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# ICT and citizen efficacy: The role of civic technology in facilitating government accountability and citizen confidence

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## Abstract.

This paper examines whether civic technology ICTs provide an effective method for enhancing the political efficacy of citizens and their perceived accountability of governments. Using a survey-based methodology, a quantitative analysis was conducted of the users of civic action sites in the UK, Kenya, South Africa and USA. The key question examined is whether the particularized or citizen-audit actions that these sites facilitate have a spill-over effect in altering the level to which citizens believe they are able to hold government to account. The results suggest that citizen efficacy and perceptions of government accountability are enhanced. Stark differences in user demographics between territories demonstrate a wide spectrum of civic technology usage, however, with common confidence in the efficacy of the ICT. The findings suggest that publication and user-facilitation of government information through the medium of civic technology in developed and developing countries increases feelings of external efficacy and government accountability.

**Keywords:** ICT · Civic Technology · Digital Democracy · Efficacy

## 1 Introduction

The proliferation of civic technologies, a form of non-profit ICT, around the globe has gained pace since the advent of early civic participatory websites in the early 2000's, with significant funding being allocated to the NGO sector for the development and implementation of such sites, and with improvements in connectivity and access to hardware occurring in many developing countries. Civic technology is defined as a non-profit technology that seeks to empower and engage citizens through the facilitation of information exchange between citizen and government, leading to greater governmental transparency and accountability. Often included under the umbrella of 'e-gov' stud-

ies, it stands apart from traditional concepts of e-government in its creation and maintenance by non-profit organisations. The purpose of such civic technologies is primarily to empower citizens through enabling some form of civic or political participation and in facilitating the flow of official information, whether that be on a specific policy subject, a specific citizen complaint, or information on parliamentary proceedings. This study examined whether civic technologies are having an impact upon those individuals that use them, specifically, whether using civic technologies to access information instigates, or alters, the personal efficacy and belief of user-citizens in their ability to hold their governments to account. Research into the medium-long term impacts of civic technologies upon citizen attitudes is scarce, in part due to the small scale of organisations running these sites, in part due to their youth, and in part due to the transience of the user experience. One of the early architects of civic technologies, mySociety, is based in the UK and operates a suite of Open Source civic technology platforms that enable citizens to participate in civic activities, whether that is through parliamentary monitoring site TheyWorkForYou, through making Freedom of Information requests via WhatDoTheyKnow, or through reporting maintenance issues to local authorities via FixMyStreet. Escher [1] examining mySociety website users in the UK, noted that a significant volume of users were first-time users with individual and particularised interests. However, it has also been shown that, to a limited degree, such digital platforms correlate with increased community involvement in an offline capacity [2]. Cantijoch *et al's* research [2] demonstrates that, whilst individual interests drive initial online participation, the very act of online participation may alter the subsequent attitudes or actions of citizens. What is not currently clear is what attitudes towards the use of these civic technologies themselves, and towards government, are developed by citizens in the process of their action. Civic technologies enable participation, but to what end? Civic technologists themselves describe their aims variously as enabling transparency to facilitate the accountability of, or the exertion of power over, government institutions [3]. This study examined the attitudes of citizens using civic technologies in the UK, South Africa, Kenya and the USA. Quantitative data was collected via online surveys, as well as via online analytics programmes to address the question of whether use of civic technologies increases personal external efficacy, alters the confidence citizens hold in their respective governments, and whether specifically, that can be attributed to their ability to participate via civic technologies.

This research is both novel and significant in its approach. Civic technologies have been subject to a much lower volume of scrutiny in their role in citizen participation than social media platforms or dedicated petition sites, however, these websites have been recognised by governments and commentators as a potentially effective route to diversifying and broadening participation [4,5]. This study sheds light on whether those assertions may be correct, and provides substantive evidence of attitudinal change in citizen's engagement with civic activities. This study also illuminates previously unexamined public attitudes towards civic technologies, delineating the confidence citizens have in the civic technologies they are using, and the confidence citizens have or develop in their governments through the use of civic technologies.

## 2 Efficacy, Confidence and Participation

Significant volumes of individuals now use the internet as one of their primary sources of news and political information [6,7,8], and many use it as their primary medium of personal administration, whether that takes the form of using online banking services, purchasing consumer goods, or arranging a family holiday. Internet users therefore have a reasonable level of efficacy in navigating their online environment. Citizens in many countries do not, however, exhibit high levels of personal efficacy in their civic or political spheres [9,10,11]. Political efficacy has been described by several authors as possessing two distinct constructs, distinguishing between ‘internal’ and ‘external’ dimensions of the concept of efficacy [12,13,8,14]. Whilst internal efficacy concerns the understanding of one’s own ability to understand and participate, external efficacy refers to the extent to which citizens believe governments and authoritative institutions will be responsive to citizen demands or participation [14,15]. The literature suggests that citizen beliefs concerning government responsiveness directly affects the extent to which citizens will choose to participate [14,16,17].

The digital availability of political and governance-related information does not necessarily mean that individuals will alter their approaches to engaging with civic activity [8], however scholars have pointed to internet connectivity as a tool for enhanced democracy and participation [18]. The study of political efficacy has historically centred around traditional forms of political participation [15,19], and in recent years, the equivalent actions conducted through digital means [20,21]. Such activities include verbal or financial support of political campaigns, dissemination of partisan policy messages and participation in meetings and elections. Civic participation, however, encompasses a broader field of concern than that specific to party political ideals, providing space for individual participation and engagement in civic issues external to partisan boundaries. Individual citizens are able to raise issues, investigate them, and communicate them through digital means in a quicker and potentially more impactful fashion than in the pre-digital age. Whilst this form of political participation largely concerns organised issue-specific lobbying and campaigning, the digital ability to conduct such activities also enables citizens to pursue very individualised participatory agendas, often referred to as ‘particularised contacting’ [2,22]. Some scholars have considered this as a diminished form of political participation, ranking it amongst routine administrative activities [23,24] or failing to distinguish these activities from larger-scale contact concerning macro-political concerns [22], however these activities, conducted through civic technologies, have been shown to have specific impacts upon citizen behaviour in regard to both community-based civic activity [2,25] and in engaging with government concerning micro-level individualised issues [17]. It is possible to posit, therefore, that this particularised form of civic engagement may impact the levels of confidence in government and its ability to account for its actions that citizens hold.

The concepts of confidence and trust in government have been examined by a number of scholars, many of whom have identified a trend in decreasing levels of trust and confidence in government [26,27]. In consideration of such findings, several authors

have emphasised the role that accountability and transparency hold in potentially reducing levels of mistrust [28,29,30]. Accountability and transparency scholars have identified the role that publication of official information plays in achieving what is perceived to be a more accountable government [31,32]. The citizens ability to review information about or produced by governments and politicians is one aspect of increasing personal external efficacy [8,33,34]. In considering the emergence of digital methods for accessing information, authors [4,28] identified the potential of e-government in particular in facilitating an increase in transparency and accountability in government administration and service delivery, potentially resulting in increased efficiencies and better communication that would bolster citizen confidence in government overall. However, studies of the weaknesses or risks associated with e-government have identified links between citizen trust in government and propensity to use e-government systems [35], and the tendency of e-government initiatives to become bureaucratically rationalised rather than customer-focused [36,37]. Civic technologies, unlike e-government, operate at the intersection of e-government and civil society. Run in the majority of cases by NGOs, civic technologies seek to expand the ability of the citizen to engage with governance mechanisms in a way rational to the user, whether in a form of particularised contacting in which the citizen interacts with an official individual, or in a citizen audit role in which the citizen is able to acquire and review official information on the activities of governments and politicians.

This study examines the external efficacy of participants through their particularised use of civic technologies, to determine whether levels of efficacy and confidence are altered through the use of such platforms. The study will examine any alteration in such levels of efficacy, analysing this alongside perceptions of government behaviours in relation to the existence of civic technologies.

### **3 Data and Methods**

This study examined five civic technology sites operating in the UK, USA, Kenya and South Africa. It draws on 4,371 survey responses of civic technology users, and focuses on examining basic demographic information and public attitudes data. The participating sites were FixMyStreet (UK), TheyWorkForYou (UK), GovTrack (USA), Mzalendo (Kenya), and People's Assembly (South Africa). Each of these civic technology platforms provides users with either the opportunity for particularized contacting (FixMyStreet) or citizen parliamentary audit (TheyWorkForYou, GovTrack, Mzalendo and People's Assembly). Site users were invited to take part in surveys, either following a transaction (if the site was a transactional one (such as FixMyStreet), or following a minimum period of time spent on the participating site (such as Govtrack). Sites with a high volume of users (UK & USA sites) invited a sample of visitors to take the survey, in the UK this was 1 in 2 site users, and this was 1 in 4 in the USA, whereas 100% of users of lower-volume sites (South Africa and Kenya) were invited to take the survey to ensure a sufficient sample. The survey was conducted online, consisted of approximately 19 questions (certain additional questions were

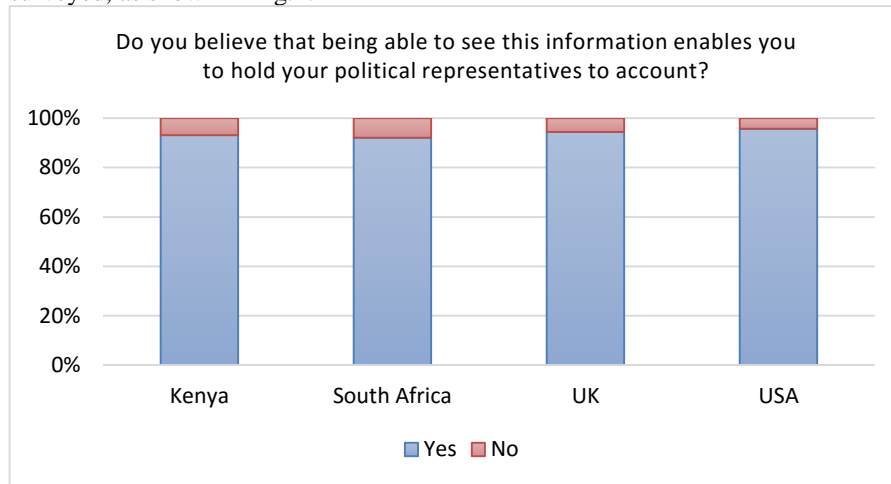
added at the request of the participating platforms) and no personally identifying information was requested. The first nine questions concerned personal information such as age, educational attainment, employment status and employment sector. The remaining questions concerned individual user attitudes to civic technology and government. These questions focused on how users perceived the benefit of the tool they were using above other methods of reporting or receiving information from government, their confidence in governance structures, and their perceptions of the effect of civic technologies upon government behaviour. Questions did not directly ask about levels of confidence or trust, rather, they focused on the individuals assessment of government behavior, perceived ability to hold government to account, and expectation of government behaving in a different manner in the event that the information and functionality of civic technology sites did not exist. The data was collected between February 2015 and October 2015.

## **4 Findings**

The data collected demonstrates a wide demographic spectrum of civic technology usage. Individuals of all ages are using civic technologies. In the USA and UK, the majority of users were found to be older, with 48% of users of FixMyStreet in the UK over the age of 55, and another 22.6% of users falling into the 46-55 category, meaning that over 70% of users of FixMyStreet in the UK are over the age of 45. Similarly in the USA, 55% of users of GovTrack register as over 55, with another 19% in the 46-55 category, totalling 74% of users over 45. These results contrast significantly with the results from Kenya and South Africa, where only 14% and 34% respectively are over the age of 45. These findings have significant implications for the development and implementation of ICTs as tools for good governance, as the demographic divides indicate that these tools may only be operationalized by distinct sections of the population of each country. The findings of this research demonstrate that the users of civic technology generally tend towards identifying as male. Whilst there is less of a gender imbalance in the USA, the UK demonstrates a fairly high user gender imbalance, with 64% of users of FixMyStreet in the UK compared to 52% in the USA (GovTrack) identifying as male. Previous studies [1,2,25] on mySociety's UK deployments reinforce this finding, with their studies finding a male user dominance of 66% and 64% respectively. This gender imbalance is also evident in Kenya and South Africa, with Kenya evidencing 72% of users identifying as male, and South Africa 68%. Citizens using civic technologies in all studied areas tended to be well-educated, with between 40-60% of citizens holding at least degree-level qualifications, however fewer were economically active, with less than 50% of users across all sites in full-time employment.

The data shows that users of civic technologies hold a pre-existing interest in politics, with over 70% of users confirming at least daily consumption of political news. This is perhaps unsurprising given the political and government content of such civic platforms. The number of users believing that such civic platforms enable them to hold governments and politicians to account was extremely high across all platforms

surveyed, as shown in Fig.1.



**Fig. 1.** Survey results for the question “Do you believe that being able to see this information enables you to hold your political representatives to account?”

Over 94% of individuals in the UK felt that being able to see the information displayed through civic technology site TheyWorkForYou enabled them, at least in part, to hold the British government to account. In the USA, this was 95%, in Kenya 94%, and in South Africa 91%. The data also alluded to the level of mistrust felt by many citizens in government behavior. In Kenya, 83% of users believed that their ability to scrutinize government information via the Mzalendo platform directly affected how politicians behaved, and over 92% believed that politicians would behave differently if the information displayed on Mzalendo was not available digitally in the public domain. These figures were mirrored in all five cases, demonstrating similar levels of belief in both developed countries (UK and USA) and developing nations (Kenya and South Africa). These beliefs demonstrate a level of efficacy directly related to the user’s ability to review political or governmental information online.

Significantly, a high volume of users across the four parliamentary monitoring platforms were unaware of other methods of accessing the information contained on those sites. Fully 48% in Kenya, 55% in South Africa, and 68% in the UK were unaware of other methods of accessing parliamentary information. Similarly, 55% of users of particularised contacting civic technology site FixMyStreet in the UK were unaware of any other method of reporting issues to their local authority. This is not surprising, as many official government and parliamentary websites are difficult to navigate, search or interact with, and many official organisations do not upload the volume or quality of information contained on the civic technology platforms. Whilst across the four countries studied access to official information is generally granted, it can also be a lengthy or cumbersome process to acquire, and the process itself is not widely understood.

## 5 Conclusion

This paper makes a novel contribution to the study of online participation through civic technology and e-democracy platforms. Substantively, it has provided a new insight into the question of how citizens use civic technologies, and how these platforms shape their attitudes and opinions concerning their respective governance structures. The comparative cases used demonstrate the differences and similarities in usage and attitudes in both developed (UK and USA) and developing (South Africa and Kenya) countries. Through combining questions concerning attitudes to government, and perceived effects of civic technologies upon government behavior, the research has shown a clear indication of increased political efficacy amongst civic technology users.

The overarching question posed by this research concerned individual external efficacy in civic engagement. In particular, the research examined whether citizens using civic technologies developed increased personal efficacy as a result of using these digital tools. The findings of this research suggest that the use of civic technologies could contribute to increasing the external political efficacy of individual citizens. The majority of citizens using civic technologies in a citizen audit or particularized contacting role confirmed that the use of such platforms enabled them in their own way, at least in part, to hold their respective governments to account. This self-reported level of efficacy does not confirm that these individuals would actually use the information or experience acquired via civic technologies for further political or civic activities. However, taking into consideration the linked findings concerning the majority of individuals that knew of no other way to engage with government, the data does indicate that the very ability to engage with governance mechanisms rationally through digital means is sufficient in itself to increase individual external efficacy.

The significance of this finding is emphasized by the lower levels of trust exhibited by participants. The second question asked by this research concerned the individual citizen perception of government actions and behaviours, and examined whether citizens felt that availability of information online in any way affected the conduct of government officials. The majority of participants believed that their ability to engage with their respective governments through civic technologies affected how those governments behaved, and believed that those governments would behave differently if these methods of engagement were not available. This is an important finding in relation to the question of citizen efficacy. External efficacy concerns the extent to which citizens believe that government apparatus is responsive to their demands. Through using the ICTs in the study and as a result of the existence of those technologies, citizens felt that government behaviours would in some way be different to government conduct in the absence of those platforms.

Lastly, this study examined the demographic and attitudinal spectrum of civic technology users comparatively across both developed and developing nations. The comparative examination of such data is of practical importance given the increasing use of ICTs and civic technologies in improving citizen engagement in developing countries. It is quite possible that civic technologies and their users differ greatly between nations, however this has not been demonstrated in the literature. The data gathered for this



research demonstrated the significant variability in demographic trends between countries, and highlighted clearly the dangers of generalisation in analysing demographic data across borders. Viewed as a whole, the data presents a very rounded and healthy picture of the users of civic technology. However broken down by country, the data evidences clear demographic divisions in the use of, and access to, civic technology. The most stark comparative results concerned the age profile of ICT users, with older individuals of 45 and over dominating civic technology usage in the UK and USA, whereas under-45's dominated usage in Kenya and South Africa. Female users were also under-represented in the study in all countries with the exception of the USA. These demographic findings demonstrate that the implementation of ICTs cannot be standardized across borders. Whilst ICTs have been shown in this study and by previous authors to have positive citizen outcomes [2,17,25], in practice their development, implementation and usage will be nuanced and will need to accommodate local cultural differences in digital engagement. Given the demographic differences in civic technology usage examined in this research, the ability of ICTs to universally affect citizen external efficacy will be limited.

This study has presented a novel approach to examining external efficacy and government transparency through ICTs, however, further study of this growing sphere of activity is needed to fully uncover the true potential of civic technologies in improving citizen participation. Such digital solutions are increasingly being discussed by governments and NGOs as possible solutions to citizen engagement, however until more is known about the people that use these platforms, the way they engage, and how they feel about their engagement, their overall impact will remain limited.

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