Citizensourcing:

Harnessing the Power of the Crowds to Monitor Public Services

By Emma Prest

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Supervisor: Kristina Irion

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Abstract

Citizen participation is considered to be the cornerstone of any well-functioning democracy and the Internet has brought a plethora of new ways through which to encourage this. This paper investigates a new form of e-participation: citizensourcing. Thie emerging concept draws on ideas of participatory and deliberative democracy within the context of e-governmet. Citizens are seen as untapped sources of knowledge that can contribute to improvng the functioning of government. The question “How can citizensourcing be harnessed to monitor public service delivery?” is explored through the analysis of a case study, FixMyStreet.com. An assessment framework is developed for evaluating citizensourcinginititiatives and applied to the case which was analyzed based on interviews and comparisons with international versions of the website. The paper concludes that FixMyStreet is a user-friendly and popular site that works well for citizens as a reporing mechanism, but has not been embraced by local government. For citizensourcing to succeed at improving monitoring and delivery of public services, it needs support from government to integrate online and offline process and to commit to making internal processes transparent.

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Introduction

The British public, as in many other countries around the world, is dissatisfied with their government. Less than a quarter of the population think that the system of governing works reasonably well according to the Hansard Society's Audit of Political Engagement (2012, 19). Goetz and Gaventa (2001) argue there is a clear need for citizens to be more involved in overseeing the government services they receive and that if governments listen to their citizenry this can lead to better public service delivery. A growing number of people agree. Ostrom's idea of co-production from the 1970s has resurfaced in Whitehall policy papers and politicians' speeches. The notion of citizen-centric government has gained ground, particularly in the UK and Australia (Vincent 2007). Traditionally, political participation in representative democracies was about influencing government institutions and the policy process through direct means, such as elections, and indirect means, such as through the media, political parties and social movements. Norris (2003, 193) believes that the conventional state channels of participation have become less effective and it is more difficult for citizens to scrutinize and challenge governments.

Given this, it is a reasonable to assume developing better channels of communication between the citizenry and government, along with improved mechanisms for accountability, can help to address these problems. How to create these stronger channels for constructive citizen engagement is not an easy question to answer. Communities should be able to shape rather than simply accept the public services delivered to them. But how best to do that? A promising answer is the Internet. It offers an alternative route for citizens to engage and what has become called e-government offers a plethora of possible ways to participate in and improve government functions. The importance of e-government is growing as more and

more citizens turn to the Internet to undertake all kinds of transactions, including with the state. E-government is defined as the "use of information and communication technologies by governments to operate more effectively and transparently; to provide more and better information and services to the public; and to facilitate the participation of individuals, businesses and groups throughout society in their own governance" (Curtin 2007, 2). Recent years have seen increasing interest in a particular application of the Internet to improving public participation in government: citizen sourcing.

Hilgers and Ihl (2010, 72) define citizensourcing as "the act of taking a task that is traditionally performed by a designated public agent (usually a civil servant) and outsourcing it to an undefined, generally large group of people in the form of an open call". Only a handful of authors have begun to study the concept: Torres (2007), Lukenmeyer& Torres (2008), Hilgers&Ihl (2010), Dutton (2011) and Nam (2012). If academia considers e-government to be a young field and e-participation is nascent, then citizensourcing is embryonic. Citizensourcing developed out of crowdsourcing, a term coined by Jeff Howe to describe the phenomenon whereby private companies outsource a task to an unidentified public. Brabham (2008, 86) describes the application of crowdsourcing to the public sector as a "new, hearty agenda for research."

This thesis will therefore explore the emerging field of citizensourcing, with a view to determining how citizensourcing can best be harnessed to improve government functions, in particular monitoring public service delivery. Citizensourcing is presented as a new form of e-participation which believes citizens are more than just users of a service. They also have hidden knowledge that should be tapped. This thesis shows that there is a growing number of examples where citizensourcing is harnessing the power of the crowds to collect information, discuss issues and contribute to public policy. Meijer et al. (2009, 104) note that the impact of

ICT in general on policy participation is an under-researched area. “Neither governments nor practitioners have analyzed systematically *what* governments are doing in terms of citizensourcing and *how* and *why*” (Nam 2012, 13).

In an attempt to fill part of this knowledge gap, this paper addresses following research question: “How can citizensourcing be harnessed to monitor public service delivery?” The hypothesis is that citizensourcing provides a new mechanism through which to monitor public service delivery more effectively than previous approaches by using input from members of the public. In order to understand better how citizensourcing is working at present, an assessment framework was developed to analyze projects. The framework was then applied to the chosen case study of fixmystreet.com. FixMyStreet is a British website used by citizens to report municipal problems to the local government (councils) based on premise is that local problems can be solved more efficiently if residents have a convenient system to report them.

Research was conducted through interviews with Matthew Somerville, Designer of FixMyStreet, and staff from the Local Government Information Unit, a think tank working in participatory local democracy in the UK. FixMyStreet has bee replicated across the world and the model has been discussed in a range of literature from the fields of public engagement and citizen-centered politics to information management and social computing. Based on this literature research was undertaken into how different versions of the model use citizensourcing.

The paper is structured as follows. The first chapter draws on literature from the fields of e-government, participatory democracy and public management. First e-government and e-participation from which citizensourcing sprung is covered. The chapter then discusses the changing focus of government toward increasing citizen participation and where in the policy cycle participation has previously been deemed suitable, before quickly addressing

monitoring of public services. Then, the shift from crowdsourcing to citizensourcing is examined and the concept of citizensourcing developed. Finally, an overview of citizensourcing projects is given.

The second chapter outlines the assessment framework, methodology and reasons for case selection, before diving into the case study in the third chapter. The case study is analyzed according to the assessment framework and it is found that citizensourcing is proving an effective and popular way for citizens to report local municipal problems, but that local authorities are not integrating it into their systems and embracing the new tool.

The fourth chapter discusses the findings and possible pitfalls in the path to successful implementation of citizensourcingfor monitoring. Based on the case study, tentative recommendations areoutlined showing local government needs to be committed to the process, prepred for institutional change and ready to embrace openness – something unlikely to happen in the immediate future in the United Kingdom.

Chapter 1 - Participation On- and Off-line

The Internet is unprecedented in its power to connect the world. It is the network of the networks, ideal for organizing collective action. While governments were somewhat slower than the private sector to grasp the power of the Internet, they have now realized the potential of this new tool to improve the delivery of public services and transform how the state engages and communicates with its public (Devadoss et al. 2003, 253). These separate, yet related, dimensions of e-government are the focus of much research in this area. Reece (2006, 80) identifies two recurring questions that researchers are seeking to answer in the academic field of e-government discussed below.

1.1 Can e-government improve government operations?

Fountain (2001, 193) wrote that "the Internet is a revolutionary lever for institutional change". E-government can make government processes easier, faster and cheaper for everyone involved. It reduces costs in terms of time and money for citizens and the private sector to interact with the state, as well as streamlining internal processes. In fact, it reduces transaction costs for society as whole. The OECD has even shown it can improve overall economic competitiveness (Mayer-Schönberger&Lazer 2007, 3). There is little doubt that the Internet has changed the complex internal workings of government, along with changes to bureaucracy, the role of public officials and the citizen, but in what ways is as yet unclear (Fountain 2001, 193-194).

1.2 Can e-government enhance democracy?

Reece (2006, 70) identifies three phases that e-government literature has gone through – prescriptive, descriptive and causal. Much of the early prescriptive literature assumed a

"democratic bias" which uncritically saw the use of technology as positive and the Internet as good for democracy (Reece 2006, 73). There was great hype that the Internet and new technologies would be the panacea to widespread public disenchantment with politics. This promise has yet to be fulfilled. Research on e-participation has shown that individuals taking part in online political activities tend to be the same as those participating in offline activities. Online political engagement tends to imitate offline political participation (Chen and Lee 2008), effectively acting as a "bolster for the status quo" (Gibson et al. 2005) and reinforcing offline inequalities. The Internet enhances participation for those already politically active by giving them more diversity of channels and methods to affect change, but it does not attract new activists (Nam 2012b, 94; Norris 2002, 113).

The academic study of this field is relatively new and there is a notable lack of theory exclusively born out of the e-government (Reece 2006, 78). The relationship between society and technology is ambiguous. Technology shapes social practices while at the same time it is influenced by society. The causal pathway is unclear, but most likely, the causal arrow goes both ways (Meijer et al. 2009, 102; Reece 2006, 98-99).

1.3 Citizen-centric government

Reddick and Turner (2012, 1) claim that one of the original goals behind e-government was a change toward more citizen-focused government. There is a growing emphasis on raising citizens' voices in the public sector. The state is going beyond simply consulting with citizens to finding direct ways of citizens being able to influence policy, spending and service delivery (Goetz and Gaventa 2001, 1). In the UK the shift towards citizen centric e-government is happening slowly according to King & Brown (2007, 72). Councils have become more responsive in terms of providing information and making online transactions possible. Yet, it is citizens who are taking the lead to become active in public service design

and delivery, increasingly sharing information amongst themselves and with the local authority.

1.4 Policy Participation and Co-production

A new domain of public participation is emerging to suit the information society (Meijer et al. 2009, 111). Traditionally, participation from the public has been in the earlier stages of the policy cycle, such as agenda setting and policy-formulation (see Figure 1). For obvious reasons these stages in the cycle are more open to suggestions and characterized by public deliberation (OECD 2003, 2).

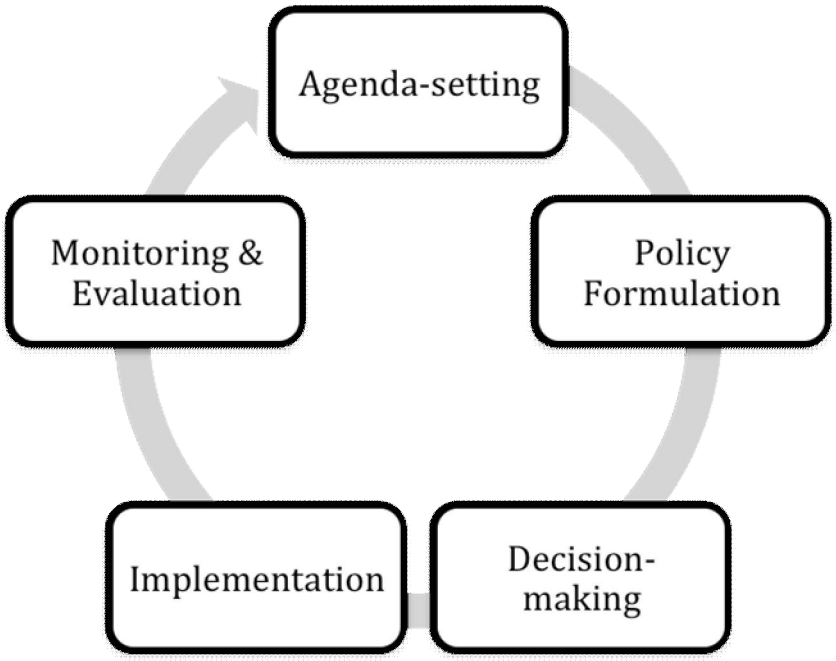

Figure 1: Policy Cycle

Now attention has focused on bringing participation into the later stages of the policy cycle (Meijer et al 2009, 102). While the OECD (2003, 2) findings show that online policy tools can be used in all stages of the policy cycle, they may be better suited to certain stages. Figure 2 below shows the kinds of e-participation tools being used at different stages of the policy cycle.

Stage in policy-making cycle	Information	Consultation	Participation
Agenda-setting	• site-specific search engines • email alerts for new issues • translation support • style checkers to remove jargon	• online surveys and polls • discussion forums • monitoring emails • bulletin boards • frequently asked questions	• e-communities • e-petitions • e-referenda
Analysis	• translation support for ethnic languages • style checkers to remove jargon	• evidence-managed facilities • expert profiling	• electronic citizen juries • e-communities
Formulation	• advanced style checking to help interpret technical and legal terms	• discussion forums • online citizen juries • e-community tools	• e-petitions • e-referenda amending legislation
Implementation	• natural language style checkers • email newsletters	• discussion forums • online citizen juries • e-community tools	• email distribution lists for target groups
Monitoring	• online feedback • online publication of annual reports	• online surveys and polls • discussion forums • monitoring emails • bulletin boards • frequently asked questions	• e-petitions • e-referenda

Figure 2: Policy Cycle Engagement Model

Source: 'Box 2: Tool for online engagement at each stage of policy-making' (OECD 2003, 4)

The UK government has embraced the idea of co-production, developed by Ostrom in the 1970s. Boyle & Harris (2009, 11) define coproduction as meaning "delivering public services in an equal and reciprocal relationship between professionals, people using services, their families and their neighbors." In a 2007 speech David Cameron, now Prime Minister, said:

> *"The public become, not the passive recipients of state services, but the active agents of their own life. They are trusted to make the right choices for themselves and their families. They become doers, not the done-for."*

Co-production believes users of public services are a "hidden resource, not drains on the system" (Boyle & Harris 2009, 11). Interestingly, this rhetoric is remarkably similar to that of crowdsourcing.

1.5 Participatory Monitoring

Monitoring the provision of public services is conventionally done by the agencies that provide the services with few institutionalized ways for citizens to take part (Goetz and Gaventa 2001, 21). Members of the public can telephone, write or visit the office responsible for a particular service if they want to report a problem or make a complaint. If the problem is serious citizens can approach the ombudsman, audit office, anti-corruption agencies or other public accountability mechanisms. However, Yilmaz & Beris (2008, 30) explain that this is a flawed process as it is impossible to monitor the "infinite number of government actions", especially when considering the limited funding and enforcement capacity.

New participatory mechanisms have arisen to bring citizens into the heart of monitoring and evaluation through techniques such as community score cards, citizen report cards, social audits and participatory budgeting. A think tank in this field, the Participatory Governance Exchange (2005, 1), explains that experience from around the globe shows by incorporating citizen feedback about service performance and responding accordingly can substantially improve transparency and accountability, in turn leading to better public services. Reports or complaints from citizens about services can provide valuable information for policy-makers about problems with policy implementation that need to be addressed (*OECD 2003, 2)*.Citizen oversight and monitoring is not designed to replace traditional public accountability mechanisms, but rather complement them.

Chapter 2 - Citizensourcing: the power of the public

2.1 Crowdsourcing

The term crowdsourcing was first used by Howe in an article he wrote for Wired magazine (Howe 2006a). He used it to describe “a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call” (Howe 2006b).Crowdsourcing is based on the idea that while individuals may be "boundedly rational”, with limits to their rationality and decision-making capabilities (Simon’s 1957), “groups are remarkably intelligent, and are often smarter than the smartest people in them” (Surowiecki 2004, XIII).

Although crowdsourcing have been used for a long time, the Internet has made it much easier as the transaction costs between individuals are significantly lower (Brito 2008, 27). Furthermore, technological advancement, combined with the Internet has made much more data available online and can bring together individuals around issues, fostering virtual communities and networks. Crowdsourcing was originally used as a form of R&D in the private sector, pushed forward by the convergence of technology. It proved to be a faster and more efficient way of innovating than traditional methods (Hilgers and Ihl 2010, 82). An excellent example provided by Hilgers and Ihl (2010, 70-71) is the InnoCentive platform. This website allows commercial companies to post problems that their in-house teams struggle to solve. Research found that someone who solved a posted problem was likely to have taken 74 hours to do it, compared to the six months to two years it would have taken the company’s team.

2.2 Citizensourcing: "from the people and with the people"

The present political environment has encouraged the phenomenon of citizensourcing. Governments across the world have embraced the principles of open government and open data. The Open Government Partnership and President Barrack Obama's Open Government Directive point to a change in the culture of government towards being transparent, participatory and collaborative -- characteristics essential to citizensourcing. Citizensourcing adds a new twist to the classic idea of democracy of the people, by the people and for the people with "from the people and with the people" (Nam 2012, 12).

Drawing on the limited literature available it is possible to identify five elements inherent in citizensourcing:

Transparency

Macintosh & Whyte (2006, 2) found that there is a corollary between the provision of information to the public and effective engagement. The premise is that an informed citizenry will be better able to constructively take part and engage in public affairs. If people are to come together and contribute to issues and problems, and for citizensourcing to succeed, they need to have the relevant and correct information. For citizensourcing to reach its full potential, governments need to make data available online in a structured, open and searchable way as many are now doing with open government platforms (Brito 2008, 33). Transparency is not just just about the provision of data, but also about the openness of the citizensourcing process and the openness of government response – how contributions are moderated and collated and how the government then weighs and uses them to come to a decision. Citizens must be able to see how the process works, that it is fair and that they can influence it (Lukensmeyer and Torres 2008, 222). If citizens are better informed and better understand how decisions are taken they are better able to hold governments to account. They

are also more likely to support government if they understand the tradeoffs made when reaching a decision.

Participation

Participation is key. By bringing together a variety and range of experiences and perspectives from a group of people can lead to better decision-making. Dutton (2011, 5) believes that pooling views from multiple people will improve judgment. When participants share and discuss ideas they contribute more than civil servants normally would. The possibility arises that some new angle or idea can lead to innovation or superior problem solving (Nam 2012, 14). Direct input from the communities affected by particular public services and policies is crucial. Users of a service, along with people working on it, are often better informed than government officials (Dutton 2011, 5). Their participation can result is policies that are more nuanced. To the extent that well-managed participation improves policy-making, it can fundamentally improve political legitimacy, and thereby the quality of democracy.

Who is participating is important in citizensourcing initiatives. The quality of contributions made and decisions reached depends on the diversity and representativeness of participants. Efforts need to be made to reach and include marginal groups. The aim of the process is to attract people who are representative of the population affected by the policy or service. Torres (2007, 144) writes that "the involvement of demographically representative groups of people in these participatory processes is the cornerstone of legitimate, credible and solid policy advice". In practice this may be impossible due to the already-mentioned problem in e-government that online participation reinforces real world political participation cleavages (Nam 2012, 17). The digital divide, an oft-discussed problem in e-government, is equally a concern for citizensourcing.Hilgers and Ihl (2010, 83) and Dutton (2011, 20) point out that vested interest groups or political parties may be able to manipulate and exploit

citizensourcing platforms for their own gain. To avoid this, projects should be monitored and be as transparent as possible. If this is done successfully, citizensourcing can provide independence from established institutions and interests, thereby reducing the power of lobbyists and special interests (Dutton 2011, 5).

Participation from a range of people in significant numbers in citizensourcing platforms can lead to higher quality, fairer decisions that have greater support (Hilgers and Ihl 2007, 78). Nam (2012, 13) points to studies that show the public positively evaluate processes in which they have participated and their opinions have been considered, even if they have not been adopted in the final product.

Collaboration

According to Nam (2012a, 18), how citizens and government collaborate in citizensourcing is important. It can refer to citizens working with other citizens or with government. The level of collaboration depends on the aim of citizensourcing platform. In theory if you have more people collaborating on a problem or issue the problem can be resolved more quickly. Yet, the emphasis should be on the quality of the collaboration, not the quantity of people taking part. The online collaborative process means questions can be asked and answers given more quickly in a simultaneous process, as opposed to a slower sequential process (Dutton 2011, 5). In practice it may be that collaboration through citizensourcing does not mean speedier decision-making. In fact it can mean quite the opposite. Citizensourcing can be time consuming if there are many people involved contributing many different opinions. A lot depends on how the process is organized and moderated.

Deliberation

Torres (2007) believes deliberation is a core element of citizen sourcing. Deliberation implies more than just participation. “When citizens are asked to discuss public problems with each other and develop solutions they can live with, unprecedented levels of knowledge-sharing, creativity and shared commitment to outcomes are achieved” (Lukensmeyer and Torres 2008, 220).Deliberation emphasizes the importance of weighing up different possible solutions and working for the common public good which leads to better decision-making. Torres (2007, 136) claims that deliberative democracy increases citizens’ knowledge of policy issues, builds trust and civic capacity, and can potentially lead to greater public participation in the political arena.

Responsiveness

Dutton (2011, 3) writes that the “very legitimacy of decision-making in a liberal democracy depends on a government’s responsiveness to public opinion”. Citizensourcing raises questions about how best to use the input from citizens and how to respond to it. Citizens will continue to participate and engage in government initiatives only if they feel they are being listened to. Individuals who contribute to a citizensourcing initiative need to be properly managed with well-structured activities. Crowds, or rather those self-selected individuals who chose to participate, need to be understood and managed by those responsible for the citizensourcing platform.

2.3 Overview of Citizensourcing

Below is a quick taster of some of the citizensourcing initiatives in existence, setting out how the wide range of uses to which citizensourcing is being put. There is evidence that citizensourcing initiatives around the world are being led by civil-society (Lukensmeyer and

Torres 2008, 224; UNDP 2011, 14).Due to limited space only a handful of examples are covered. Ushahidi is, perhaps, the most famous case. The platform was developed to map reports of violence following the elections in Kenya in 2008, and its open source software has since been used to map everything from sexual harassment in Egypt through HarassMap.org to track the uprising in Syria with Syria Spring 2012. Most uses of Ushahidi entail monitoring elections and responding to disasters. Citizensourcing has proved valuable in the aftermath of humanitarian disasters as it is often quicker to mobilize than government efforts. For example, Peoplefinder used 'smart mobs' following Hurricane Katrina to keep track of people who were missing and those who were safe.

Citizensourcing is used in drafting legislation. For example in Russia, Wikivote enables citizens to make modifications to bills. Another example was in 2007 when the New Zealand Police Commissioner put the widely criticized 1958 Police Act online and invited people to edit it. Citizensourcing has been used for border control, as in the case of Texas Virtual Border Watch which encourages individuals to report illegal activity on the Texas-Mexico border. Other uses of citizensourcing include exposing government corruption. I Paid a Bribe has been successful in India and been replicated in Nigeria and Kenya. Similar projects in Kazakhstan and Russia have led to the prosecution of corrupt officials (UNDP 2011, 24). Other citizensourcing platforms are used to monitor environmental contamination, such as Radiation Map. In its most ambitious form, citizensourcing at America Speaks takes the form of 21st century town meetings bringing together tens of thousands of citizens to discuss pressing public policy issues, such as healthcare reform. Lukensmeyer and Torres (2008, 211) claim that they discuss and solve public policy issues better than government.

Finally, there are the sites that work on civic issue tracking such as Open 311 in the United States that describes itself as "technology that provides open channels of communication for issues that concern public space and public services" (http://open311.org/learn/). The

platform covers a broad range of local level concerns, such as noise complaints and animal welfare. Other related versions, such as FixMyStreet, have a narrower remit only covering local infrastructure problems. The open source FixMyStreet software been used to create almost identical versions of the site all over the world. While researching this thesis I came across over thirty websites on the national, regional and city level from Brazil to Bangalore doing the same thing as FixMyStreet – monitoring municipal problems.

Chapter 4 - Framework and Methodology

4.1 Assessment Framework

In order to better understand how citizensourcing can be used to improve government functions, in particular the delivery of public services, one particular citizensourcing platform is analyzed. To this end, research was conducted to identify criteria that would show how the case-study is using citizensourcing to monitor specific public services and what parts of the process are working well, or not so well. The purpose of the assessment framework developed herein is to provide a set of structured criteria to evaluate the case-study and to better understand how citizensourcing is working at present. The field is only just emerging and it is not yet clear what works and what does not. This thesis hopes to learn and understand what factors are needed for citizen sourcing projects to fruitfully contribute to public service delivery, and wider government operations.

As mentioned, there is little academic literature to draw on with regard to assessing citizensourcing projects. Even if we turn to e-participation, the literature on evaluation is limited. CAddy (2005, 10) notes that considering the amount of time, resources and energy governments spend on e-participation projects to engage the public in government decision-making, very little attention is paid to evaluating the effectiveness of the projects. The resulting evaluation gap is put down to the fact that governments have only begun to focus efforts on engaging citizens in recent years, and so monitoring and evaluation of these projects is still being developed. E-participation projects have undoubtedly moved on from just being pilot projects, but rigorous evaluations of such projects are rare (Aichholzer & Westholm 2009, 2; Macintosh & Whyte 2006, 3). So far, much of the emphasis has been on how money is spent and whether the project is cost-effective, not on learning how it improves government functions and increases e-participation. Aichholzer & Westholm (2009, 2) note

that analysis of quality and impact are particularly neglected. Evaluation is key to determining a project's effectiveness and value and is essential to identifying shortcomings and improvements. The following assessment framework is designed to contribute to the emergent field of citizensourcing by developing and expanding on existing frameworks for evaluation with the aim of being broad enough to apply to different kinds of citizensourcing projects.

4.2 Citizensourcing Frameworks

Despite the limited literature on citizensourcing two frameworks have been developed. The first one, created by Hilgers and Ihl (2010), breaks the citizensourcing process into three tiers: 1) Citizen Ideation and Innovation, 2) Collaborative Administration and 3) Collaborative Democracy. While this framework is helpful for conceptualizing citizensourcing, it is not beneficial for evaluating such projects.

Nam (2012) outlines the other framework in his article "Suggesting frameworks of citizensourcing via Government 2.0" which is explicitly aimed at assessing citizensourcing initiatives. Nam's framework includes all five dimensions identified in the previous chapter as important to citizensourcing. The framework provides a suitable lens through which to analyze the case study at hand. This framework will therefore form the basis of the assessment framework, but will be expanded to include other criteria deemed relevant in analyzing how citizensourcing projects are working. Nam notes that his work is preliminary, based on examples of citizensourcing found only in the United States, and welcomes additions from other places:

> *"A remaining task is to develop the frameworks as more generalizable or broadly applicable. More work is needed to enhance our understanding of citizensourcing in diverse contexts. A next step for this*

> *work is to explore various comparable cases… at multiple levels of government in multiple countries and then adjust the frameworks to various contexts" (Nam 2012, 19).*

It is hoped that this thesis may form part of this next step, in particular by building on experience from the United Kingdom and from a civil society-led citizensourcing project that feeds into the work of local government.

4.3 Building an Assessment Framework

Nam's (2012, 16) framework, entitled Criteria for Assessing Citizensourcing, arranges the criteria into three groups: design evaluation, process evaluation and outcome evaluation. Project design incorporates sociotechnical design, functional design and procedural design. Process evaluation includes transparency, participation and collaboration, to which I have drawn out deliberation and responsiveness[1]. Outcome evaluation emphasizes two criteria, effectiveness and impact. While Nam's framework provides a fairly comprehensive overview of the different aspects of citizensourcing projects, there are certain elements that warrant greater emphasis in order to better understand the phenomena. For this reason the outcomes section has been expanded to include some of Curtin's (2006, 27) criteria for evaluating the impact of e-government projects: governance impacts, administrative impacts and social Impacts. Further, Aichholzer & Westholm (2009, 12) outlined a set of criteria for evaluating e-participation projects, of which certain elements have been built into the transparency, participation and collaboration criteria and the criterion of sustainability was added. Papadomichelaki & Mentzasm (2006, 98) develop a set of criteria necessary to examine and measure the quality of e-government services from the end-users' perspective which have been incorporated into functional and procedural design. I have renamed the last group of

[1] Nam (2012, 16) had included these latter criteria as part of collaboration.

criteria impact evaluation and added impact on the policy cycle to it in order to show which part of the policy process citizensourcing is contributing to and how. The resultant assessment framework is set out below.

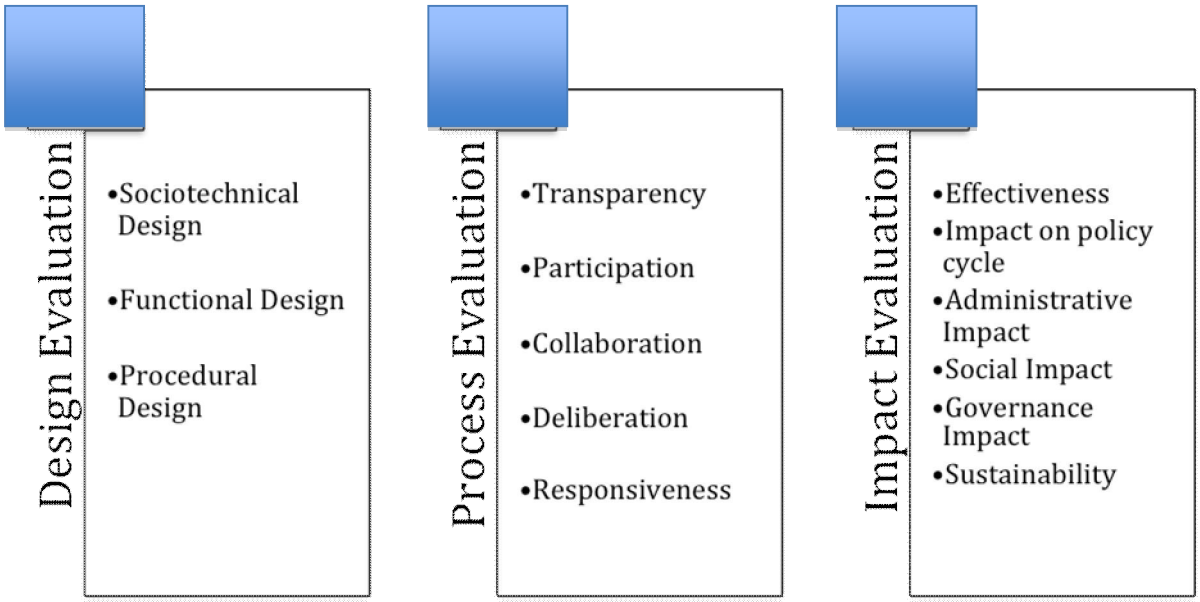

Figure 3: Criteria to assess citizensourcing (adapted from Nam 2012, 16)

4.4 Methodology

There is limited quantitative and qualitative data available on citizensourcing due to the recent nature of most of the projects. A qualitative case study analysis was deemed most appropriate as the thesis is looking to understand the processes at work in citizensourcing, and to explain its impact on government and citizens. In order to answer the research question,*"How can citizensourcing be harnessed to monitor public service delivery?"*, the case study of FixMyStreet was chosen. Contact was established with Matthew Somerville, Designer of FixMyStreet, and questions were put to him via email. Interviews were conducted with two staff members from the UK-based Local Government Information Unit which works on local participatory democracy - Jonathan Carr-West, Director, and Rob

Andale, Digital Democracy Coordinator - to ascertain the context and environment within which FixMyStreet is operating. FixMyStreet has been referred to in academic research from fields as diverse as e-government, e-participation, public management, public engagement, citizen-centered politics, information management and social computing. Based on this literature research was conducted on FixMyStreet in the UK and in other countries, particularly Georgia, Italy and the Netherlands. There were numerous limitations to the research, the most important being that the key stakeholders – councils and users – were not interviewed due to time constraints.

4.5 Case Study Selection

All the literature on citizensourcing has been based on research in the United States. As Nam (2012a, 19) has explained, there is a legitimate need to research citizensourcing activities in different parts of the world, especially as this paper has already shown that citizensourcing is indeed a global phenomena. The British website FixMyStreet was deemed to be an instructive case study to analyze how citizensourcing is working outside of the United States and at the level of local government. The FixMyStreet platform is used by citizens to report local problems on the street and is therefore a form of monitoring the maintenance of streets and other local public infrastructure.

FixMyStreet was chosen because of its age and success. FixMyStreet has been in operation since February 2007, which is longer than most other examples in the field, meaning it has had time to establish itself and prove its efficacy. Brittle et al. (2009, 9) describe the platform as "one of the early success stories". In 2008, FixMyStreet won a SustainIT e-wellbeing award for being "[a]n excellent example of an independent website which empowers the general public in their dealings with their local council. It is a relatively simple application, yet highly effective and replicable." In fact, FixMyStreet has proved to be so successful that

the model and its open source software have been replicated in so many cities and countries around the world that they have lost count. This case study was chosen to analyze how citizensourcing is effectively being used to monitor and report local infrastructure problems, in the hope of showing when and where citizensourcing can be used to monitor other public services.

Chapter 5 - FixMyStreet

5.1 Introduction to FixMyStreet

FixMyStreet is run by the not-for-profit, MySociety which uses the Internet to "give people simple, tangible benefits in the civic and community aspects of their lives"(MySociety.org 2012). Fix MyStreet is based on the simple idea that local problems can be solved more effectively if the public has a convenient system to report them. The website's purpose is to "help people report, view, or discuss local problems they've found to their local council by simply locating them on a map" (fixmystreet.com 2012).

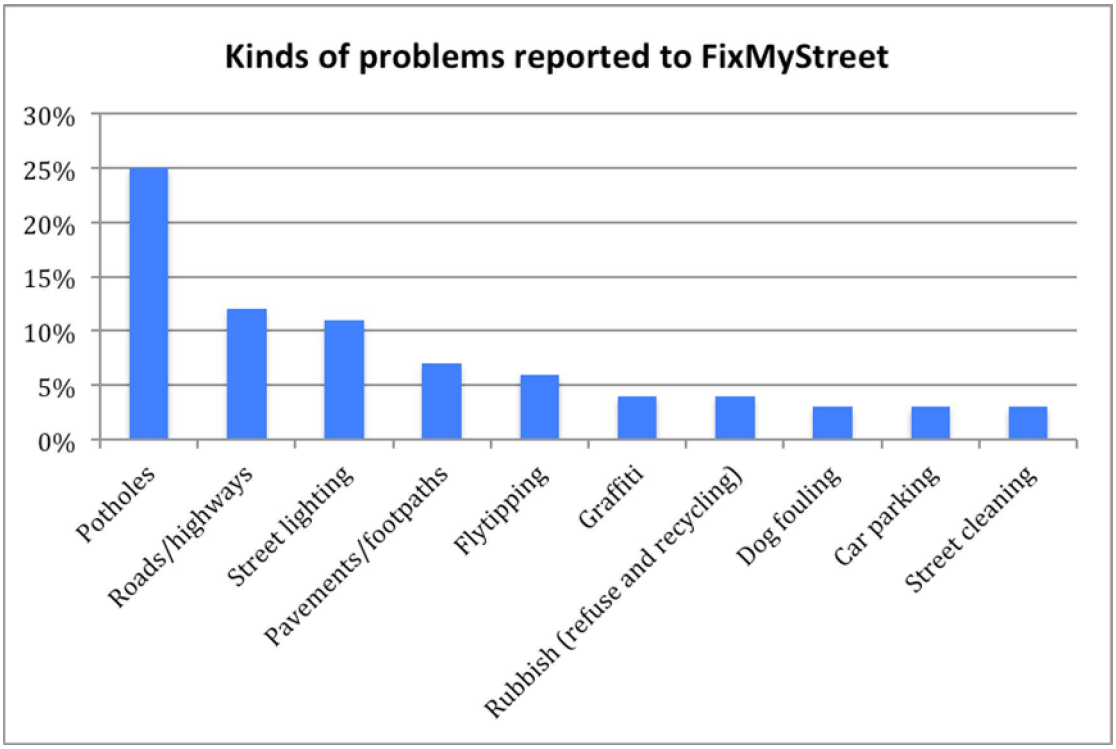

Figure 4: Frequency of problems posted on FixMyStreet

The kinds of local problems most frequently reported, shown in Figure 4, include potholes, fly tipping, graffiti and problems with streetlamps, roads and pavements. The site is not

design for, and discourages, reporting on broader social problems such as anti-social behavior, noise pollution and emergency problems.

FixMyStreet is built on principles of open data and transparency. The maps on the site contain all current reports posted by other users in the area. There are summary tables arranged by council name showing the numbers of new problems reported, how many have been fixed and how many are unknown or unresolved. Users can upload photos of the problem when they make the report.

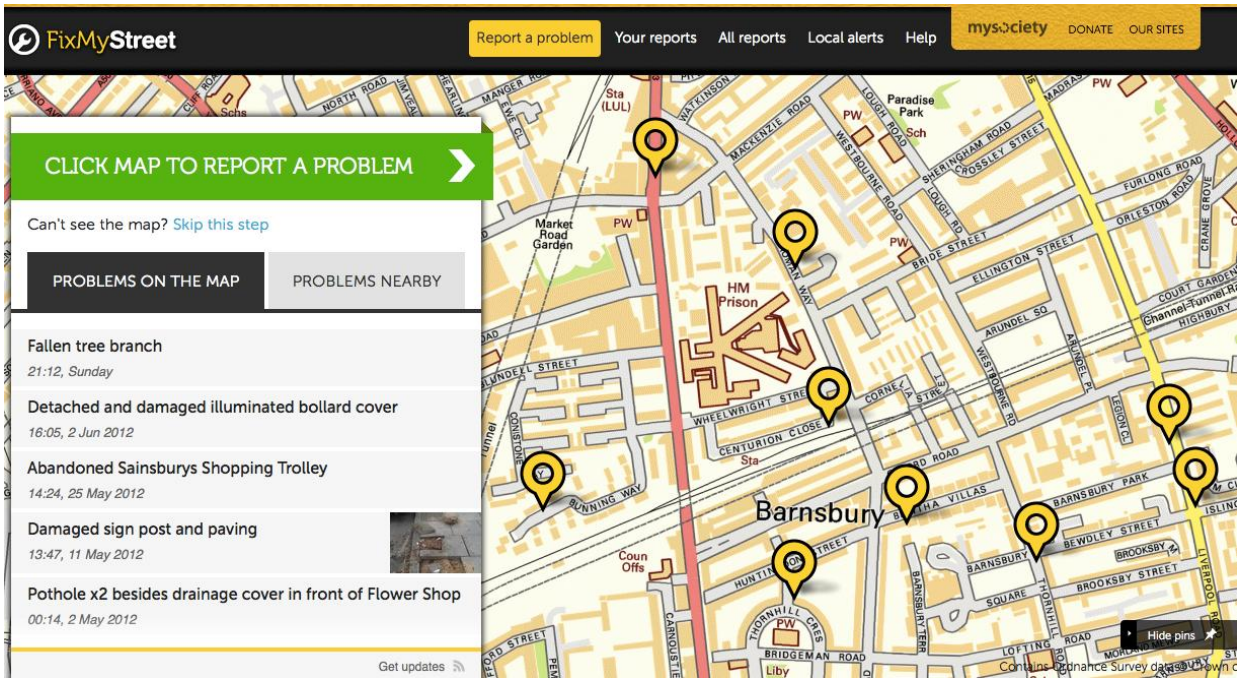

Figure 5: Screenshot of map and reported problems on FixMyStreet.com

5.3 Evaluating FixMyStreet

The assessment framework was applied to the case study. The findings are discussed below, with the key findings summarized at the beginning of every criterion.

Design Evaluation

Sociotechnical design

- Online and offline processes are not fully integrated and coordinated. Some problems are fixed, but reports are not updated online.

- Councils have made limited efforts to embed FixMyStreet into their website or fully integrate it into their internal processes.

Socio technical design relates to how the website works with institutional and organizational aspects of ICT and whether there is coordination between offline and online processes. King & Brown (2007, 78) criticized FixMyStreet's poor integration of the reporting mechanism with local councils. They claimed there is lack of coordination in the system when a user posts a problem and the council fixes it but the user does not update the new status on the website. The implication is that the user is at fault. However, Matthew Somerville (Designer, FixMyStreet. Email interview with Emma Prest. May 25, 2012) explained that the council can update the report themselves, as can anyone else. The problem here is presumably that the councils see this as extra work and therefore do not do it.

FixMyStreet appears to supports institutional arrangements. It provides a new channel of communication for citizens looking to report local problems, in addition to the channels provided by the local authority – telephone, email and office visits. In terms of improving institutional arrangements the answer is less clear. FixMyStreet offers a better reporting channel than those provided by local councils as it requires users to tag the exact location of the problem on a map, making it easier for the council to locate the problem. In addition, the option for users to post photos may help the council in its response. Somerville (2012) explained that "for many authorities, we are simply another way that they will be receiving

reports from the public - I hope they find us useful, with the map of the report's location and so on, but they might not make any difference to what they would do with any other incoming report".

Many councils have embedded FixMyStreet into their websites, showing that the technology has become integrated into institutional procedures in some instances. "There are multiple levels of embedding - a few councils have worked with us to make a version of the site that looks like their site, some we have integrated with at the back end (so we can post reports directly into their system). We have even done both for a couple so far" (Somerville 2012). For example, Barnet Council in North London and Southampton City Council both use FixMyStreet as the official channel to report "streetcare problems", directly integrating the submission of incidents into their own workflows and routines.

Figure 6: How to make a report through FixMyStreet

1. Enter British postcode, street name or area
2. Locate the problem on a map of the area
3. Enter details of the problem
4. FixMyStreet will send it to the council

The report is sent directly to the relevant council and the council follows its normal procedure for resolving the problem identified.

Functional design

- The platform is an easy and efficient mechanism for citizens to report street problems, attracting citizens who have not previously reported local problems to their council.

Functional design refers to the infrastructure of the platform and whether it can facilitate efficient and effective e-participation and two-way communication, thereby contributing to "collective intelligence work" (Nam 2012, 16). Hilgers and Ihl (2007, 74) think that FixMyStreet offers a feedback function for citizens that is a "fast and efficient" way of reporting problems to local government. This is indeed true. It makes it easier for citizens to get in touch with local government, mainly due to the simple three-step process (see Figure

6).Users can report a problem in three clicks, compared to many council websites offering on-line reporting mechanisms which are more arduous. King & Brown (2007, 78), who gathered the opinions of 28 individuals as prospective users, said the site is "very easy to use, and clearly popular with the prospective users surveyed". One key benefit identified by Rob Dale (Online Engagement Lead, Local Government Information Unit. Interview with Emma Prest. May 28, 2012) is that citizens do not need to find contact details for the responsible local authority or service department which is often difficult on government-run websites.

The website design is simple and functional. The website was redesigned in March 2012 to further improve the flow of making a report. Significantly, in the light of the rapid rise of the mobile web, the redesign was also intended to provide a much better experience when visited on mobile devices (Somerville 2012). FixMyStreet has developed apps for iPhone, Nokia and androids so that citizens can post problems literally when they are walking down the street. The map-face is intuitive and the introduction of user accounts means that for frequent users the process is even easier.

FixMyStreet's popularity is evidence of this user-friendliness. Figure 7 demonstrates the steady growth in user numbers. At the beginning of 2012, FixMyStreet reached a milestone of sending200,000 reports since its launch. The platform sends an average of 250 reports to local authorities every day. These reports have been submitted by over 87,000 people, 52% of whom had never before reported an issue to the council (Nixon 2012). This is significant. It appears the platform is attracting citizens who have not previously reported local problems to their council.

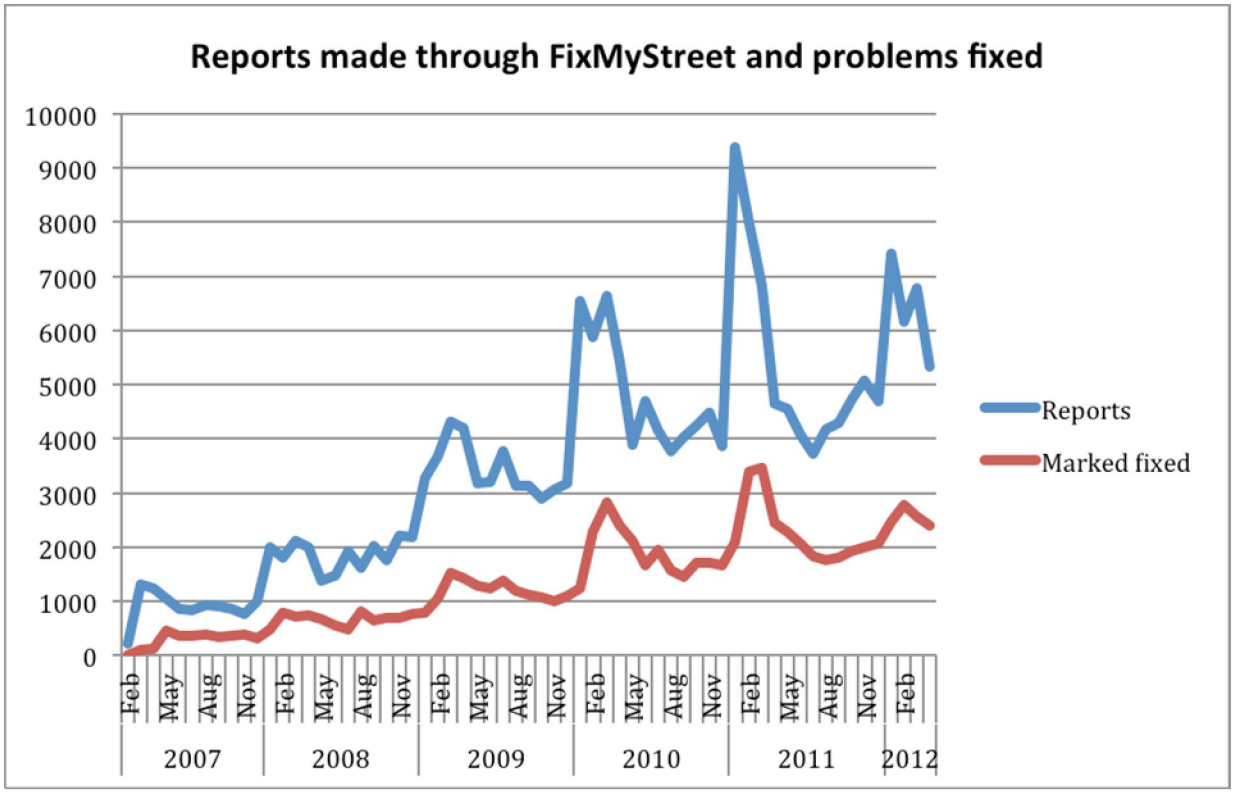

Figure 7: Reports posted on FixMyStreet since its inception, and problems fixed.[2]

Procedural design

- Minimal site monitoring is required as instances of inappropriate content are rare.

Procedural design relates to the procedure of the citizensourcing process, for example who sets the agenda and what issues get priority. This is not very applicable to the kind of citizen input on FixMyStreet as all posts get displayed equally. Procedural design also incorporates the quality of site moderation and associated issues such as censorship or favoring certain viewpoints. Again, this is not that necessary as there is minimal site moderation. Instances of people posting inappropriate contentare rare according to Somerville (Somerville 2012). Anyone can report an unsuitable comment through the contact page and the user support

[2] The number of fixed problems is likely higher than the graph shows. The site relies on users and councils to update reports when a problem has been fixed, but they often do not(Somerville 2012).

employee deals with it. King & Brown (2007, 77) found that users surveyed liked being able to post anonymously, unlike council sites which often require contact details (King & Brown). FixMyStreet takes the security and privacy of user information seriously and all information held is as secure as possible (Somerville 2012).

Process Evaluation

Transparency

- Improves transparency in the reporting process, showing what problems are where and which councils are fixing them, but does not shed light on local authority decision-making.

Tom Steinberg (2009) Founder and Director of MySociety, said that FixMyStreet creates "transparency as a side effect of delivering services".FixMyStreet, for the first time, brings transparency to the reporting and complaints process in local government by making it public (King & Brown 2007, 78). The website has introduced transparency to a process that was previously not open. FixMyStreet puts pressure on authorities to fix problems by making them available for all to see.Some councils in the UK have systems whereby citizens can report problems online, but they do not make public all the problems reported and provide information on whether they have been fixed in the way FixMyStreet does. The maps on FixMyStreet mean that everyone can see the array of problems reported in any given area across the UK, as well as which councils are responding to citizens' reports. However, the site does not illuminate local government decision-making.

Participation

- The site is popular, but most visitors do not post reports.

- Participation is most likely not representative of the population. There is evidence that the lowest socio-economic groups use the site the least.

The site is getting a lot of traffic, but most visitors are not leaving reports. The amount of people using the site to report problems has grown steadily, but numbers are still relatively small. In 2011, the average number of reports received per moth was around 5,340. Yet the number of unique visitors to the site per month was 40,000.

In theory the platform is accessible to everyone with Internet access in Britain, excluding Northern Ireland. Yet it must be noted that one quarter of the British adult population has never used the Internet. Of these 10 million people, four million are the most socially and economically disadvantaged (21stcenturychallenges.org). This would imply that FixMyStreet is not accessible to a substantial portion of the population.

It is difficult to reliably calculate whether the people using FixMyStreet are representative of the wider population. The site does not collect information on the demographics of users. However, it is likely that they are not. Escher (2011) from the Oxford Internet Institute assessed two other websites run by MySociety called TheyWorkForYou and WriteToThem. The findings on user demographics showed that users are predominantly male. They tend to be older, more educated and earn higher incomes than the general population. This reflects the FixMyStreet audience data provided by Alexa.com (2012), a company specializing in web metrics[3]. The suggested demographics of users are in keeping with research on online political engagement - those with higher socioeconomic status are more likely to be politically engaged on the Internet (Sylvester and McGlynn 2010). People with access to conventional resources, such as knowledge, time and money, usually have access to the Internet, along with the necessary skills to use it (Nam 2012b, 91).

[3]It is not known whether Alexa.com is a reliable source. The company's data collection methods are unclear and accuracy of the data is unknown.

Collaboration

- Citizen-to-citizen communication and collaboration is not significant.

There is some evidence of users communicating with other users, but it does not appear to be significant. About 11% of reports (around 24,000) have an update left by someone other than the person who reported the problem (Somerville 2012). There are a couple of instances where FixMyStreet has been the catalyst for users coming together and solving a local problem themselves. A community in Great Yarmouth cleared an unused railway track together after connecting through FixMyStreet. “The site made possible a dialogue between community members and the council’s community development worker, who organized a “clear up” day where locals could get involved with rectifying the situation, with tools, insurance and even a barbeque provided” (Somerville 2008).Somerville (2012) admits that FixMyStreet could do more to try to persuade people to get involved in community action, but at the same time he notes that for reasons of clarity FixMyStreet should be kept simple and have one use.

Carr-west (Director, Local Government Information Unit. Interview with Emma Prest. May 28, 2012) raises an interesting point. He thinks that in fact FixMyStreet runs counter to encouraging people to being pro-active, “it is great at helping people flag up a problem for someone else to fix, but it's not very good at getting people to take responsibility for doing something themselves… FixMyStreet makes it easier for people tocomplain and expect government to fix things. It can stop citizens from doing things for themselves.”

Deliberation

- Minimal discussion or deliberation taking place.

Despite FixMyStreet's aim being to provide a platform where "you can discuss the problem on the website with others, and then together lobby the council to fix it, or fix it directly yourselves" (www.fixmystreet.com/faq), there is minimal discussion or deliberation. Somerville (2012) explains "it is hard to balance people leaving helpful updates on reports, and yet it not becoming general discourse. I certainly don't think FixMyStreet should provide a general discussion forum - there are many such places already in existence, and the site should stick to its single-minded remit".

Responsiveness

- There is limited contribution from local government.

As seen in Figure 7 showing the number of problems fixed, it is evident that councils are not fixing a substantial number of the problems reported. During 2011, 5,344 problems were reported of which 42% were fixed, although as mentioned number is probably higher. However this data indicates that there is room for improvement. Some councils post updates on user reports explaining delays or reason for not fixing something, but most do not. Somerville (2012) recognizes the importance of responsiveness, "it would be great if more did, as I think public engagement goes a long way to making people feel more satisfied - if something can't be fixed, for whatever reason, then as long as that's explained people are generally happy; certainly more happy than if you just ignore it or palm it off" (Somerville 2012).

Impact Evaluation

Effectiveness

- The site meets its objectives of helping people to report and view local problems.

If the site's goal is to"help people report, view, or discuss local problems they've found to their local council by simply locating them on a map" (www.fixmystreet.com/faq), then FixMyStreet more or less achieves its aims (apart from the discussion aspect). The growing popularity of the site would imply that it is successfully working as a reporting mechanism. The fact that it has been embedded and adopted by some councils is also a good sign that it has something to offer both government and citizens.While it works well as a reporting mechanism, FixMyStreet has no power to tackle a council that chooses to ignore a posted problem. In theory FixMyStreet has at its disposal a league table of council responsiveness that could be used to name and shame ones that perform poorly. Yet, the site is careful not to do this.

Impact on Policy cycle

- Contributes to monitoring and evaluation of services, in particular to provide councils with internal data on their performance.
- Information in reports is considered to be accurate.

FixMyStreet is evidently feeds into the policy cycle by monitoring the provision and maintenance of local infrastructure. The reports made on the platform can provide valuable information for policy-makers about how implementation is working on the ground and the kinds of problems encountered (OECD 2003, 2). Carr-west (2012) explained that since the abolition of the key national indicators for performance measurement, councils welcome FixMyStreet as it gives them a way to measure their own performance. It gives them numbers they can show to central government and others to demonstrate they are doing a good job. This suggests that it is contributing to monitoring public service delivery, internally and externally. Meijer et al. (2009, 106) describe FixMyStreet as "citizens pressuring government to implement policies accurately". In addition to influencing policy implementation, it could

be argued that decision-making is better informed as councils have more of an overview of local problems in the borough. Interestingly Somerville (2012) said that inaccuracy of information in reports is not an issue meaning that the data received by councils is of high quality and therefore could contribute to informing decisions.

Administrative impact

- The platform can save local government time and money.

As FixMyStreet makes the process of reporting easier and appears to be attracting people who did note previously report local problems it most likely means that councils receive more reports than they previously did. Some could consider this a burden. But in the longer-term this can have a positive impact because better-maintained local infrastructure will presumably save councils money. Further, because the site presents reports in a transparent way, members of the public will not make the same report twice and waste the council's time. Online communication further saves councils money as they do not have to staff call centers as much. The participation of the residents means that local problems are presented to the council which does not have to work out where problems lie.Bittle et al (2009, 9) comment that "the service helps local administrations to crowd-source some of the maintenance tasks thus decreasing their workload while reducing cost". They also suggest that reports that go straight to councils' internal databases bypassing email "decreases the turnaround time, saves money and avoids frustration". FixMyStreet works with councils to make them more efficient at receiving and processing reports (Somerville 012).

Social Impact

- **No finding**

It is difficult to measure the social impact of FixMyStreet. It is assumed that the site contributes to a better-maintained, cleaner and safer environment, which would improve the well-being of communities.

Governance Impact

- **No finding**

This is also difficult to measure. It would appear that the increased transparency would contribute to public accountability. A better relationship between the public and local government could also in theory be fostered through this site, but there is little sign that this is happening. Increased participation in the decision making process through citizensourcing could also improve governance, but again this is not happening.

Sustainability

- **The platform appears fairly sustainable.**

The platform's funding appears fairly secure. Originally funded through the Department for Constitutional Affairs Innovations Fund with a £10,000 grant, FixMyStreet currently relies on a combination of grants, donations and income from commercial work. The number of people required to run the site is small - at present there are two developers working on commercial projects and one employee who provides support to users (Somerville 2012). The popularity among the public, and interest from councils looking to embed FixMyStreet in their websites, indicates that there is stakeholder support. Furthermore, the worldwide interest in and adoption of the site has been remarkable, showing there is global support for FIxMyStreet.

Chapter 6 - How can citizensourcing be harnessed to monitor public service delivery?

The findings from the case study analysis show that FixMyStreet has changed how people report local infrastructure problems to their councils. The platform has made the process easier and more transparent. The benefit to citizens is clear; for public officials delivering the services it is less so.

Firstly, the findings indicate that when FixMyStreet is integrated into back-end local government processes it can streamline the reporting process by registering the reports directly into the council's internal system thereby generating cost and time savings. Yet, few councils have done this.

Secondly, it is a useful way to collect information to get an overview of local problems and see how well the council is dealing with them, both from an internal and external persepctive. As Erikson (2010, 2) explains, FixMyStreet is "a powerful aggregate representation of the state of the streets – areas with lots of problems become quite apparent". The Georgian version of FixMyStreet, Chemikucha, claims that the Mayor's office used the site to see how efficiently its different internal departments were handling requests (UNDP 2011, 34).

Thirdly, the site is a good channel of communication for local government to interact with citizens, be more responsive and strengthen the citizen-government relationship. It can be used as a way to build trust, or not as the case may be. Chemikucha faced the problem that municipalities were marking problems as fixed when they were not[4] (UNDP 2011, 34).

[4]Chemikucha added a verify button so that citizens can confirm whether problems have infact been corrected (UNDP 2011, 34).

6.1 Potential Pitfalls

Institutional Resistance

The evidence from this case study shows that while councils have accepted FixMyStreet as a way for citizens to send them reports of problems, most have not embraced it. The reasons for this are most likely a complicated mix of limited resources and a lack of manpower to update reports and respond to citizens online, combined with a resisatnce to change. Lukensmeyer and Torres (2008, 226) believe government is not ready to embrace citizensourcing because government bureaucracies are inherently resistant to change. The institutional mentality of bureaucracies as inflexible and cumbersome is well established. Fountain (2001, 97) highlights the difficulty of enacting new technology in institutions. For councils to integrate FixMyStreet into their own workflows and internal processes it not simply a matter of the right IT systems. They need to open up their entire reporting system, requiring transforming the organizational culture and values. Alfano (2011, 5) compared FixMyStreet to a similar version designed for the city of Venice, Italy, called IRIS. The Venetia government had to establish new internal frameworks and regulations and change their organizational culture in order for the model to work. While Dutton (2011, 30) recommends that citizensourcing initiatives should be bottom up in order to build the community and attract participants, the case of FixMyStreet shows that support from government is fundamental as without it the project can have limited impact. For a successful and sustainable citizensourcing inatitative both civil society and government must be committed to the process.

Transparency

Dutton (2011, 28) argues that government agencies by their very nature are conscious about controlling information and avoiding leaks, so they may be wary of creating new channels of communication and opening up systems to the public. There is a fundamental tension within

citizensourcing: government institutions want to maintain control and secrecy, whereas those participating value openness and autonomy. King & Brown (2007, 78) believe local authorities are reluctant to transfer control of information to citizens.

Participation

There is a legitimate concern that FixMyStreet does not give an equal voice to all. Goetz and Gaventa (2001, 12) note that "the nature of access opportunities and redress mechanisms empower some citizens over others". Unfortunately this is unlikely to be addressed in the immediate future. A combination of the digital divide and societal inequalities mean some people do not use websites to communicate with government. Meijer et al. (2009, 107) raises the concern about the representativeness of users, stating that if it is "only used by Internet savvy users, the result could be that the government will be more responsive only to certain people". However, there may be more representative participation on the site as the digital divide narrows.

It could be argued that regardless of who participates, the end product – cleaner and safer streets – are a public good benefiting everyone. In some parts of the UK, for example urban areas where there high and low-income housing and neighbors are mixed together, it may not be so important. Someone from a higher socio-economic background who reports a pothole helps the whole street. However, in other more segregated parts of the country the result may be that certain poorer neighborhoods do not have the access or capacity to report local problems. Citizensourcing is an extra tool in the monitoring toolbox. It is not meant to replace more traditional methods and it does not place the responsibility of monitoring onto the shoulders of the crowd, but rather invites them into the process. It is important that other channels to complain and monitor delivery stay open so those without Internet access who

cannot use the website and are able attract the attention of government agencies to local problems in a different way.

Collaboration

FixMyStreet has shown that citizens are keen to report their local problems online, but do not necessarily want or need to work together on these issues. They simply want them to be fixed. Dale (2012) argues that one reason that FixMyStreet has worked is that it relates to people's surroundings. Problems in the local environment have more immediacy. It is easier for citizens to see the connections between revenue, expenditure and implementation at the local level (Goetz and Gaventa 2001, 14). People will only engage in political matters if they directly affect them and even then only in a limited way. "There is little sign that people want to engage with their local authorities, on-line or off-line. That is why FixMyStreet works. It enables them to complain and wait for someone else to fix the problem with out really engaging in the issue" (Dale 2012).

Deliberation

While some thinkers in this field such as Torres (2007) believe fostering deliberation is a crucial element of citizensourcing, FixMyStree shows otherwise. Fostering debate and discussion among and between citizens and government may not be desirable in all circumstances for either party. Verbeterdebuurt, a variation of FixMyStreet in the Netherlands, provides the option to post reports of municipal problems, as well the additional option of posting a new idea which needs ten supporters to get it sent through to the relevant government department. However, as the website shows, this is a rare occurrence. It would appear that Dutch citizens want pot holes fixed, but do not feel the need to debate and deliberate such issues online. It seems that when it comes to street maintenance problems, deliberation is not essential to citizensourcing.

Responsiveness

Amplifying citizens' voices and ensuring they are listened to is a step towards better public service delivery, but the journey is not complete. There is general agreement that FixMyStreet gives citizens a louder voice, but that does not necessarily mean that councils are listening. In order to improve monitoring and consequently delivery of public services "citizens and/or civil society organizations need to play an active role in demanding explanations (answerability) and/or in imposing sanctions/rewards (enforcement) about government performance"(Yilmaz & Beris 2008, 31). FixMyStreet helps citizens to voice concerns, but does not help them to enforce change. The site could do more to reward and publicize those councils that do well, both in fixing problems and responding to citizens' posts.

Establishing online forums for public expression may not be viewed as a positive development by public officials. Giving people greater opportunities to ask questions and make demands puts more pressure on the government to respond (Dutton 2011, 21). Carr-west (2012) agrees that "the downside of giving people more power to engage with government is that they demand more and it may not be possible to answer these demands". Governments often have to make difficult decisions that the people may not support, but may be in the country's long-term interest. Giving people the chance to express themselves and then going against their wishes can be difficult for government. The crux is bringing about a fundamental shift in the mindset of civil servants towards wanting to include citizens in processes from which they have been carefully excluded (Dutton 2011, 21). Carr-west (2012) suggests that one way to resolve the tension between increased engagement and greater demands is to have open and honest discussions between government and citizens about priorities and tradeoffs. But this can be difficult in an impatient media age.

6.2 Citizensourcing as a tool for monitoring and more

FixMyStreet at its heart is“ a problem-reporting system that could be adapted for a multitude of different uses” (Nixon 2011). The code from FixMyStreet has been used in the UK to create FixMyTransport to report transport problems. This platform was designed to encourage discussion about public transport issues and is more campaign focused. The same code was used to report empty homes, first for the Empty Homes Agency charity, and then for a Channel 4 TV news investigation. Someville (2012) believes that “that the platform could be used for other things as well, it's just finding out what those things are”. Suggestions have included hospitals and universities, among other large institutions, which could use it to report maintenance issues (Nixon 2011).

There is an interesting example from East Africa that is worth noting. Ushahidi has launched a project called Uduma, still in the pilot stage in Kenya and Mozambique. Its goal “is to contribute to the improvement of service delivery by providing simple technology/media based tools and channels to amplify citizen’s concerns, displeasures, complaints or suggestions and to demand and hold duty bearers accountable” (huduma.info 2012). The two separate platforms enable citizens to report problems related to education, governance, health, infrastructure, water and justice. However, it is too early to draw any conclusions as to whether this expanded idea of citizensourced monitoring can work. Carr-west (2012) thinks that in the UK this would be unlikely to happen. While there is a general drive towards transparency and participation led by central government and most councils are moving in the right direction, other parts of the public sector like the heath, police and education sectors, remain closed and resistant to releasing information and opening the doors to public participation.

Participation in the policy process at the local level in the UK is fairly limited. Councils are good at consulting at the beginning of the policy process. They tend to engage with civil society in the design and sometimes the delivery of services, but remains a peripheral aspect of their work (Carr-west 2012).The recession has led to sizable cuts in funding across the public sector. While some councils in the UK have embraced citizen participation as a way to improve democracy, others see citizen involvement as the only option to keep providing the same quantity and quality of services with fewer resources (Carr-west 2012)

Citizensourcing and location-based map annotation could be used one day to report all kinds of public service issues. If this were to happen, the platform would effectively become a one-stop shop for citizen's queries and complaints. The potential for this platform to aggregate data is immense. It could provide a way to identify poor public service delivery on a national scale and feed into policy making. It could also be deployed to respond to emergencies, such as flooding. But we are a far cry away from this widespread and embedded use of citizensourcing.

It is hoped that the case has been made that citizensourcing can improve the monitoring process for public services. This is not the only area where citizensourcing can benefit the public sector. Lukensmeyer and Torres (2008, 209-210) believe that citizensourcing can contribute to policy agenda-setting, design, decision-making and evaluation. They hold up the earlier example of America Speaks with their 21st Century Town Hall meetings is testament to this.America Speaks used citizensourcing in significant planning projects, such as the redevelopment of Ground Zero and NewOrleans, along with influencing agenda setting and designing policy. More research is needed to identify when and where citizensourcing can feed into the policy process. The recommendations outlined below apply specifically to monitoring public services. They may be of applicable to citizensourcing in other parts of the

policy continuum, butI am reluctant to draw wider conclusion as research was based on one case study in one country undertaking one task.

Figure 8:

Recommendations for applying citizensourcing to monitoring public services

- Participation and support from civil society and government (particularly decision-makers)is essential to integrate online and offline processes.
- In order to reap the benefits of citizensourcing, governments need to genuinely commit to transparency and responsiveness – may mean changing institutional culture.
- Facilitating open discussion about government priorities and tradeoffs can support the process.
- Citizensourcing should not replace other monitoring channels, rather complement them (important so that those segments of society that do not or cannot use online platforms can still be heard)
- Fostering collaboration and deliberation is only necessary in some situations

Conclusion

It is hoped that this thesis has helped to elucidate when and how citizensourcing can be of value to public officials and civil society in monitoring public service delivery. As discussed, there is growing consensus of the need to increase participation by citizens who are directly affected by public policies to improve decision-making and policy implementation – both being hallmarks of any well-functioning democracy. This thesis has shown that citizensourcing provides one way to bring the public into government processes, in particular to report municipal infrastructure problems.

The analysis of FixMyStreet demonstrated that creating open, online platforms for the public to report local problems can work. Such sites offer a valuable way for citizens to communicate with local government by providing easy-to-use and transparent mechanisms. Equally, these platforms offer benefits to local councils to streamline their processes, saving time and money - an important consideration in the present financial crisis. But, this potentialhas not yet been fully realized. This thesis has shown that citizensourcing can be effective at monitoring public services, particularly at the local level, but whether such reporting of problems leads to overall improvement of public service delivery is an area for further investigation. The possibilities offered by citizensourcing have yet to be comprehensively analyzed and this field is likely to grow quickly as the proliferation of Ushahidi platforms show. The recommendations made for those looking to harness citizensourcing as a monitoring mechanism show that integration of online and offline processes and genuine commitment from government to transparency and the citizensourcing process are essential.

The intention is that the expansion and development of an assessment framework specifically aimed at analyzing citizensourcing initiatives will be of use to scholars, practitioners and others in evaluating the emerging array of citizensourcing projects. Citizensourcing provides a way to tap into the power of the crowds and as yet we do not fully understand this power. Further research is needed to identify what other aspects of government and policy-making citizens can usefully contribute to through citizensourcing. Some of the key questions raised are: How should governments best respond to citizens' input and participation? How should they integrate such contributions into the decision-making and the policy cycle? How can governments ensure that everyone is listened to equally and fairly?

Apart from improving government functions, citizensourcing may simultaneously engage the public, strengthening the citizen-government relationship. It would be interesting to look at whether citizensourcing can improve government operations and public confidence in government in a non-democratic society? Is effective citizensourcing possible only in democratic societies which, by definition, should not find it a threat?

I am aware that any conclusions made here are tentative as research was based on one case study in one country. I would not go as far as Lukensmeyer and Torres (2008, 210) in stating that citizensourcing points to "a new kind of governance". In the UK, at least, we are a long way from that stage. Citizensourcing is not about to transform government or fundamentally overhaul the way citizens interact with their local authorities. Rather, citizensourcing provides a handy tool to add to the participation toolbox.

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