The Communities of Practice model for understanding digital engagement by hyperlocal elected representatives

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Abstract. There has been much research into citizens' engagement with their representatives. This paper offers an approach to understanding sustained take-up of internet technologies by these representatives in a (hyperlocal) democratic context using Community Councils in Scotland a case study. A Community of Practice model was developed and initial data collected to evaluate whether the model can be adapted for contexts where community boundaries are not clear. The focus is the community of users of technology: representatives as primary content creators as a necessary first stage before higher levels of engagement and participation are possible. The CoP model is found to have potential, even in a context of weak, dispersed and non-self-aware communities. The importance of understanding transitions and level of engagement is highlighted and another avenue for further research identified.

Keywords. Hyperlocal government; Digital engagement; Communities of Practice; e-participation; knowledge management; Scotland

1. Introduction

1.1. Motivation

Research has generally focused on citizens' online engagement with government and their elected representatives, e.g. [1]–[4], and has focused on success, though the occasional failure is acknowledged [5]. But there has to be something to engage with. This article is about the other end of engagement – the (hyperlocal) governments that citizens engage with at community level. At larger government levels there may be resources and paid professionals; at the hyperlocal or community level there is a dependency on the representatives themselves to create and curate content, and to carry out the engagement as part of their role in the participative process. There is some evidence that at this level of democracy, engagement is erratic, inconsistent and often short-lived [6]. Many local groups rely on small groups of volunteers, leading to dependency and vulnerability. Yet some groups succeed nevertheless.

The motivation for this paper is to explore a framework for understanding representatives' use of technology. It evaluates the extent to which knowledge management approaches can contribute to an understanding of why some actors at the

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lowest level of representation succeed in creating sustained engagement with citizens while others fail, by applying a Communities of Practice (CoP) model. It reviews some of the relevant literature and contrasts different models of hyperlocal government to contextualize the Scottish experience that was the basis for this study.

1.2. Hyperlocal government in Scotland: Community Councils

The UK is currently experiencing a cycle of constitutional change, with forms of government under scrutiny: in particular the balance of centralized/local control (the so-called localism agenda) and even after the independence referendum of 2014, the extent to which the power should or could be devolved to its constituent nations, including Scotland. (Much has been written on this subject; [7] provides one overview).

In the Scottish context, the tiers of government are the UK Government, the Scottish Government, 32 Local Authorities and potentially 1370 Community Councils. Community Councils (CCs) are the smallest, most local units of democracy in Scotland. They consist of unpaid, nominally elected citizens who live in the communities they represent. Their statutory duty is to ascertain, co-ordinate and express community opinions. CCs also have the right to be consulted on licensing and spatial planning.

The first three tiers, along with government-associated public bodies, are responsible for almost all service provision in Scotland: we therefore use 'hyperlocal government' [8] to refer to the smallest elected units of government because it fits better than 'municipality' which implies responsibility for service delivery. Another issue is the low level of interest in CCs as democratic structures. Currently, 16% of potential CCs do not exist [9], [10] while there is a paucity of candidates for those that do exist: two thirds of elections are uncontested, meaning that CC membership is essentially self-selecting. This has contributed to a history of challenges starting with establishing their legitimacy in reflecting public opinion in their own areas [8].

Despite increasing use of online communications by other tiers of government in the UK, recent research has shown that very few CCs effectively use online techniques: just 27% have up to date online presences. Further, the proportion using social media is very small (less than 10%) [9], in great contrast to the Austrian and Norwegian examples discussed below. Worse, there was significant churn between on- and off-line status between 2012 and 2014: 1129 CCs existed in both years but 34% changed status in this period [9]. For instance 68 CCs moved from 'exists, not online' to 'online, out of date': they must have gone online since summer 2012 but let their presences lapse in under two years. Overall, 45% of viable presences have failed: at the least, this is likely to lead to significant self-efficacy issues to overcome if these CCs are to return to the internet.

Previous research into the drivers and inhibitors of individual CC internet use suggested that the major barriers were cost (particularly time-costs), factors related to the digital divide and lack of support for CC 'digital engagers' by their peers [9]. On the other hand, the support of community volunteers who carry out hyperlocal news reporting can provide can be vital.

1.3. Government digital engagement: the European contrast

The general pattern across Europe is for a bottom tier of elected government to represent small areas: villages and environs, individual neighborhoods and suburbs and similar. In contrast to Scotland, they can provide services, enabled through local taxes and charges supplementing government grants. For example, Austria's *Gemeinden* provide services

such as water, sewerage and recreation facilities and have consistently punched above their weight [11]. Similarly, Norwegian *kommuner* provide services from education to transport, and work on agricultural and environmental issues [12].

Table 1. Summary of population and municipal data for the three countries discussed

Country	Population	Hyperlocal governments		Population / unit
Austria	8,375,000	*Gemeinden*	2,354	3,558
Norway	4,986,000	*kommuner*	432+	11,542
Scotland	5,538,000	community councils	1,369	3,892

These local government units use the internet to communicate with their citizens. In 2009, 98% of *Gemeinden* had websites. As early as 2003, 90% of *kommuner* had websites[13] and by 2011, 58% had social media presences[14].

To summarize, Scottish Community Councils are an edge case – officially representative bodies of comparable size to equivalents across Europe (see Table 1) but with negligible budgets and powers. This raises interesting and relevant questions around how the low level of online engagement[2] arose: is it purely down to the lack of powers? How much can be attributed to socio-technical challenges?

2. Literature review

2.1. E-participation and digital engagement

There is a large body of published research on the effectiveness of e-engagement, often showing that its importance has been overstated [1]; even so it is clear that digital communication is growing in importance, at least as one channel of many for reaching and interacting with citizens [15]. Much e-participation research has focused on citizen learning or engagement [16], rather than learning by the content creators. An online presence is more than simply about marketing – it is potentially about two-way communication, but the reality is that levels of citizen engagement are low [10] and having a simple but current online presence is a start. More positively, at the community level, there is some evidence that online conversations can support deliberative democracy in the medium to long terms, based around single communities or a dispersed network of sites [17], but that is only possible once a critical mass of participants is present. There has been some work in the past on the technology needs of community councils [18] but in the context of the development of specialist digital tools to support engagement.

2.2. Communities of Practice

Communities of Practice (CoPs) are characterized by Wenger [19] by their collective learning in a shared domain. They have three defining characteristics: a *domain* of interest (collective knowledge and competence is valued by members); a *community* (relationships involving joint activities and knowledge-sharing, even though members may work alone); a *practice* (including shared repertoires of experiences, tools and methods). A CoP is a social construction and social learning system which drives mutual

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[2] Defined here as conversations and human interaction via the internet – posting a document to a hyperlocal government or community website would not be included but disseminating links about it would, as would online conversations about its content.

learning and knowledge exchange, and as such CoP studies are most significantly found in Knowledge Management literature [20]. As the idea has evolved, it has broadened to include learning mechanisms and using a social dimension [21].

A CoP is also characterized by a clear boundary and by *boundary objects,* which are defined as the entities that can link communities together as they allow different groups to collaborate on a common task [19]. More simply, boundary objects can communicate to large numbers of people, potentially in different ways. As such, they have different meanings to CoP members and the general public [22]. Knowledge-transfer occurs within CoPs [23] but explicit knowledge may cumulate in an ad-hoc fashion [24], so that significant knowledge remains tacit.

Motivation to join CoPs may come from expectation of access to knowledge and rewards of various kinds [24]. The presence of a 'cognitive pressure' (i.e. knowledge needs experienced within an organization) is a necessary condition for the emergence and survival of CoPs [20]. In a business context, CoPs often need to be intentional: that is they can require management to plan make the learning points explicit [20] and have to be deliberately designed, managed and cultivated [25]. Legitimate peripheral participation is also an important concept as it recognizes that the boundary of a community may be present, but unclear – and that peripheral participation may be denied by existing members who feel disadvantaged by new entrants[26].

2.3. Conclusion

The relevance of CoPs to e-participation has been noted before [27] but the concept has not often been used to evaluate actual behaviors or elected representatives: it could be used as an analytic tool to understand the role of knowledge sharing networks in creating sustainable online presences. The expectation is that self-efficacy and sustainability of online presences would be higher and churn in online presences lower for CC members who are embedded in a CoP.

One possible challenge to the formation of a CoP here is that the barriers to exit are so low: in other cases there is an assumption that there is a cost of leaving the community (e.g. loss of salary or access to information) – this may not be the case for a CC member. If CoPs are characterized by conflict while learning (or learning to become a CoP member is inherently problematized) [26], the temptation is to leave rather than work through the conflict (and learn). Related to this is the question of whether non-CC members can be considered members of a CoP here at all.

3. Pilot study and research subjects

3.1. Background and use of digital engagement

A pilot project ran in 2014 with the aim of validating a methodology for identifying, creating and supporting a CoP for digital engagement by Scottish CCs. Objectives included characterizing the digital presence and potential boundary objects acting as markers of a CoP and identifying the impact of interventions.

The project investigated the potential existence of a CoP around three neighboring CCs in a distinct area of a Scottish city. These CCs are connected by a similar social context (notably highly multicultural communities, drug abuse and planning blight). CC1

has long had an active blog and a Twitter account; its blog had been auto-tweeting links to new posts for about 18 months before this project began. However, 'organic' tweets were rare until it ran a debate on the Scottish Independence Referendum in summer 2014. Thereafter, CC1 started to use its Twitter account actively to communicate with citizens. CC2 also had a long-standing blog. CC3's blog, modelled on CC1's, was created about a year before this research began.

3.2. Data gathering

A complete social network analysis (SNA) was judged infeasible, most significantly because at this stage a boundary could not be identified: for instance it was known that CC activity is often supported by non-members. Instead, the three neighboring CCs were studied using mixed methods focused on qualitative data, using interviews with members who undertook their CCs' digital communication to gather data on how knowledge around digital engagement was acquired, shared and managed. Several types of knowledge were considered, including (i) the technical skills of creating online content (ii) skills around digital communication and engagement, namely how to write and work out what to say (iii) knowledge around how CCs work and what they do, (iv) knowledge of local news and developments. The focus for research was technical and digital knowledge.

A sociogram of the knowledge sharing was used to visualize and understand the knowledge sharing ties between the identified actors. This data was augmented with personal knowledge and reviews of online presences. Information about citizens who communicate digitally with CCs was not gathered unless citizens were explicitly part of knowledge-sharing links. These methods yielded rich data on the relationships between actors dispersed between units of hyperlocal government.

4. Results

4.1. Impact on participants

As would be expected in a project such as this, the research made an impact on the participants. The research in CC1 had been structured around addressing the perceived needs of participants, and their skills and availability. However, many interviews turned into ad-hoc one-to-one coaching sessions, where explicit and tacit knowledge was shared. This may best be summed up by a quote from an interviewee: *'serendipity and discovery happen when not working in isolation'*.

The rewards for participation were most often personal satisfaction at fulfilling 'democratic duties' and helping neighbors, although satisfaction also arose from successful use of new software and building personal relationships. New and existing CC digital engagers increased self-efficacy thanks to emotional and technical support from other community members. For newer members, there was increased sense of their roles as representative of their CCs, learning more about what is 'out there', conveying this back to CCs, and understanding that others are interested in CC's work. Other interviewees confirmed these benefits, acknowledging that their role includes emotional support as well as teaching know-how.

4.2. Identifying communities

The data gathered showed that there are citizens within each CC who are interested in and do CC digital engagement, and who communicate with each other to share relevant knowledge. There are a number of citizens who contribute knowledge and have interests in CC digital engagement but do not currently tweet or post on behalf of CCs, that is they facilitate but do not directly create boundary objects. Recalling Wenger's defining characteristics, they could be classed as members of a Community of Learning around the putative CoP. Others, including representatives of bodies who have interests in CC digital engagement, could be members of a Community of Interest. Figure 1 below illustrates how the main communities identified may interrelate.

Creation of boundary objects such as tweets might be used to distinguish those who practice and hence 'truly' are in the CoP from those who do not practice. Of course there may well be people who have the skills to produce tweets and posts but currently do not do so; although they are CC members and help or advise on tweet/post creation it still remains to be established whether they should be counted as being part of the CoP.
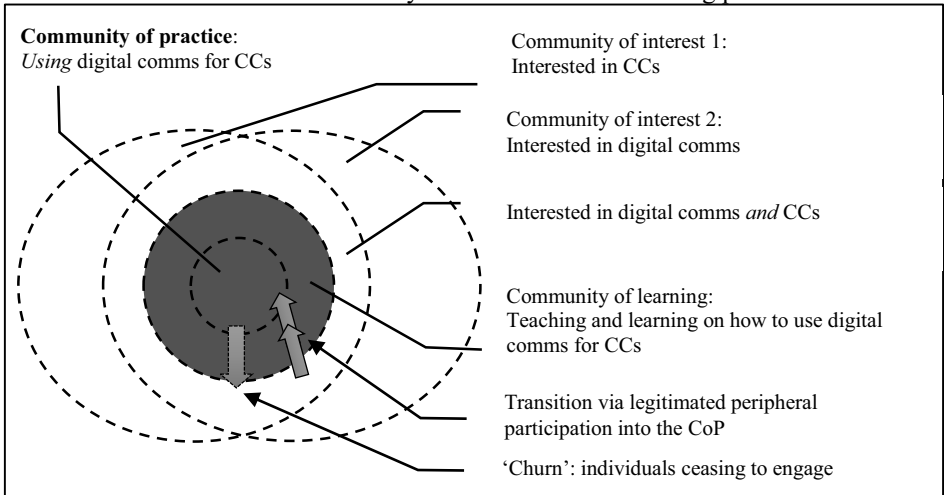

Community of practice:
Using digital comms for CCs

Community of interest 1:
Interested in CCs

Community of interest 2:
Interested in digital comms

Interested in digital comms *and* CCs

Community of learning:
Teaching and learning on how to use digital comms for CCs

Transition via legitimated peripheral participation into the CoP

'Churn': individuals ceasing to engage

Figure 1: Sharing skills around CC digital engagement

4.3. Revisiting the method

This analytical approach has the potential to enable practitioners to move from analysis to interventions supporting vulnerable peers. A challenge is to keep the work focused on creators of digital content. It is also important to be clear about what level of knowledge is being exchanged (technical, communications skills, domain procedural knowledge or news on local developments).

As is often the case with pilot projects one of the aims was to refine the data collection process; we can draw the following lessons for improving the method. *First:* The importance of being clear about whether technical, communications or procedural knowledge is being exchanged (and being clear whether the relationship is perceived as teaching, sharing or learning). *Second:* Being clear about the relationship between roles and individual: those who communicate digitally do so in dialogue with their offline colleagues. *Third:* The most interesting data might relate to the people who are not (yet)

part of any CoP. It is therefore important to ensure the research method is open to identifying boundary objects *and* 'boundary people' as part of the characterisation of the community. *Fourth:* The interview format is essential because respondents may not understand the distinctions between *technical* skills and *writing content skills.* Also, semi-structured interviews can be used to gather important qualitative data about *how* knowledge-sharing takes place, what inspires it, whether it is valued, how and why the various actors became involved and so on. It is important that the learning impact of this research on participants is acknowledged.

5. Conclusions and issues for further research

As a small, time-limited pilot project, the results are constrained in a number of ways, particularly the small number of people who could be interviewed or provide data. However, the tentative results show that there is value in using the CoP model as a lens for analyzing the sustainability of online activity: it provides a framework for putting sustained technological acceptance by hyperlocal democratic practitioners into a social context. Refining the data has given an abstract model (Figure 1) for visualizing the sharing the technical skills of creating online content and skills around digital communication. Membership of this CoP, whether conscious or not, does appear to increase self-efficacy in the participants.

This research has uncovered a number of overlapping communities in one city. However, this project was not able to conclusively establish whether there is a core CoP of community councilors practicing digital engagement, or whether one could be intentionally constructed. A crucial test for further research would be to evaluate the extent (legitimated) peripheral participation can be observed and to do more to identify boundary objects. This is challenging because it seems a boundary between any CoP and the peripheral actors has not (yet) been formed, defined or recognized: members may not be aware they are in a CoP. A related challenge is understanding transitions into (and out of) a community such as this with its blurred or transient boundaries – where individuals move between practice, learning and interest. It would be interesting to investigate whether and how community councils with stable and churning online presences differ.

The work can be extended through the identification of similar communities elsewhere: geographically and on other platforms, Facebook in particular.

The question remains as to whether this will lead to sustained engagement: this would require a sustained study.

Finally, we look forward to applying this approach in a larger context and to evaluating the method in similar contexts across the UK and Europe. As well as allowing for wider sharing of good practice, this would allow a more rigorous model to be constructed.

Acknowledgement

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