook page and a Twitter stream that is synchronized with the forum. All the posts published on the forum are automatically forwarded to both social media accounts and the blog streams from both networks are embedded on the central website. The usefulness and simplicity of Social Networking Platforms (SNS??P?) interfaces enabled people to integrate these sites into their daily practices [1] [14]. The SNS such as Facebook or Twitter have shown a significant contribution to public life, especially spreading information about disasters [13] as well as political events [17].

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[1] Galway City Gridlock (24.01.2012): http://bit.ly/zc0LTu

It is argued that these technologies have great potential to provide on-line information and proper interaction with citizens. Despite, the digital information technologies have been proven to be superior in many aspects over traditional information channels, a large group of citizens refrain from contributing in a digital form. Thus, it is important to ensure that all the individuals have the capability to participate [16]. This can be referred both to availability of the information about participation solutions but also barriers introduced by modern eParticipation tools, limiting the participation to the "tech-skilled". Information dissemination remains a weak point of most participation solutions. The non-digital communication channels applied in GalwayTF include paper surveys and classic media. The classic channels, unlike the digital, are mainly mono directional with the feedback coming from the target group. The mainstream media i.e. two local newspapers and a local radio station were the main dissemination channels for the initiative. Volunteers were assigned to collect surveys in some of the key public locations in the city over a four week timespan. The number of questions of the street survey has been limited to five so as to not to discourage potential contributors given that they may be under time constraints. Social inclusion is very important at the design and development stage but is also crucial at the maintenance stage of an eParticipation initiative. It is important to bring all the diverse stakeholders groups and keep them engaged while running the initiative. This guarantees sustainability and less biased, more constructive deliberation. There is a need for a government entity to remain constantly involved in communication with citizens [11]. The Mayor of Galway, representing local government, has been one of the key drivers of the initiative and contributed towards maintaining the participation and ensuring longer term viability of the initiative. The "Topic and Participation Complexity" is very important both from the social inclusion and digital divide perspective as the contribution interface should not introduce a barrier to any citizen regardless the level of education or personal capabilities to deal with complex in- formation. The basic assumption of the project was that it should empower citizens to raise new topics relating to the everyday transportation problems. Citizens who are well informed via multiple channels and are aware of the mission of the forum have been able to focus their inputs to very constructive and informative suggestions. The interface has been modified and simplified over time to ensure clarity and functionality. The forum provides an on-line help section and guidelines facilitating the contributions. The 'contact us' section includes technical support links for those experiencing problems with the interface. The maintenance level tackles also the "Privacy and Security" concerns. To encourage citizens to contribute, multiple digital channels offer different levels of privacy and security. The surveys are being recorded anonymous and are specially encoded for greater security. Users while commenting are asked to provide the email so they can be notified when someone responds for their message. Posting on the forum has been reserved only for registered users to facilitate moderation and spam control. In any case, users are not obliged to provide their real credentials apart from a valid e-mail address. This ensures a high level of privacy and while not limiting the participation.

3. RESULTS

The assessment of the results, captured while running the project from 21 Nov 2011 until 31 Jan 2012, indicates that the expected range of audience has been reached. In addition, there was significant engagement with local government officials (the Galway Transport Unit), the Gardai (Irish police) and public transport providers. Given the clear objectives and the opportunity to make a tangible impact, citizens have been actively encouraged to contribute [20] [8]. This also served to enhance the quality and relevance of the discussions and attracted people from many key businesses and organizations in the city. The combination of digital and non-digital project tools brought satisfactory feedback. The dissemination process, composed of 6 public announcements, through mainstream media brought around 2,500 people to the digital forum and spawned about 1300 contributions. After detailed semi-automatic (n-gram based), and manual verification of the results, we have identified almost 40 short term traffic enhancement measures which, if implemented, will have an immediate and positive effect on the city traffic. These numbers certainly show the success of the initiative, taking into consideration that Galway Urban Area counts only 76,000 people. The digital part of the initiative benefited significantly from non-digital dissemination methods. Data logs show great increases in online participation following each public announcement. The Social Media reach has been boosted by mainstream media publishing directly on Facebook and Twitter. In total Facebook generated over 78,000 impressions referring to our service. The ratio of 258 digital surveys to 120 paper surveys confirmed the assumption that more complex online version should not stop people from detailed contribution. The average time spent online at level of 10 min confirms also that people tend to sacrifice more time while contributing online. As expected the digital surveys were submitted rather by younger audience while the paper version represents the full spectrum of age groups. The well-disseminated and effective participation brought broader, international audience to the forum. We have recorded several contributions from UK, US and Germany. Recently, the University of St Andrews in Scotland has expressed their interest in GalwayTF project and sent a group of students to investigate our initiative.

4. FUTURE WORK

The possible outcome of the research presented, can be a multichannel framework for eParticipation that could be easily applied by local authorities and organizations. Most of the current eParticipation platforms suffer from over-structured and controlled discussions which introduce a form of censorship [20]. The framework we propose assumes open discussions, with no particular constraints on structure (comment can be applied to a post or other comment). Citizens are free to post their own ideas and are not limited to discussion topics provided by decision makers or platform coordinator. Posts are rated and so citizens are empowered to select key issues and best solutions. In order to be sustainable, an eParticipation initiative needs to be constantly maintained and improved, following the best practice suggestions in the literature [20]. The enhancements are focused on simplification of the interface, hence providing easier access to participation. The improvements will be made both to the structure of the forum as well as the look and feel and some of the Social Media technologies. The next stage of the project will bring better integration with Facebook and Twitter (Facebook app and dedicated Twitter web app). The Semantic Web technologies will be applied in order to enable easy deliberation data exchange, more effective discussion data browsing and transparency. We

consider developing a mobile app for greater social inclusion and live transport reports. We plan to investigate further the impact of non-digital dissemination methods on the digital part of the initiative. Ideally we hope to get a dedicated column in a local newspaper where we could publish the results on a regular basis. This will help to make the non-digital dissemination more sustainable. We also consider the use of popular paper leaflets enriched with QR codes pointing to the relevant sections of the portal. This way the paper medium can be linked directly to the digital equivalent.

5. CONCLUSION

Modern digital participation tools, due to sociological circumstances and dependencies, are not yet an effective substitute for the classic solutions and, to the date, are not able to replace them completely. Instead, the modern digital and non-digital solutions should be complementary in a seamless loop. eParticipation, in order to be successful, needs to take what is best from the traditional communication channels and enrich it with modern technologies for greater efficiency and range. This research shows that broad social inclusion is crucial for successful participation. The presence of key stakeholders from local government, business, and organizations guarantees constructive and engaged participation. The multichannel citizen-to-decision-maker communication ensures richer and less biased deliberation where citizens feel rewarded for their contributions and are willing to participate more.

6. ACKNOWLEDGMENTS

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