Evaluation of engagement with hyperlocal e-participation systems by citizens and representatives

Peter Cruickshank

A thesis submitted in partial fulfilment of the requirements of the Edinburgh Napier University for the degree of Doctor of Philosophy

June 2021

Declaration

I hereby declare that the work presented in this thesis has not been submitted for any other
degree or professional qualification, and that it is the result of my own independent work.

Candidate
Peter Cruickshank
Edinburgh Napier University
99070588

15 June 2021

Date

Abstract

This work is concerned with the information practices associated with hyperlocal representation. The findings derive from an evaluation of a portfolio of ten previously published papers covering the period 2010-2020.

The main contributions are: (a) The development of the concept of hyperlocal representation as a domain with its own challenges; (b) The characterisation of hyperlocal representatives as stakeholders in the participation process; and (c) Expansion of the existence and nature of lurkers as passive participants in the participation process, and the responses seen in the information sharing practices of the hyperlocal representatives, including use of information sharing by proxy. These contributions are significant because they are the first to consider community councillors as information actors in their own right, and their response to lurking behaviours in their community. This is in contrast with previous research at this level of government, which has focussed on the activities of citizens, and local government administration staff.

The portfolio demonstrates the application of frameworks derived from information science to the field of e-participation. It identifies the impact of the project- and information systems-based nature of much e-participation research, and proposes an information-centric perspective from information science to support a new analysis, through application of theoretical approaches derived from everyday life information practice, information literacy, activity systems and communities of learning. An additional contribution is the creation of a new model of the transition from lurking to participation based on social-cognitive theory. A further contribution of the thesis is to methodologies in information science, in particular through the design of questionnaires and supporting interviews as data collection instruments in this context.

This thesis adds to understanding of information sharing in a quasi-work context where there are limited expectations of interaction. It could support future research into the information practice of representatives in (a) the choice of channels for communication with citizens, (b) the information communities involved in the representation role and (c) the impact of the policy cycle on information practices.

Acknowledgments

First of all, I would like to thank my supervision team, Professor Hazel Hall and Dr Kendall Richards, for their support and encouragement as we worked out together how best to present this portfolio of work.

The work reviewed here took place over a long time, so involved too many people to mention. However, there are some people who have been important over the years. Starting with colleagues: I would like to especially thank Dr Bruce Ryan, for his patience in working with me, starting with his time as my MSc dissertation student back in 2011; his access to community councils and councillors has been invaluable. Dr Colin Smith set me right on my journey to learn (as much as wot I have) the practice called academic writing. Hazel Hall (again) has given strong support and sage advice in all matters academic over the years.

Appreciation goes to Dr Ella Taylor-Smith, without whom I wouldn't have found the work in the first place here at Napier; she also linked me to the EuroPetition project. The EuroPetition project led to a conversation with Dr Noella Edelmann in a bus from a conference in 2009 which started us both down our separate routes of understanding lurking and responses to it – and many rewarding conversations over the years.

Thanks also go to the practitioners in the wider community, particularly the individual community councillors who took part, and the people in the Improvement Service who supported and enabled much of the data gathering for the research. The funders for the various projects also deserve thanks: particularly Edinburgh Napier University itself for providing me the time and internal funding needed to support the data gathering and analysis that underpins the papers evaluated here.

I also would like to acknowledge the role of senior colleagues in ensuring that I spent a decade putting together the material for this thesis, rather than having the opportunity to work on a single project which I could have finished several years ago.

Finally, I have to thank my family for their patience and forbearance as I finally pulled this together. Thank you, Sam, Robert, Mary and Phoebe. Sorry for putting you through this. I am sure it has been worthwhile. I love you all, and will now be able to again give you the attention you deserve (and in Phoebe's case, demand).

Outline of contents

ANNEX: Papers under consideration

List of tables

List of figures

Full table of contents

ANNEX: Papers under consideration

Glossary and abbreviations used

Although use of abbreviations has been avoided where possible, and kept to a minimum where needed, it is inevitable that in places it is more convenient and clearer to use them.

The main abbreviations used are:

AT	Activity theory
CC	Community council, the lowest level of democratic accountability in local government in Scotland. Community councillors are the (main) members of CCs.
CoP	Community of practice
CSE	Computer self-efficacy
ELIP	Everyday life information practice
IL	Information literacy
LA	Local authority
PSE	Political self-efficacy
SCT	Social cognitive theory
TAM	Technology acceptance model
UTAUT	Unified theory of acceptance and use of technology

Notes on writing style

The focus of this thesis is the works under review, so the style is generally impersonal. However, the first person has been used when it was necessary to describe the author's decisions and actions. I feel it aids readability without impacting on the formal and academic nature of this report, and find it less clumsy than referring to "the author" or "the candidate".

The word *internet* is treated as a common noun in line with current practice[*]. *E-Participation* and *e-democracy* are hyphenated, and capitalised at the start of sentences as demonstrated here. *Information science* and other research methods, theories and disciplines are all lower case, in line with practice recommended by *Information Research*[†].

---

[*] See for example https://en.wikipedia.org/wiki/Capitalization_of_Internet
[†] http://www.informationr.net/ir/author2.html (A.5)

Papers under consideration

This thesis is based on the following original publications. For brevity, they are referred to by [number] in the text – for example [2] refers to Cruickshank, et al. (2010).

[1] Cruickshank, P., and Smith, C. F. (2010) 'Understanding the "e-petitioner"', in *Transforming Government: People, Process and Policy*, 5(4), 319–329. doi: 10.1108/17506161111173577

[2] Cruickshank, P., Edelmann, N., and Smith, C. F. (2010) 'Signing an e-petition as a transition from lurking to participation', In J. Chappellet, O. Glassey, M. Janssen, A. Macintosh, J. Scholl, E. Tambouris, and M. Wimmer (Eds.), *Electronic Government and Electronic Participation* (pp. 275–282). Linz, Austria: Linz, Austria: Trauner Verlag.

[3] Edelmann, N., and Cruickshank, P. (2011) 'Introducing Psychological Factors into E-participation Research', in A. Manoharan and M. Holzer (Eds.), *E-Governance and Civic Engagement* (pp. 338–361). Hershey, PA: IGI Global. doi: 10.4018/978-1-61350-083-5.ch017

[4] Cruickshank, P., Ryan, B. M., and Smith, C. F. (2014b) '"Hyperlocal E-participation"? Evaluating Online Activity by Scottish Community Councils', in *CeDEM 2014 Conference for E-Democracy and Open Government* (pp. 74–84). Krems, Austria: Editions Donau Universität Krems

[5] Cruickshank, P., Ryan, B. M., and Smith, C. F. (2014a) 'Disconnected Democracy? A Survey of Scottish Community Councils' Online Presences', in *Scottish Affairs*, *23*(4), 486–507. doi: 10.3366/scot.2014.0045

[6] Cruickshank, P., and Ryan, B. M. (2015) 'The Communities of Practice model for understanding digital engagement by hyperlocal elected representatives', in E. Tambouris, H. J. Scholl, M. Janssen, M. A. Wimmer, K. Tarabanis, M. Gascó, … Ø. Sæbø (Eds.), *Electronic Government and Electronic Participation* (pp. 11–18). IOS Press. doi: 10.3233/978-1-61499-570-8-11

[7] Hall, H., Cruickshank, P., and Ryan, B. M. (2018a) 'Exploring Information Literacy Through the Lens of Activity Theory', in *European Conference on Information Literacy* (Vol. 810, pp. 803–812). St Malo: Springer. doi: 10.1007/978-3-319-74334-9_81

[8] Hall, H., Cruickshank, P. and Ryan, B. M. (2018b) 'Practices of community representatives in exploiting information channels for citizen democratic engagement', in *Journal of Librarianship and Information Science*. doi: 10.1177/0961000618769966

[9] Cruickshank, P., and Hall, H. (2020) 'Talking to imagined citizens? Information sharing practices and proxies for e-participation in hyperlocal democratic settings', in *Information Research*, *25*(4), 1–26. doi: 10.47989/irpaper880

[10] Cruickshank, P., Hall, H., and Ryan, B (2020). 'Information literacy as a joint competence shaped by everyday life and workplace roles amongst Scottish community councillors', in *Information Research*, *25*(4), 1–16. doi: 10.47989/irisic2008

1 Introduction

This thesis presents a review of the contribution of the ten selected publications dated 2010-2020, based on research carried out over the period 2009-2017. It evaluates the independence, originality and significance of the methods and frameworks used, to contextualise and substantiate the approaches taken in the publications. The evaluation includes a review of recent literature that has addressed the themes since the publication of the papers under consideration.

The research that is addressed in this thesis came out of the initial wave of optimism that the internet would transform democracy for the good. As most famously expressed in *Bowling together: online public engagement in policy deliberation* (Coleman and Gøtze, 2001), it was thought that direct digital participation would support the emergence of new (online) communities in the face of declining social participation, by enabling direct participation and creation of online communities. The resulting terms that emerged in this domain include *e-democracy* and *e-participation*. Implementers of the first e-participation systems soon noted the reality of the low level of engagement by citizens, together with a general lack of online deliberation and subsequent policy impact. A neglected challenge has been to account for the role of elected representatives in the systems that were being developed to support direct participation. This perhaps reflects the political naïvety of the people developing the new systems: they generally came from an information systems background, being based in or around Schools of computing or informatics[*]; sometimes journalism and communications, but very rarely political science.

Development of these systems highlighted the importance of place and the networks of people engaging with the systems as a shaping factor in the formation of communities of users. This includes the reasons people choose not to actively engage with a process (that is, to "lurk"), and defining the nature of the *community* under consideration. Many of these challenges of participation and online community formation have been addressed within information science.

The work here represents the application of theory related to information practices and literacies in a geographically bounded but digitally connected – that is, *hyperlocal* – context. In particular, the subject area which forms the basis for the thesis relates to

---

[*] The ongoing development of technocrat-led Smart Cities shows that many system designers still struggle with the role of democracy in designing systems for communities.

e-participation and information practices, with a focus on the information activities of representatives and the citizens they represent. The three areas of contribution that are evaluated through this thesis are:

1. The development of the concept of hyperlocal representation as a domain with its own challenges including limited resources, availability of (non-digital) channels of communication, and different communicative roles.

2. The characterisation of hyperlocal representatives as stakeholders in the participation process.

3. Expansion on the existence and nature of lurkers (passive participants) in hyperlocal communities, and the responses of representatives to the lack of feedback to sharing of information.

An information-centric approach is taken to the findings and concepts developed here, avoiding discussion of explanations based on psychology or models of information systems adoption. This work addresses two types of community: the group, community of users (German: *Geimeinschaft*), and local community, commune (*Gemeinde)*.

The aim of this thesis is to show that my research has developed new knowledge of the information practices associated with effective use of technology for information sharing in (hyper)local communities. This is addressed through the three themes noted above to tie together findings from multiple papers and projects. It includes some consideration of impact, and the development of methodology. However, the main focus is on theoretical contribution. While all the portfolio outputs have been co-authored, this thesis restricts itself to discussion of concepts that I have developed.

This thesis consists of five chapters, supplemented by appendices and an annex of the papers under consideration. They are structured as follows:

– *Chapter 1:* Overview of the aims and scope of the thesis.

– *Chapter 2:* Background and context. A review of literature to evaluate current research in areas relevant to this thesis, largely from the information systems and information science literature.

– *Chapter 3:* The research underlying this portfolio: a review of the projects and related outputs and their impacts

– *Chapter 4:* Evaluation of contributions made by the papers under evaluation.

– *Chapter 5:* Conclusions, including consideration of the theoretical significance of the portfolio as a whole.

2 The research context

The research areas reported in the papers in the portfolio have evolved over a decade, making it necessary to establish an overview of the current situation. The purpose of this chapter is to present a literature review against which the themes discussed in the portfolio of work can be compared. Also considered is relevant e-participation research covering the choice to engage with a system, and the challenges associated with identification of the relevant stakeholders and communities. Relevant research methods and frameworks are also covered.

One of the arguments put in this thesis is that approaches from information science are relevant to e-participation, e.g. through models of information practice and literacy. Literature from that domain is therefore also evaluated.

2.1   E-Participation as a research domain

With the rise of the internet as a tool for mass engagement, there was the hope that it could be used to address perceived issues with declining rates of participation and engagement with the democratic process, perhaps even providing a route for less engaged citizens such as young people to participate (Coleman and Gøtze, 2001). In response to this, interest in the new concept of e-participation[*] emerged.

E-Participation[†] refers to the use of internet technologies to support citizen participation in democratic processes. Macintosh (2004) is one of the core sources used in the domain. In this paper, e-participation is defined as a subset of e-democracy; a frequently used definition of e-participation is "the use of ICT to support the democratic decision-making processes" (p. 1). Thus, e-participation exists alongside, but distinct from, e-voting. The field is still being defined: a feature of the conferences and journal papers associated with e-participation continues to be papers characterising the domain and proposing agendas for developing it, or evaluating project success e.g.: Coelho, et al. (2017); Medaglia (2012); Prieto-Martín, de Marcos and Martínez (2012); Smith, Macintosh and Millard (2011); Susha and Grönlund (2012) and Sundberg (2018).

---

[*] Alternatives terms that were initially used included Teledemocracy
[†] Alternative spellings frequently used in the literature are eParticipation and eparticipation.
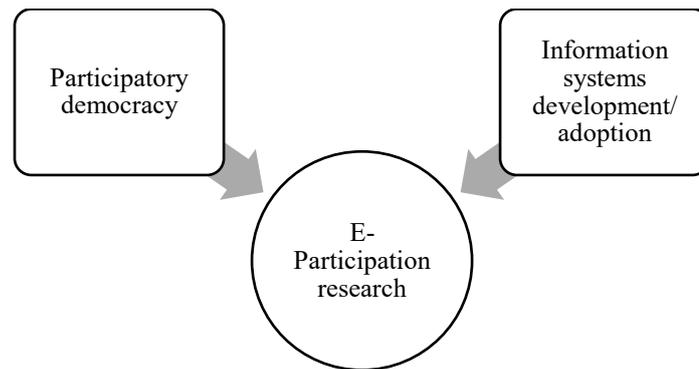
Figure 2-1 Main influences on e-participation as a research domain

One of the claimed roles of e-democracy systems is to strengthen representative democracy (Macintosh, 2004, p. 2), for instance with the support of local councillors (p. 7) or other elected representatives. However, few clear models emerge of the interaction between the participation process and elected representatives, or for addressing conflicts between them. It has however been suggested that formal e-petitioning systems provide one possible model (Riehm, Böhle and Lindner, 2014).

2.1.1 Models of Participation and deliberative democracy

Participatory democracy has an uneasy relationship with traditional representative models of democracy (Benton, 2016; Davidson and Elstub, 2014). Ideals of participatory and deliberative democracy emerged in the 1960s: they are well explained for this context in Davidson and Elstub (2014). Two relevant concepts and common assumptions with e-participation research are the *ladder of participation*, and *deliberation in the public sphere*.

With the ladder of participation shown in Figure 2-2, Arnstein (1969) articulated the view that the powerless were demanding – and should be given – more political control. This is cited in many e-participation papers (e.g. Edelmann, Krimmer and Parycek, 2017; Linders, 2012; Smith, et al., 2011; Susha and Grönlund, 2012; Taylor-Smith and Smith, 2018; Toots, 2019). It has been used to support an assumption that a participation system is as successful as the number of citizens that can be seen to be climbing the ladder.
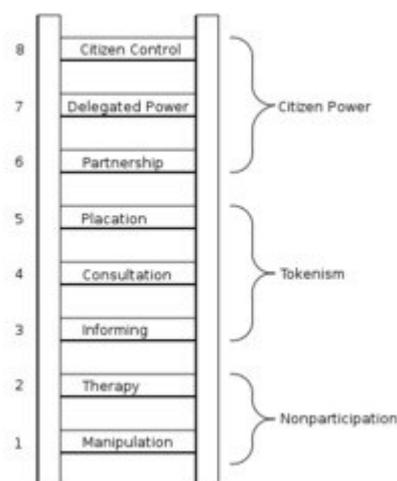
Figure 2-2 The ladder of participation
Source: Ferro and Molinari (2009)

The model of *deliberation in the public sphere* was developed by Habermas also in the 1960s and can be defined as "an arena, independent of government […] which is dedicated to rational debate" (Webster, 2014, p. 209). This idea underpins or is at least the starting point for many of the papers cited in this thesis.

2.1.2 Influence of information systems research

In their review of projects across the EU, Prieto-Martín, de Marcos and Martínez (2012) note that the basis of the e-participation domain is the investigation of the implementation of participatory democracy using tools and techniques from information systems research. This reflects the (often explicit) assumption in much e-participation research, that technology can and should support democracy. This is expressed for instance in Macintosh (2004):

> The overarching objectives of e-participation are [to]:
> 1. reach a wider audience to enable broader participation
> 2. support participation through a range of technologies to cater for the diverse technical and communicative skills of citizens
> 3. provide relevant information in a format that is both more accessible and more understandable to the target audience to enable more informed contributions
> 4. engage with a wider audience to enable deeper contributions (p. 2)

Macintosh's definition includes a hierarchy of participation adapted from Arnstein (1969): information/enabling, consultation/engaging and active participation/empowerment of citizen, with the latter as the goal of the e-participation project. Another important idea is the policy cycle: Participation can take place at different places in the policy cycle of agenda setting, analysis, policy creation, implementation and monitoring (Macintosh, 2004, p. 3). These concepts recur in much e-participation research, as

illustrated in the diagram below, from Lee-Geiller and Lee (2019), which combines an adapted ladder of participation with a model of e-government maturity from Layne and Lee (2001):
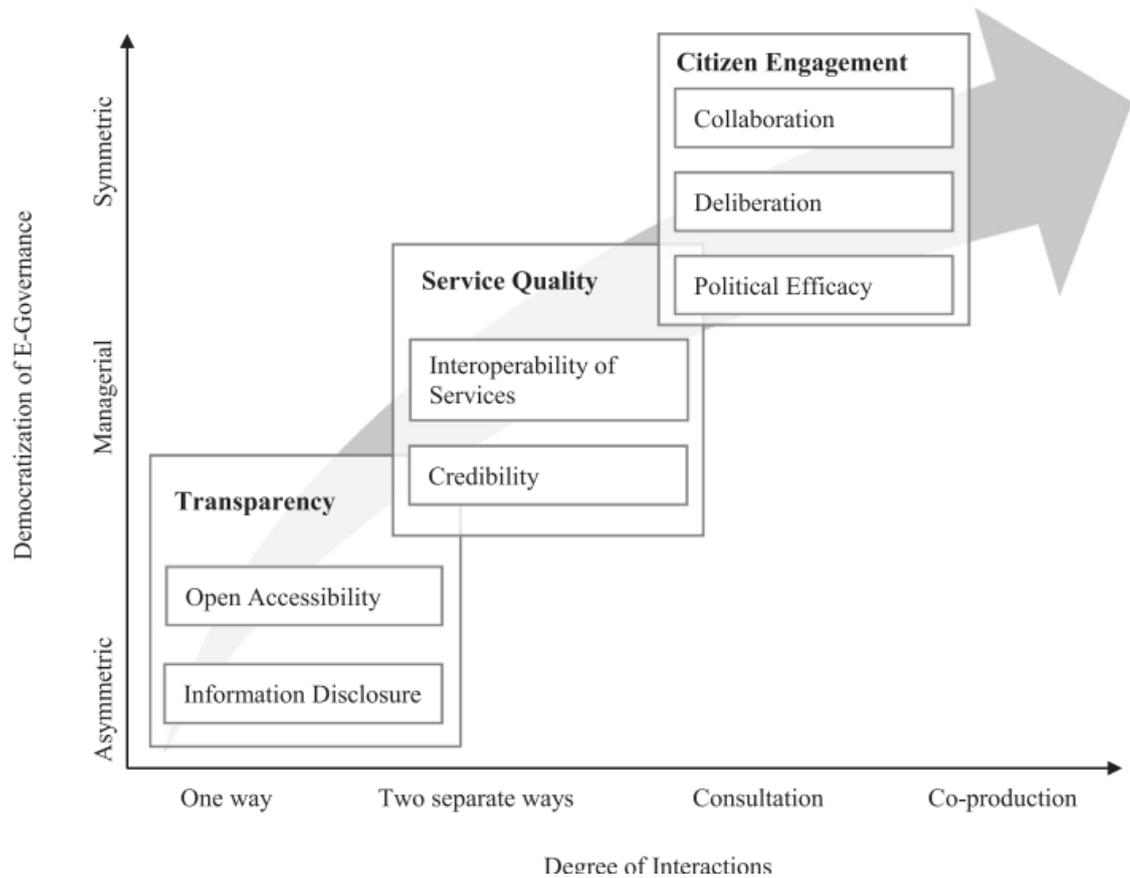
Figure 2-3 Typology of democratic e-governance showing assumptions of increasing participation
Source: (Lee-Geiller and Lee, 2019)

One aspect of e-participation research is the focus on democracy away from the electoral cycle (Linders, 2012, p. 448). The focus is on co-production of services (Linders, 2012, p. 452) moving to a concept of democratic governance as a process (Lee-Geiller and Lee, 2019, p. 211) rather than participation in occasional elections.

Less useful for this thesis is the focus on reporting the results of project implementation. Early e-participation projects involved the development of custom online systems which were then tested with partner organisations, typically in local government. E-Participation has adapted to transition from custom developed applications to take into account the use of social media as a public forum (Haro-de-Rosario, et al., 2016; Medaglia and Zheng, 2017; Panagiotopoulos and Bowen, 2015). Many of the projects were funded as pilots by national governments or the European Commission, and can be characterised as top down (Medaglia, 2012; Toots, 2019). An

implication of this is that there can be implicit pressure to report on the "success" of the projects, leading to a research focus on success evaluation (e.g. Prieto-Martín, et al., 2012; Smith, et al., 2011). The project focus has also been noted as leading to a lack of research into e-participation as part of the normal democratic process (e.g in Prieto-Martín, et al., 2012). Success is generally measured from an institutional/ bureaucratic perspective, borrowed from models used for business systems. That is, impact on quality of the democratic processes might not be a key success criterion.

Two concerns that are not considered further in this thesis arise from the tension between ongoing democratic processes and the needs of researchers and system developers. The first is the sustainability of the e-participation projects considered. The second is an ethical question raised by engaging 'ordinary' citizens in a short-term democratic experiment, with the risk of leaving the citizen feeling abandoned by the researchers when the project ceases.

Another route for use of digital systems for democratic participation is *bottom-up* – that is, through citizen led activity. The importance of bottom-up citizen-led participation has been acknowledged (Smith, et al., 2011; Alathur, et al., 2016; Porwol, Ojo and Breslin, 2018): Figure 2-4 illustrates one model of the relation between them. However, the (top-down) normative agenda of improving levels of e-participation has dominated the e-participation literature until recently at least.
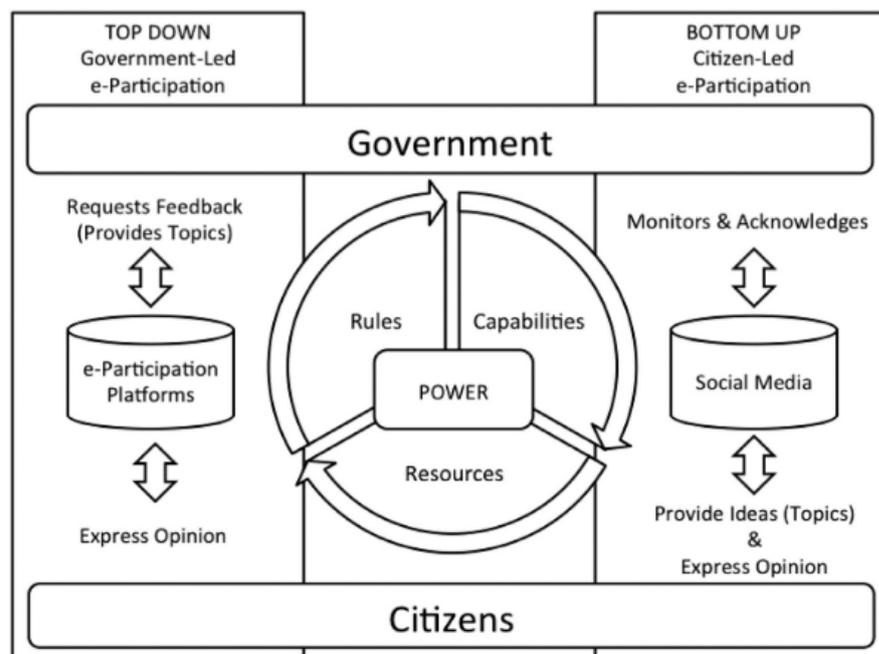
Figure 2-4 Twin track model of e-participation
Source: Porwol, et al, (2018)

2.1.3 Responses to gaps in the research

The overview above has highlighted that e-participation has primarily focussed on the development and testing of systems, rather than understanding the everyday use of systems in the wild or "real world". As a result of the origins of e-participation in information systems, the focus of the research can be implementation success factors, with the perspectives of citizens and their elected representatives treated as secondary to the study of system use (Medaglia and Zheng, 2017). Decisions by individual participants to use a system, perceptions of empowerment, and information practices in use of systems are not well explored.

Participatory democracy also has an explicit assumption and agenda based around increasing direct citizen participation in the democratic process (that is, climbing the ladder of participation). This has meant that the vast majority of citizens who choose *not* to use the system have often been ignored (or labelled and implicitly denigrated as *lurkers*)[*]. Taken alongside issues around the representativeness of the actual users, there is a bias towards the early adopters and "usual suspects": e-participation systems might be engaging new people, but they often do not widen the range of *types* of people who participate – all still have high technical and political self-efficacy and literacies (Bertone, De Cindio and Stortone, 2015). The perspectives of the elected representatives can also be underplayed, with some exceptions such as Bertone, et al. (2015) in a party-political context, and work by Smith and Webster (e.g. 2008), and Baxter (in for example Baxter and Marcella, 2013) on the activities of members of the Scottish Parliament. One explanation is that it is easier for the researchers to engage with the permanent staff and professionals who are the partners in the e-participation project, than with the often very busy elected representatives. It may also reflect the perspective of participatory democracy proponents: representatives are seen as obstacles or part of the 'old' model of democracy to be ignored or bypassed. The focus on system implementation and formal participation spaces increases the risk that (bottom-up) participation taking place in other (back-)channels can be ignored. One response by researchers has been to move from creating a participation space, to looking for where the participation is actually happening (the bottom-up perspective) – generally Facebook. Hidden channels such as private groups, WhatsApp or mailing lists are challenging for survey-based research – Taylor-

---

[*] An exception is a strand of research which does consider lurkers. This is the starting point for the first three papers in the portfolio and has also been considered in work by Edelmann, (e.g. Edelmann, et al., 2017).

Smith and Smith (2018) have shown how an ethnographic/case-study approach becomes necessary.

Table 2-1 Alternatives to the focus of e-participation research

Focus of e-participation research	Alternatives
Project testing	Business as usual (e-participation as a part of normal democratic processes)
Top down / normative	Bottom up/ descriptive/ analytical
Techno-utopian	Techno-critical
Individual decisions	Social context / acting in a team
System focus	Community focus Information focus
Digital inclusion	Social inclusion
System owner	Citizen, elected representative
Implementation (system owner perspective)	Using a live system (citizens and representatives)

From a research perspective, an alternative to the normative assumption that participation *should* increase, and testing systems designed to support that process, is to take an analytical approach, and study the factors involved when citizens and their representatives *choose* to use (or not use) online systems for participation. Ultimately, the use of the internet as part of the democratic process is a research subject, not dependent on any particular theoretical approach. As such it is amendable to many lenses. It is logical then to widen the perspective to evaluate the treatment of these problems within e-participation projects – and their treatment in related domains. Thus the frameworks used in this research, and methods for data gathering and analysis merit consideration, and are discussed next.

2.2 Frameworks for approaching the research challenges related to individual participation online

2.2.1 Use of system acceptance models in research

A significant influence on understanding success factors has come from information systems in the form of technology acceptance and adoption frameworks[*]. The focus of e-participation projects is on acceptance by citizens, rather than by officials and elected

---

[*] Diffusion of technology and related theories such as TOE (Technology, Organisation, Environment) provide alternative approaches for the understanding of uptake of e-participation systems – though not used in the research studied.

representatives. In their review of e-participation research, Coelho, et al. (2017) identify a number of approaches, including acceptance models, drivers/success factors, and evaluation of project or tools. Models derived from the Technology Adoption Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) are frequently the basis for research (Naranjo-Zolotov, Oliveira and Casteleyn, 2018; Panopoulou, Tambouris and Tarabanis, 2018). Earlier research has more commonly been based on descriptive statistics and qualitative analysis of interviews and survey responses (Coelho, et al., 2017, p. 4), but there is now a strand of quantitative research as illustrated in Table 2-2 below.

Table 2-2 Research methods in the papers evaluated in this thesis (system acceptance)

Paper	Sources of data	Project
Alathur, et al (2016)	Online survey – 407 responses	Survey of users of e-participation system users in India
Bertone, et al (2015)	User survey 254 responses. Data related to activity from proposal, to voting and decision making.	Two case studies of implementation of existing system: Liquid Democracy.
Lee and Kim (2018)	Reanalysis of existing survey data: 1076 responses from 2009	e-participation programme run by the Seoul Metropolitan Government (SMG) since 2006.
Naranjo-Zolotov, et al (2018)	Meta-analysis of 60 articles with 472 useful relationships, covering 22,779 people across the world.	N/A
Panopoulou, et al (2018)	Multinational user survey – 299 reliable responses in relation to single project	Puzzled by Policy (pilots in 4 EU countries, plus one at EU-level)
Song, et al. (2018)	303 online community members	Online community, supported by commercial company
Toots (2019)	Data related to use of participation system (2007-2015) Supplemented by analysis of 7 interviews	Osala.ee (Estonia)

Table 2-2 also illustrates the range of research methods used in the papers evaluated for this literature review. Consistent with the findings in Naranjo-Zolotov, Oliveira and Casteleyn (2018), the research is generally based on single projects or case studies. Data are gathered from citizens in relation to their experience of an individual system, or gathered from participants in pilot studies (e.g. Panopoulou, et al., 2018). Existing datasets are reanalysed in others (Lee and Kim, 2018; Naranjo-Zolotov, et al., 2018). Citizen sourced data are sometimes supplemented with data from practitioners, administration staff or politicians (Bertone, et al., 2015).

Research into the adoption of e-participation systems has also been informed by approaches from other disciplines (Smith, et al., 2011) including social capital (Lee and

Kim, 2018), citizen efficacy (Alathur, et al., 2016), structuration theory (Porwol, Ojo and Breslin, 2018) and institutional theory (Pina and Torres, 2016). An example of this form of application of theory can be seen in Alathur, et al. (2016). This focusses on technology adoption and identifies a range of potential factors from a review of past research. The twelve candidate determinants are then tested against project data to establish those supported: in this case, only four could be supported, as illustrated in Figure 2-5 below. There is limited explanation of (a) the basis for the determinants, and (b) the causation behind the correlations that were found. In contrast, Toots (2019) concludes that is important to see e-participation projects in the context of learning and innovation, not simply in terms of information system implementation. This highlights the potential for perspectives from information science, and will be considered in greater detail below.
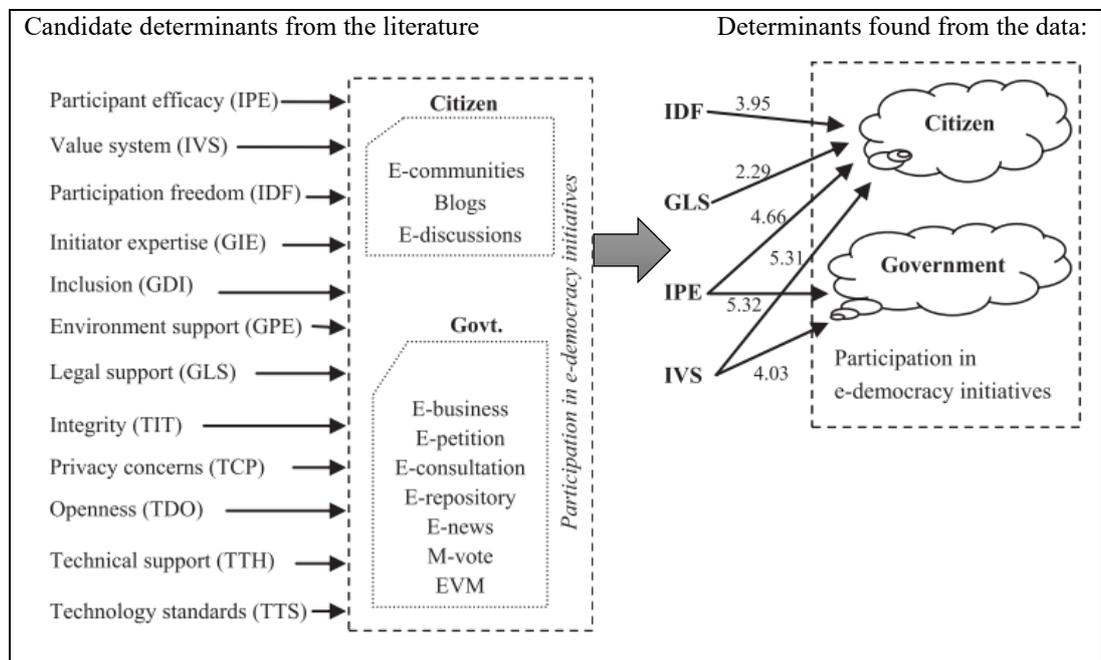
*Figure 2-5 Example use of determinants in acceptance research
from Alathur,* et al. *(2016, fig. 1 and 2)*

In order to be considered successful, a system has to be widely taken up by its intended users. This assumption applies as much to e-participation as to any other information system project. Although project management is outwith the scope of this thesis (as it does not relate to democratic participation), a major strand of e-participation research is evaluation of system implementation, with a focus on project and system success factors (Smith, et al., 2011). E-Participation systems that are evaluated have generally been developed within a time-limited project, and therefore the evaluation timescales are inevitably short term (Porwol, Ojo and Breslin, 2018). Toots (2019) provides a rare example of analysis of both failure and a system that ran for several years over several campaigns. It works in the project success paradigm, extending information system

project and public project sector success factors to also include specific challenges that emanate from the complex context of democratic participation.

2.2.2 Use of content survey approaches in e-participation research

2.2.2.1 Different units of analysis

In contrast to this system focus covered above, another approach to the evaluation of e-participation is to treat the online presences themselves as the object of study. Measurements of e-government readiness are now commonplace. For instance, the e-government readiness indices published by the United Nations (UN)[*]. This allows for longitudinal study and comparison between different countries. However, these surveys are criticised for focussing on institutionally perceived quality, the easily measurable 'supply side' (Codagnone, et al., 2015) – the challenge of measuring usage and impact is often avoided. E-Government studies have little emphasis on measurement of support for democracy or participation: the focus is more likely to be online delivery of information or government services such as registering residency or requesting waste uplift. Many (e-)participation techniques can be applied in the context of authoritarian governments such as China or Saudi Arabia; in response some have considered the application of balancing factors to give more weight to democratic processes (for instance Pirannejad, Janssen and Rezaei, 2019). Some surveys do address democratic aspects, such as that undertaken by Sundberg (2018), and a method is proposed in Lee-Geiller and Lee (2019), but the focus of both approaches is on engagement with central government. Overall, comparison or assessments based on a national scale do not provide much indication of an approach that can be applied at the *hyperlocal* scale addressed in this thesis.

At the level below the nation state and political/administrative region, another source of comparison data is cities – in particular "smart cities". International rankings of cities are regularly published, for instance the IESE rankings published by the Business School at the University of Navarra[†]. These rankings report at city level, but since they focus on top performers, there is an inevitable focus on the biggest and wealthiest cities around the world. Service delivery is emphasised in these rankings, though there can be an indicator for citizen participation, as in the IESE ranking[‡]. Examples include Borsekova, et al. (2018, p. 25), who include *participation in public life* as smart city indicator 21 (out

---

[*] The most recent UN e-government readiness index available is for 2018: https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2018. It reports at national level, focussing on services delivered by central government.
[†] https://blog.iese.edu/cities-challenges-and-management/2019/05/10/iese-cities-in-motion-index-2019/
[‡] https://blog.iese.edu/cities-challenges-and-management/2018/01/10/participation-and-democracy-in-the-digital-age-in-cities/

of 27), and Holzer, et al. (2020) who have a section on citizens and social engagement in the largest cities covered by its survey. The result is that these lists are not helpful for examples of methods to use in considering the analysis of support for democratic participation at municipal or hyperlocal levels.

A content analysis approach has been less frequently used for considering municipal and hyperlocal presences. The lack of studies at this micro-level is discussed by Steinbach, et al. (2019, p. 7) who note in particular the lack of survey-based quantitative studies. However, there are some exceptions to this theme. One example is the analysis in Christensen (2013) of e-democracy in 188 Finnish municipalities. Another can be found in Steinbach, et al. (2019) who cover municipal-level content in a German *Land*. The focus in these studies is not to rank individual organisations, rather it is to identify trends in content and functionality. Support for e-democracy processes was found to improve with city size (Christensen, 2013): at a larger scale, this is also reflected in the Smart Cities data, where within a national context, larger cities tend to perform better (Borsekova, et al., 2018) though it is possible that there is an upper limit in effectiveness (p. 25).

2.2.2.2 Motivations for data gathering and analysis

The purpose of the analysis can vary. At the national and smart city level, the focus is often on ranking and trend analysis. A different approach is to analyse the range of channels that a community uses. Williams, et al. (2015) and Harte, Williams and Turner (2017) made use of an extensive survey of online news sources in their study into hyperlocal journalism. Studies have also included use of websites and social media by political parties and candidates (e.g. Baxter and Marcella, 2013); for instance analysis of what is being communicated gives an understanding of how the creators perceive themselves or are acting, perhaps based on the participation ladder model of maturity (Steinbach, et al., 2019, p. 6).

There are two broad approaches to data gathering and analysis. A census such as in Steinbach, et al. (2019) aims to cover the entire population in the selected region. A less common approach is sampling: Baxter and Marcella (2013) combined census of political parties (top level) with sampling of individual candidates. Smart City rankings can be seen as an example of directed sampling – ranking candidate cities from a preselected list.

When considering hyperlocal or municipal presences, one challenge is the sheer number of bodies that could be covered – meaning that a census at anything other than at

the level of region or small nation is impractical. In the extant literature no sample-based comparison between countries or regions can be found.

Examples of three different approaches are summarised in Table 2-3. These studies focus on a single channel of communication: official web presences (Christensen, 2013; Steinbach, et al., 2019) or news site (Williams, et al., 2015). They provide a range of models for analysis of content.

There are some risks associated with these studies. The first is inherent to the data collection process: only public presences can feasibly be covered. Public or private social media presences were not in the scope for these studies, so there is a risk they have missed content such as Facebook groups. A further exclusion is channels of bottom-up engagement including non-public content such as mailing lists, private Facebook groups and social media tools such as WhatsApp and Snapchat which are designed for private discussion. In a changing online media landscape, there is also the challenge of ensuring consistent measurement over time, which could be at the expense of ignoring relatively new social media platforms such as Instagram or Pinterest. A related issue is comparability: websites hosting news blogs and discussion forums might have been active in the first decade of the century, but Facebook groups have arguably taken on much of this role. A comprehensive longitudinal study would face the challenge of accounting for channel shift, however, this is not in scope for this thesis. Finally, a survey based on a single point in time is seldom practical. Most use a window of a few weeks in which to carry out their survey.

Table 2-3 Generic protocol for survey of hyperlocal online presences

Study Step	Steinbach, et al (2019)	Christiansen (2013)	Williams, et al. (2015)
Establish framework			
Domain/ motivation	Innovation diffusion theory	e-democracy, public administration	communication studies
Establish target:	Municipal sites in North-Rhein Westphalia (NRW), Germany	Municipal websites in Finland	Hyperlocal news sites across the UK
Types of online presences	Restricted to officially hosted content	Official municipal website	Hyperlocal news websites
Implementation of survey			
Time period	2010-2015	April-June 2012	8-18 May 2012
Population	Census: 396 municipalities in NRW	Census: All 188 municipalities in Finland with population > 5000 (representing 5m out of 5.4m population).	Sample: Posts by members of UK Openly Local news network: 313 sites, 1941 posts. Acknowledged issue with missing non-members.
Method	Contacting all municipalities	Live coding (no archiving)	Live coding (no archiving)
Content analysis approach	Focus on predefined specific forms of e-participation: 1. Participatory Budgeting 2. Urban Development Planning 3. Problem Reporting Tools 4. Urban Land-Use Planning 5. Noise Action Planning (NB Survey was main form of data collection – only 15 sites were subject to full content analysis)	**Representation**: Agendas & protocols, Contact information, Meeting schedule *etc* (Present on 100% of sites). (30% have links to social media) **Participation:** feedback (92% of sites). (Other forms <25%). Polls, petitions are unused (though 48% support individual initiatives). **Deliberation:** forums, outreach, (24% of sites) Included check for links to social media	Top **news** subjects: community (13%), politics/government (12%), sport (12%) Sources quoted: Politics (16%), business (14%), member of public (12%) **Campaigning:** licencing, public services, infrastructure **Investigations:** planning/ licensing, health, council services
Validation	Survey was sent to municipalities	Internal consistency	Interviews
Wider dissemination for impact	None noted	None noted	None noted

2.3   Findings from research into engagement with e-participation systems

System success is focussed on owners and administrators, with citizens having an indirect role – models of engagement by citizens are often aggregated or statistical. An understanding of the choices by citizens to use (or not use) a system is also necessary. This includes consideration of findings related to the stakeholders in a system, the categorisation of the platforms supporting democratic participation, and the wider contextual and social issues that shape the emergent system, with the focus on research into individuals' perspectives and choices.

2.3.1   Stakeholders: citizens, representatives, and others

The importance of the wider context in which the systems work has been recognised (Lee-Geiller and Lee, 2019, pp. 208–209). This included the range of stakeholders involved, and the importance of a range of perspectives, political, technical and social (Macintosh, 2004, p. 4). Despite this, some researchers do not explicitly consider stakeholders at all (e.g. Benton, 2016; Haro-de-Rosario, et al., 2016; Naranjo-Zolotov, Oliveira and Casteleyn, 2018; Song, et al., 2018). Others are content to acknowledge the existence of stakeholders, but not list them (e.g. Alathur, et al., 2016, p. 26; Edelmann, et al., 2017, p. 90; Lee and Kim, 2018). It can broadly be said though that most agree that the core stakeholders include decision makers (such as administrators, and politicians or elected representatives), champions and advocates, and experts (Macintosh, 2004, p. 4; Susha and Grönlund, 2012, p. 374; Toots, 2019, p. 547). Where different stakeholders are considered, there is some variation in the assumption of significance: Susha and Grönlund (2012) for instance do not include politicians; Panopoulou, Tambouris and Tarabanis (2018, p. 4) only explicitly identify citizens as a class of stakeholder. Macintosh (2004, p. 7) and Pina and Torres (2016, p. 292) go as far as to include scholars and university researchers. Overall, although there is no clear model of the stakeholders, there is a broad consensus that citizens and system owners are included. Project owners, researchers, and elected representatives are often not considered.

The three stakeholder groups relevant to this thesis are citizens, elected representatives, and systems administrations; the needs of researcher and project teams may also be of relevance.

The first stakeholder group considered is *citizens*: the people the systems are meant to support. Despite the extensive use of the term in the literature (Macintosh, 2004; Linders,

2012; Prieto-Martín, et al., 2012; Susha and Grönlund, 2012; Haro-de-Rosario, et al., 2016; Edelmann, et al., 2017; Taylor-Smith and Smith, 2018), it is never defined. The implicit assumption is that a citizen is a person who has a legitimate interest in the topic being discussed as someone who would be impacted by the outcomes; this is normally based on association in the affected area[*]. A too rigid definition can have its own problems: top-down participatory systems can limit or marginalise citizen power by restricting flexibility (Benton, 2016, p. 38).

Citizen can be combined or alternated with *user* (Macintosh, 2004, p. 9), or even *consumer* (Panagiotopoulos and Bowen, 2015, p. 21). The user aspect is important, for instance in supporting consideration of accessibility issues (Macintosh, 2004, p. 9), though in system acceptance literature, citizens are often treated in effect as external to the system (subject to statistical analysis) – and their individual decision processes are not analysed. An example of this approach is Coelho, et al. (2017) where the focus is on acceptance by citizens.

The role of the citizen in the participation system can vary. The particular characteristic of citizens is that, other than voting, most do not directly engage with the political system; and at local level, the majority do not vote either. Some (such as Edelmann, et al., 2017, p. 88 citing Ferro and Molinari) establish a typology of engagement (activist, socialiser, connected, unplugged), but do not consider whether all should be allowed to engage. Others note the need to put effort into changing citizen behaviour to make models of participation work (Lee-Geiller and Lee, 2019, p. 218). The perceived or accepted role of citizen as client or co-creator is also relevant here: some advocate a model of participation as co-production (Linders, 2012), while other researchers show that citizens are accustomed to being treated as clients and not as partners, so engagement is not sought (Bonsón, Royo and Ratkai, 2015).

E-Participation literature has focussed on citizens; the result is there is little research into the use of the systems by the second stakeholder category considered here: *elected*

---

[*]Although there are clear definitions of *citizen* and voter at nation-state level, there is little discussion of the challenges of what it means to be a citizen in the context of local communities. The challenge of defining citizen increases in a local context as the proportion of non- or partially-resident stakeholders increases. The easiest definition is *voter* (or in some contexts, *taxpayer*) – but none of the research found here includes that as a requirement to be a counted as a citizen at local or hyperlocal level. This is not an issue to the research (including that considered here), as there is generally an implicit filtering/judgment process where contributions are evaluated for suitability in what is a qualitative process (ie judging comments by their value, rather than counting votes); the Scottish Parliament's petitioning system explicitly allows signatories from anywhere in the world. Local initiatives such as Leith Chooses in Edinburgh defines a valid voter as anyone who 'lives, works, studies or volunteers in Leith': this in term implies multiple, overlapping citizenships.

representatives. For instance, Coelho, et al. (2017) do not consider acceptance by the decision makers (officials and elected representatives), even though the latter are clearly important stakeholders in the e-participation system. Some but not all of the literature identifies politicians or elected representatives (sometimes 'elected officials') as stakeholders in e-participation systems (Prieto-Martín, et al., 2012, p. 252; Alathur, et al., 2016, p. 26; Pina and Torres, 2016, p. 292; Lee and Kim, 2018, pp. 874–875; Toots, 2019, p. 547). Others include them within the institutions of 'the administration' or 'government' (Macintosh, 2004, p. 4; Medaglia and Zheng, 2017, p. 501; Lee-Geiller and Lee, 2019, fig. 2). Even though their purpose is to represent citizens, and in fact representatives are generally citizens of the area they represent, it is rare for them to be seen as one of the participants in the process (Smith, et al., 2011, p. 313).

Representative democracy is the traditional method for (indirect) participation by citizens through voting for elected representatives (Pina and Torres, 2016, p. 290). However, in most of the papers considered here the role of representatives is not considered further, other than, for instance, to note their lack of interest in citizens' contributions. Rather, the focus falls on administrators' perspectives of the participation. This is likely to reflect the ambiguous relationship between e-participation systems and representative democracy highlighted earlier. Even when e-participation projects position themselves as working to counteract the loss of trust in representative democracy, they do not necessarily identify elected representatives as stakeholders – for instance Edelmann, et al. (2017, p. 90). *Politician* can also be used as an alternative to *elected representative* (Smith, et al., 2011, p. 311; Toots, 2019, p. 547); since many politicians are unelected (e.g. party officials, failed candidates) there is an implication that elections and democratic accountability are not important to e-participation systems. Indeed, in several papers, terms relating to elected representatives or politicians are not used at all (Naranjo-Zolotov, Oliveira and Casteleyn, 2018; Panopoulou, Tambouris and Tarabanis, 2018; Song, et al., 2018; Toots, 2019). As already noted, (decentralised) participatory systems can be used in a technocratic or authoritarian context to marginalise and bypass the role of elected representatives, and restrict the range of citizens who are able to participate (Benton, 2016, p. 41), or prioritise non-elected but publicly funded community-based organisations over elected representatives (Levine, 2016). Others see participatory and representative models as being in conflict (Davidson and Elstub, 2014), or see technology as having potential for empowering politicians (the 'establishment') vis-à-vis citizens (Medaglia and Zheng, 2017, p. 502).

There is mixed evidence on the role of representatives in the success of an e-participation system: Panopoulou, Tambouris and Tarabanis (2018, p. 9) find that politicians have little influence on decisions by citizens on whether to use an e-participation system. On the other hand, their lack of support can be a significant factor in project failure (Toots, 2019, pp. 549, 551). Overall then, there is disagreement amongst researchers on the place of representatives in e-participation systems: worker or volunteer, administrator or citizen: in many ways, they can be seen to bridge across these roles.

Administrators are important stakeholders and fit best with models of *acceptance* of information systems. They are (government) employees, and as such, their take-up and use of systems is covered well by the technology acceptance literature. Indeed, many publications in e-participation consider administrators as important (or the main) stakeholders. A typical example of research in this area can be found in Pina and Torres (2016), who use institutional theory to analyse the pressures on managers; their focus is on perception of citizen contributions, downplaying the role of elected representatives.

A final stakeholder group to briefly consider is the *project team:* those involved in designing, implementing and evaluating the systems; this can include university researchers (Macintosh, 2004, p. 4). Researchers and project managers are also important stakeholders in systems under development: in fact many e-participation studies reflect the results of a trial implementation; Toots (2019) identifies the need for the system developers and administrators to manage e-participation as a learning and innovation process, not (just) a system implementation problem.

Overall then, there is consensus that citizens are the key stakeholders (sometimes as a user and consumer). However, there is a lack of a clear definition of the meaning of the term, particularly in the (hyper)local context. There is also general agreement that system administrators are also stakeholders, but there is a low recognition of the importance of elected representatives. The significance of academic researchers and project managers as stakeholders in the process as implementers and evaluators is also often overlooked.

2.3.2 Types of e-participation system

Three classes of e-participation system are most commonly considered: bespoke (government owned), online communities and forums, and social media. Table 2-4 below summarises typical approaches; mobile apps are included for completeness, but are not considered further as they are typically only made available in a smart cities context and therefore have historically not been available to most citizens. In contrast with work- or

education-based systems, e-participation is optional and often anonymous or anonymised. The majority of citizens do not directly engage with democratic processes between elections: an often-implicit assumption in system design is that take up rates are expected to be low (less than 10%, and often less than 1%). One advantage for administrators and representatives of a high proportion of lurkers (that is, a low rate of direct engagement) is that continual 100% participation would swamp most participatory processes (Edelmann, 2017, p. 48).

Table 2-4 The main categories of e-participation platforms

Type	Example research, and comments
Dedicated/ custom e-participation systems	Edelmann, et al. (2017): including factors behind online citizen participation Linders (2012): risks from low citizen engagement with the platforms (p452)
Online discussion community	For instance, as used for knowledge management and commercial, Internal forums, often hosted using a generalised blogging system such as WordPress. Popovac and Fullwood (2018): Points out different lurking rates in different communities Song, et al. (2018): studied commercial communities where driver is to keep up engagement. Koutropoulos, Honeychurch and Singh (2019): Defines *lurker* [a type of citizen stakeholder in other models] as a psychological issue.
Social media platforms	Bonsón, Royo and Ratkai (2015): 79% of the examined European municipalities had an official Facebook page. Medaglia and Zheng (2017): proposes an approach to the analysis of the use of social media in this context. Note that survey-type research is only practical for public groups and forums – so despite their potential importance, bottom-up WhatsApp groups for instance are invisible, except to individual case studies.
Mobile apps	Alcaide Muñoz and Rodríguez Bolívar (2019): uptake of apps focussed on younger and less educated citizens (in contrast with traditional websites). Important for future research.

Another approach taken by policy makers to understanding citizens has been to use social media analysis to understand citizens' needs, sometimes labelled *crowdsourcing* or *social media monitoring* (Panagiotopoulos, Bowen and Brooker, 2017). In prior work it has been suggested that the digital footprints left by lurkers might serve as proxy measurements of interaction (for example, Malinen, 2015, p. 232).

2.3.3 Activity in the community: Choice of level of engagement and channel

Research into online knowledge or learning communities in the 1990s originally assumed that active and visible participation is key to survival of the online community. It was soon noticed though that much of the community consisted of what were labelled as *lurkers* – the passive audience, often forming the majority. This has now been well covered in the literature, with useful summaries in Cranefield, Yoong and Huff (2015) from an information systems perspective, and in Edelmann (2013) from a systems acceptance context. Despite the negative connotations of the word, researchers now generally recognise the value of lurkers to communities, though *passive participant* might be a better label for this behaviour.

There are a number of advantages to lurking for citizens. One relates to time management: it takes less time to scan for updates than to engage in a dialogue. A further advantage of lurking for citizens is that it avoids perceived risks. For instance, citizens are wary of the consequences in a social or work context of discussing politics online; instead democratic engagement can happen through participation in offline communities (Edelmann, 2017, pp. 37–41), or away from institutional settings (Taylor-Smith and Smith, 2018). A more negative motivation concerns poor self-efficacy and related factors such as lack of digital skills (Lee and Kim, 2018; Naranjo-Zolotov, Oliveira and Casteleyn, 2018; Porwol, Ojo and Breslin, 2018). Lee and Kim (2018) note a lack of data relating to self-efficacy of participants and the factors that might lead to them not engaging with a system. Despite this, much e-participation literature assumes the need to encourage citizens to 'de-lurk'.

The context of participation can be understood by comparing activities to other local media, and leading to further questions around channel choice and expectations of the different channels, online and offline, public and private (Kubicek, 2016; Taylor-Smith and Smith, 2018). There are some indications that different channels support each other, or that there is an expectation of cross-channel response (Kubicek, 2016). A number of other research perspectives related to communication studies are also relevant (e.g. Freeman, 2020; Harte, et al., 2017; Mariën and Prodnik, 2014; Mariën, et al*.,* 2016; Williams, et al., 2015). These will be considered further in relation to information science research below.

2.3.4 Other contextual factors

In the extant literature, reference is made to a number of other factors that can impact on the success of e-participation systems. Some of these are considered below; however, the

list is not complete: for instance, *accessibility* (Macintosh, 2004, p. 9) has not been considered, neither has the impact of *language* in a multilingual context. Most participation research relates to the implementation and monitoring phase of the *policy cycle* mentioned in section 2.1.2: the role of the policy cycle in engagement or success measurement is not considered further here.

In most projects, data are collected relating to demographics factors for online participation (Lee and Kim, 2018); examples include age, gender, or education (Alcaide Muñoz and Rodríguez Bolívar, 2019). Some research has addressed *trust*, in government, as well as the system itself. Several (Lee and Kim, 2018; Naranjo-Zolotov, Oliveira and Casteleyn, 2018) found trust to be a factor influencing participation, as illustrated in the extension to TAM and UTAUT in Figure 2-6. However, the focus on e-participation research has generally been on levels of engagement with the system, with little emphasis on the profile of those who engage.
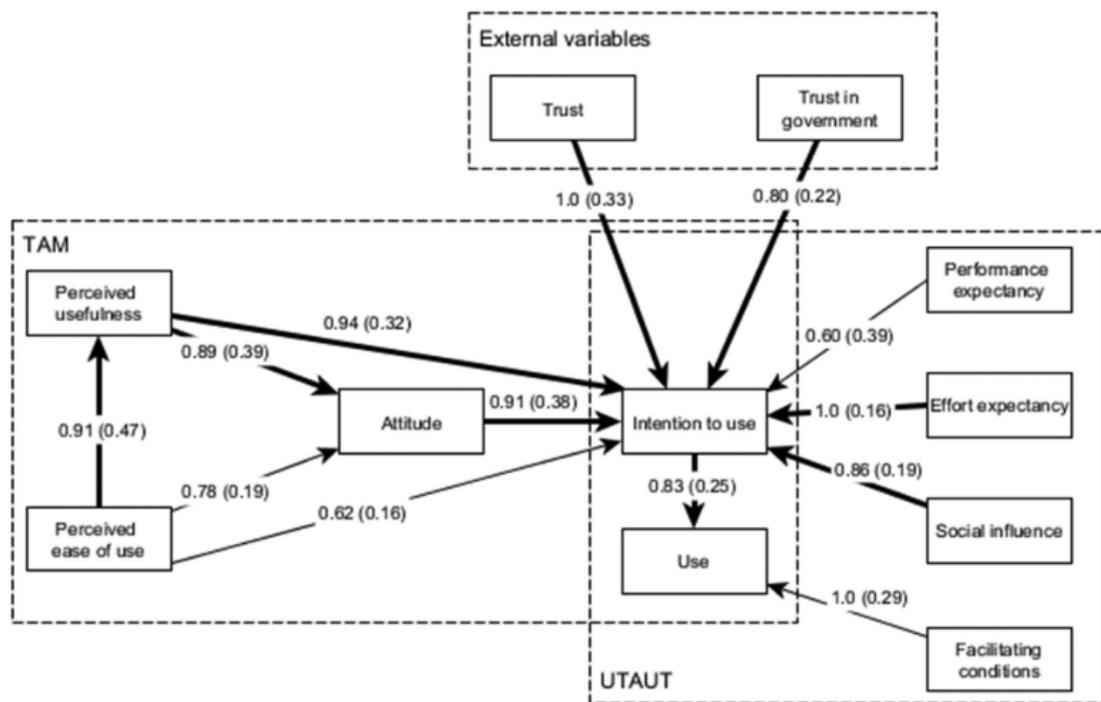
Figure 2-6 Trust added to TAM and UTAUT to predict take-up of e-participation system Source: (Naranjo-Zolotov, Oliveira and Casteleyn, 2018)

In the context of commercial forums, Song, et al. (2018) found that institution-based trust influences members' community commitments. Fatima, et al. (2019) showed the close relationship between privacy expectations and trust in a system. Conversely, Lee and Kim (2018) argue that support for participation improves trust in government and offline social ties. The factors that lead to trust in government are not always straightforward though – for example Porumbescu (2015) found that without an effective

civil society there was no clear link between transparency and increased trust in government by citizens (p. 211).

The significance of *place* increases as the geographic scale of the community decreases[*]: the physical proximity between participants has implications for their participation and sharing practices. One possible source on the role of place could be smart cities research, but currently, there is little that is directly applicable for e-participation, mainly because only a minority of citizens live in a smart city, and the concept inherently excludes citizens who live in a rural or (small-)town context. However, some research is relevant; for instance Alcaide Muñoz and Rodríguez Bolívar (2019) reviewed the demographics of users of apps in European smart cities, and found that uptake of apps running on mobile phones was relatively high amongst young and less educated people, in contrast with traditional websites which have typically had an older, male and more professional user-base. This may point a way towards broadening online participation, if the tools can be adopted more generally.

Overall, it can be said that e-participation research has a weak account of the role of space and place in engagement with e-participation systems. López, Farzan and Lin (2017) provide an exception: they take an information systems perspective in identifying *sustainability factors* in discussion forums – including offline context and system design in attracting and retaining engagement; it is notable (and unusual in this field) also for using individual and collective levels of analysis, and including a definition of *hyperlocal information systems* as 'providing a service to a specific locale' (López, Farzan and Lin, 2017, p. 11:2).

These gaps may arise because e-participation research has historically focussed on information systems, and not communities as such, nor how information is used. Researchers from different traditions such as critical media studies (e.g. Mariën and Prodnik, 2014) have pointed out that digital inclusion cannot solve social exclusion – digital channels are generally used by the same demographics as are already engaged in the political processes. This is a significant contradiction within the e-participation domain, and shows that information and communication perspectives can be of value.

---

[*] It is generally assumed that online communities need to prioritise the opinions of citizens even if outside opinion is also taken into account. However, as already noted, it can be challenging to define what it means to be a citizen of a place. A formal definition could range from registered voters, through (tax-paying) residents, to regular visitors, or people who have strong family connections (particularly relevant in a rural context). Each option has issues, which may explain the preference to leave this unaddressed.

2.4 Perspectives from information science

The above review of e-participation research has highlighted a number of gaps and issues in existing research in that domain. Many have been addressed by research in information science[*] and related disciplines, such as critical communication and media studies (Polizzi, 2019). Similarly, research into the relation between community and geography can also be relevant to this thesis and will be considered where necessary. In contrast with information systems research, information science research is person oriented (Case and Given, 2016, p. 9), allowing a consistent focus on the individual acting in context. A further contrast with systems-based research is that there is a strong tradition in information science of consideration of the importance of the choice of frameworks used to establish meaning from the results:

> [M]ethod without a philosophical framework that determines why a particular method is employed and what view of reality the researcher holds, is purely mechanistic. (Wilson and Savolainen, 2013, p. 9)

A range of frameworks that provide the theoretical foundations that underpin much research in this domain are considered first, before turning to a review of the approaches and findings from those domains and an evaluation of their usefulness in relation to the challenges identified.

2.4.1 Application of theoretical frameworks from information science

Information science research exists on the boundary between two major traditions: (quantitative) measurement of results in the 'scientific' objectivist, positivist tradition, and a search for (qualitative) meaning in the social, interpretivist and phenomenological traditions. Wilson and Savolainen (2013) and Case and Given (2016, Chapter 11) all address the impact of a shift to qualitative research that has been evident in post-second-world-war social sciences including information science: Case and Given note that information research becomes more meaningful with a focus on qualitative aspects (2016, p. 354)[†]. Of most interest to this thesis is the meaning attached by individuals to their actions, so the focus below will be on qualitative approaches.

---

[*]In defining the domain of information science, Case and Given (2016, p. 369) identifies the core journals as *Information Research, Journal of the Association for Information Science and Technology* (JASIST)*, Library & Information Science Research, Library Quarterly,* and *Journal of Documentation.* Other relevant information science journals have been found to include *Journal of Information Literacy, Journal of Library and Information Science* and *Evidence Based Library and Information Practice*; journals such as *Government Information Quarterly* and *Computers in Human Behaviour* also regularly publish relevant papers.

[†] Case and Given (2016) point out that the issue is more than the contrast between positivist/objectivist and interpretivist accounts. A hierarchy of ideas about theory is also identified (p. 182): Paradigm/grand theory, formal theory, substantive theory, observations, in context of *administrative* or *critical* traditions. (p183).

Consideration of theory as a source of meaning is a strength of information science research, and essential to the development of this thesis. Three frameworks that are of most relevance to this work are briefly considered below to contextualise the later evaluation of the research.

Social cognitive theory (SCT) is primarily a psychology theory, but it has been applied within information science (Middleton, Hall and Raeside, 2019; Pálsdóttir, 2013). As with practice theory and activity theory discussed below, SCT gives a route to analysing the interplay of social and cognitive factors. Models of *agency* are important to SCT, but *self-efficacy* is the most used concept: for instance it is used in Wilson's theory of information behaviour, in particular seeking activities such as finding information on the web (Pálsdóttir, 2013, p. 9) and information seeking (Savolainen, 2012). Sources of self-efficacy include direct and vicarious experience. Other areas of information science have used self-efficacy: it has been shown to be associated with high information literacy, positive knowledge sharing behaviours, and perceived usefulness of computer systems (Pálsdóttir, 2013, pp. 11–12) – some of these are discussed further below.

SCT has been included in the objectivist camp (Case and Given, 2016, p. 201). However, particularly through the concept of self-efficacy, SCT has also underpinned interpretivist and qualitative work, including for example the account of the role of SCT in information behaviour research in Pálsdóttir (2013).

Activity theory (AT) is embedded in the interpretivist tradition (Case and Given, 2016, p. 203). Of relevance here, AT engages with the 'totality of activity' as the unit of analysis (Wilson, 2013, p. 16) – the *activity system*. AT provides an account of change through expansive learning cycles and resolution of contradictions (Wilson, 2013, p. 6,9). It has also simply been used as a framework to ensure a complete analysis of a scenario (p. 15)[*] to enable development of a 'coherent statement of the problem to be investigated' (p. 18) allowing a consistent investigation to take place. An example of such information science research is Widén-Wulff and Davenport (2007). Here AT is used as a framework to analyse information sharing within organisations.

Practice theory (Case and Given, 2016, p. 206) is another interpretivist approach used by researchers including Cox, Savolainen, and Wenger (in the context of communities of

---

[*] AT can be used in the system design process (Wilson, 2013, p. 10) – an example of tools and frameworks being shared between information science, information systems and HCI. Incidentally Widén-Wulff and Davenport (2007) argue that information science could make better use of methods from information systems traditions such as computer supported cooperative work (CSCW).

practice), discussed in this thesis. In this framework, practices are approached as inherently spatiotemporal[*]: and thus practices provide meaning(s) to entities and actions:

> A practice is a temporally evolving, open-ended set of doings and sayings linked by practical understandings, rules, teleo-affective structure and general understandings. (Schatzki, 2002, cited in Cox, 2013, p. 2)

As with AT, this theory provides an account of practices as situated in a context: this 'site of a practice' has similarities with 'activity system' in AT. Also as with AT, it is a cultural theory, situated between micro level (individual purposes) and macro level (social norms) (Cox, 2013, p. 1). There is therefore potential for these two frameworks to be used in a complementary manner.

Savolainen is a key proponent of practice theory in information science, through everyday life information practice (ELIP). For instance, Savolainen (2008) has an account of information practices as solving problems in a social context. Within information science, there is an ongoing terminological debate over the use of *information practice* against *information behaviour* (Cox, 2013, pp. 12–13)[†]: this can be seen as part of a shift of focus, with an increasing recognition of the need for information behaviour to embrace the everyday and mundane aspects of life (Ocepek, 2017) and address the embodied nature of information practice (Olsson and Lloyd, 2017). Lloyd's application of practice theory to information literacy is considered below as an example of this.

These three theoretical frameworks have in common accounts of the link between individual choices and the organisational and social contexts that shape them. They also share risks arising from their focus on the situated and local: this focus can make it difficult to develop theoretical implications from individual research studies. Both AT and practice theory have been criticised for their weak account of power relations and the impact of powerful actors (Wilson, 2013, p. 17). Additionally, the focus on local practice has danger of losing sight of the impact of wider social context and structures (Cox, 2013, pp. 14–15). On the other hand, these approaches have the advantage of giving prominence to *place* and *context.* Another possible issue is that the lack of objective measurements and quantitative results make the results produced difficult to turn into the performance indicators needed to support management decisions (Cox, 2013, p. 14). This contrasts with much e-participation research which often has a management-oriented agenda, with findings focussed on making a system work better.

---

[*] Again there are parallel applications of concepts in the information systems domain, this time through socio-materiality (Orlikowski, 2007): technologies take their meaning from context.
[†] See for example the online debate between Wilson and Savolainen (Savolainen, et al., 2009)

Despite the availability of theoretical frameworks, there is still a danger that research is not embedded in a framework, with resulting low-level research practices (Wilson and Savolainen, 2013). As a result, information science research (qualitative and quantitative) is vulnerable to accusations of merely collecting a series of interesting facts (a "thick description" – Case and Given, 2016, p. 356), rather than generating any contribution to theory. On the other hand, the number of theories current in research in this domain create their own problems (p. 358), including only demonstration of a superficial understanding in the published research (p. 359). A clear and relevant theoretical underpinning and rigor in methodological practice is therefore needed in any account of information science research.

2.4.2 Information science approaches to the identified e-participation issues

2.4.2.1 Stakeholders, citizenship, and the concept of 'role'

One of the gaps identified in the review of e-participation research discussed above is the lack of a clear definition of what it is to be a citizen. In the information science literature reviewed here, there is also no definition of citizenship, or even set of principles. In this context, the term often means eligibility to access library services. Despite this, there is a significant strand of information science research which focusses on the individual community member in relation to *citizenship.* Information literacy (discussed further below) has long been seen as an essential component of citizenship: for example Lloyd (2016) and Lloyd, Lipu and Kennan (2016) address concerns around social inclusion and exclusion, and the importance of literacies. Awareness is shown in information science research of the impact of the *digital divide*; *social justice* has been recognised as an important aspect of information literacy (Saunders, 2017) and to inherently shape ability to engage with political processes (Mariën and Prodnik, 2014). As with e-participation research, *individual demographic characteristics* have been found to be significant in determining the level of engagement, for instance age (Wang, Zhang and Wellman, 2018), personality traits (Deng, et al., 2017), and deprivation (Smeaton, et al., 2017). Concepts from social cognitive theory (SCT) are also used (Middleton, Hall and Raeside, 2019). For instance self-efficacy is one of the factors found to support information literacy amongst students by Aharony and Gur (2019).

A second challenge is the nature of the role of being a community representative: it is not paid work, but it is work-like. The review of role- and context- focussed research in Case and Given (2016, chapter 10) is of relevance to this: they draw a distinction between occupational and non-occupational roles and note the relative lack of research into non-

occupational roles (p. 320). However, consideration is given to "citizens, voters and the public and large" (§10.2.1). Others address the activities of organisations and elected representatives (Baxter, Marcella and Illingworth, 2010) and citizen-activists (in Savolainen's 2008 study). Analogies for community representatives can be found within voluntary behaviours. Together, these concepts provide insights into community participants such as citizens and representatives as information actors. Overall then, the findings and approaches in information science are similar to those of e-participation already discussed, although there is noticeably less consideration of the role of other stakeholders.

2.4.2.2 Community formation and activity

E-Participation research offers weak accounts of the formation and sustainability of communities, tending to take their existence for granted, or addressing them indirectly in a search for system success factors. In contrast, the formation and effectiveness of (information oriented) communities has long been a concern of information science. A major source of research into online communities here deals with knowledge management by professionals (e.g. Hung, et al., 2015). An information focussed approach to communities can also be seen in *networked individualism* (Wang, Zhang and Wellman, 2018) as a model which allows for online as well as physical 'door-to-door' links. In a workplace context, communities play an important role in innovation through contextual learning and knowledge creation (Forster, 2015). Frameworks can be shared with e-participation research: for instance the theory of planned behaviour (also used in system acceptance research) is applied by Hung, Lai and Chou (2015).

Communications-related studies add perspectives not available to e-participation research. The 'imagined community' in particular is linked in Barnes (2016) to the idea of (imagined) online audience (p. 85), extending the concept developed by Anderson in the 1980s. Similarly, from mainstream information science, Lloyd (2017, pp. 94–95) reviews the concept of *information landscape*, which can include the sharing of knowledge and narratives with interested individuals such as family members or work colleagues.

In terms of engagement, *lurking* is discussed within information science in work which focuses on realising business benefits through communities of practice (Malinen, 2015; Takahashi, Fujimoto and Yamasaki, 2007). Another approach has been used by Wilson and Savolainen (2013), who include in their account of social phenomenology a model of selective attention to information. *Interest at hand* is used to explain how a person's

focus on relevant information is shaped by (a) actual and (b) potential reach. The model includes a parallel with ignoring information, based on perceived levels of irrelevancy. This account corresponds with the idea of information filtering in Savolainen's model of ELIP (Wilson and Savolainen, 2013, pp. 7–9).

2.4.3 Other relevant information science research

2.4.3.1 Using information: sharing and making decisions

The ability to find, evaluate and use information is a key function of being both a citizen and a representative. These are areas not normally considered within the e-participation domain, but they are of relevance, and are a main research domain of the information science. *Information behaviour* in particular addresses the information seeking and (to a lesser extent) sharing by individuals. Probably the best-known model for information behaviour is that created by Wilson and Ellis in the late 20th century, discussed for example in Wilson (2008) and (2010). Case and Given (2016, p. 325) describe how in 1995, Savolainen introduced *passive monitoring* as part of everyday life practice, which is complemented by *seeking by proxy* (McKenzie, 2003), that is: sharing in anticipation of others seeking the information. Information sharing as such is considered in depth in Pilerot (2012). Savolainen (2017) develops this topic by considering information and knowledge sharing as different types of acts of communication[*]. Together, these concepts provide insights into community participants, such as citizens and representatives, as information actors.

The importance of geographical context and constraints on information behaviour also feature (Case and Given, 2016, p. 325). Studies in these areas have a common concern with choice of channels for information (p. 346), though the increasing role of the internet as an information source is also noted (p. 326).

Models inspired by practice theory focus on the importance of everyday context (Savolainen, 2016). This approach considers information sharing as non-transactional (Pilerot, 2012, p. 563). Instead the sharing is viewed as a situated social behaviour (Savolainen, 2008, p. 40) that affirms normalcy, and provides confidence in the self-identity in community members' roles (p. 55). Communities of practice (Lave and Wenger, 1991; Wenger, 1998) provide another application of practice model to sources of information, often in the knowledge management context. However, a trend in the literature has been to recognise that the identification of a clear boundary to a community

---

[*] This is an example of the close links between information science and communication studies

(of practice) is inherently impossible: instead, there is a "complex network of connections", and drawing a boundary around it is inherently arbitrary (Cox, 2013, p. 11)[*].

Other approaches to information seeking and sharing have been informed by self-efficacy (Pálsdóttir, 2013; Aharony and Gur, 2019; Middleton, Hall and Raeside, 2019). Others still have directly applied psychological factors (Deng, et al., 2017). Many models are descriptive in nature, but activity theory has been used to analyse the factors underlying information behaviours (Wilson, 2008, 2013; Allen, Karanasios and Slavova, 2011).

2.4.3.2 Information literacy

Information literacy (IL) is an approach which has been used to address areas such as citizenship relevant to e-participation. A perceived need for improving social justice was one of the drivers behind the emergence of IL as an area of academic study (Lloyd, 2016; Saunders, 2017). As a domain of information science, IL is somewhat contested and unclear (Webber and Johnston, 2017), with separate research taking place in conceptual and practical spaces (Lloyd, 2017). There are a number of definitions of IL, with key examples summarised in Table 2-5 on the next page.

The focus of IL research on education- or library-based contexts has been criticised for domain dependency (Hollis, 2018, p. 79); one result is that there is a relative lack of research relevant to e-participation. However, there has been research into IL as a situated practice over the last decade, particularly by Lloyd (Cox, 2013, p. 7). Others have also proposed a model that incorporates the everyday into IL models (Martzoukou and Sayyad Abdi, 2017). In particular, challenges in measuring IL away from the education context have been noted (Lloyd, 2010, 2017; Cox, 2012; Hollis, 2018; Widén, et al., 2021).

Table 2-5 Definitions of information literacy

Model	Definition
CILIP definition of information literacy	"IL is the ability to think critically and make balanced judgements about any information we find and use" (CILIP, 2018, p. 3).
SCONUL Seven pillars of information literacy	People who have IL will "demonstrate an awareness of how they gather, use, manage, synthesise and create information and data in an ethical manner and will have the information skills to do so effectively" (SCONUL, 2011, p.3).

---

[*] An example can be seen in Buckner and Cruickshank (2008) who found that the boundaries between communities could be drawn in different ways to support alternative narratives for networks of researchers working (or not working) together.

Model	Definition
Information literacy as embodied practice (Lloyd)	IL is a practice with embodied knowledge (Lloyd, 2010, 2013, 2017; Lundh, Limberg and Lloyd, 2013; Olsson and Lloyd, 2017). IL "…contributes to our performance in everyday life and which, when explored carefully, references the context that shapes and enables that performance" (Lloyd, 2017, p. 91).
Everyday life information literacy (ELIL)	IL is connected to "searching for, critically evaluating and using information effectively to solve everyday problems" (Martzoukou and Sayyid Abdi, 2017, p. 634).

Although most IL research measures individual skills, IL can be considered a collective and socially situated activity, particularly in a workplace context (Collard, Smedt and Fastrez, 2016). As with other concepts in this research, finding a definition of *workplace* can be difficult: for example, Sayyad Abdi and Bruce (2015) distinguish the (physically located) *workplace* from (information focussed) *professional work*. Despite this, the role of the workplace is considered widely, particularly in the IL and lifelong learning literature (Forster, 2017); much of Lloyd's output (e.g. Lloyd, 2013, 2017; Lundh, et al., 2013; Olsson and Lloyd, 2017) considers IL as it is situated in the workplace. There are different accounts of transferability of IL skills and research: for instance Sayyad Abdi, Partridge and Bruce (2016) argue that the contrasting natures of different workplaces can make transfer of research findings difficult.

Activity theory has also been used in this context (Wilson, 2008, 2013; Allen, Karanasios and Slavova, 2011; Detlor, Hupfer and Smith, 2016). As AT allows for joint activity (through the *division of labour* or *community* node) it could provide an account for IL as a joint activity (Wilson, 2013).

2.4.3.3 Context: the role of place and channel in community activity

The geography of community is important to a study involving e-participation, particularly at the local level. Despite this, a low number of published information science research has been found to consider the significance of *place* to social capital and citizen engagement. One of the few is Acedo, et al. (2019) which explores the relationship between sense of place, social capital and citizen engagement, acknowledging that citizens have different reasons to identify with a location – geographical, social or interest – and shows that sense of place provides social capital underpinning imagined communities (p. 11). They also found that in imagining their neighbourhoods, citizens vary on where they perceive boundaries of the community to be (p. 11)[*]. Similarly, Barnes

---

[*] As an aside, different techniques have been used in the past to achieve this in Edinburgh, using Gumtree data (in 2012) https://saintamh.org/maps/areas-of-edinburgh/, and the City of Edinburgh Council identifying 'natural neighbourhoods' (in 2014) http://data.edinburghcouncilmaps.info/datasets/4082b44746eb4da8b5935be2d3a00185_27

(2016) found place to be key in hyperlocal communities, though these online communities do not necessarily reflect the wider social community (p. 85).

Geographically small communities provide a particular challenge for e-participation systems. In this context it is useful to return to and refine the term *hyperlocal* from media studies[*]. This term originated from research into journalism created in and for local geographical communities while emphasising the digital and citizens participation aspect (Metzgar, Kurpius and Rowley, 2011). However, the term can be contested, for instance Rodgers (2018) sees it as a term with no definable meaning, rather being an emergent form of media production.

At this hyperlocal level, the environment is inherently multi-channel: physical conversations and meetings are (normally) always available as an alternative to online engagement. Nor is the relationship between online and offline presences straightforward (Barnes, 2016; Wang, Zhang and Wellman, 2018). For instance, digital technologies have expanded the geographical reach of local networks (e.g. for old people using Facebook). Advantage can be taken of the hyperlocal context, for instance physical noticeboards have a role in "place making", that is, creating a sense of community identity (Wouters, Claes and Moere, 2015). At the same time, media studies have highlighted the difficulty of objective reporting in small communities due to the risk of locally controversial issues being avoided (Freeman, 2020). Recently, researchers in other domains have sought to use the hyperlocal model in their work: for instance the research in López, et al. (2017) relates to information system success factors. Other online communities are not geographically bound: Savolainen (2008) for example is based on the information practices of a community of environmental activists – this form of community is centred around a topic rather than a place.

2.4.4 Methods used in the information science research considered

The research methods used in studies reported in the papers considered here are similar to those in e-participation research. The research is generally based on a mixed method approach, frequently with a case-study-based strategy. Data are gathered through a mixture of surveys, questionnaires and interviews. Interviews (face to face or online) with participants and stakeholders form a major source of data, for example as part of an inductive qualitative case study (Ferguson and Taminiau, 2014; Tinto and Ruthven, 2016). Research is often supplemented with some analysis of data extracted from social

---

[*] Similar terms have long been used in other fields such as urban studies.

media (Baxter and Marcella, 2013; Brettle, 2017) or other information systems (Hall, Widén and Paterson, 2010). In these cases, a mixture of qualitative and quantitative data are generated; any analysis of quantitative data is generally restricted to descriptive statistics, though in some cases formal social networking analysis (SNA) tools are used, for examples in (Cooke and Hall, 2013; Hall, Cruickshank and Ryan., 2018c). This is particularly the case in knowledge management research (Takahashi, Fujimoto and Yamasaki, 2007).

As a technique, *visualisation* plays an important role in understanding communities in some of the papers considered. For example, Acedo, et al. (2019) demonstrate that visualisation reveals how residents imagine the boundaries of their neighbourhood communities. Bingham-Hall and Tidey (2016) use tools for visualising the spatial dimension of social media interaction, showing how it is difficult to avoid discussion of space and location when considering many communities.

Another strand of research concerns itself with development of a new model based on past studies (Irving, Hall and Brettle, 2015; Pilerot, 2012; Savolainen, 2017) or literature review to identify current themes with a particular domain such as Martzoukou and Sayyad Abdi (2017). As noted above, critical engagement with theory and model construction is necessary to move from description to meaning[*].

2.5   Conclusion and defining the research themes

This review of literature has shown that important issues have been identified, but have not been fully addressed in the literature. E-Participation research has considered a wide range of factors including the stakeholders, the systems they use, and the context that shapes their use. It has been argued that the focus is generally on those who engage, though some research has addressed passive engagement (lurking) and the factors behind the choice of some citizens to not make a visible online contribution. In addition, significant challenges have been identified within e-participation research. They include:

–   identification of the stakeholders to consider;

–   challenges of sustainability and channel choice: the explanation of the choice of citizens and representatives to engage online, and then continue to do so;

---

[*] Chomskyan linguistics makes a related distinction between observational, descriptive and explanatory adequacy but a quick review of the literature seems to show that this account has not been adopted more widely.

–   formation of online communities, in particular, taking into account the role of place and the social and community context;

–   the role of place, and the impact of place on the nature of community.

Some of these issues have been found to be addressed in information science and related domains, but again, there are gaps, in particular in relation to the three themes listed below. These will be used as the basis for the evaluation of contribution of the papers under consideration.

Theme one: Underpinning this thesis is the role of the hyperlocal, that is, the interaction of local geography and digital media in community formation and activity. This impacts on the choice of channels of communication, including the mix of embodied (face to face) and digitally mediated (online)* interactions. Behind this final issue is the wider question of defining the boundary to a community, and with that, what it means to be a citizen of a community.

Theme two: This addresses the role and actions of elected representatives in the community. The focus of most research has been on the citizen as the main user. In this theme, the focus turns to representatives. Their role exists somewhere between everyday life and the citizens they represent, and the workplace, with the organisations and administration professionals they deal with as part of their 'job'.

Theme three: This addresses lurking and the decision to engage by citizens, and the response by their representatives. The focus of research has generally been on the participants in a system, with the assumption that non-participation needs correction by encouraging visible engagement; implicitly, lurking is treated as a defective behaviour.

Finally, there is a need for consideration of methodological issues. A range of theoretical frameworks and research methods have been identified from the literature. In general, they are related by their focus on qualitative meanings attached to phenomena in context. This is not to say that quantitative perspectives are not without value: having 'objective' measurements can help validate or triangulate the findings.

---

* Nobody talks about telephones anymore.

3 The projects underlying the portfolio

3.1 Introduction and overview

To give some context to the evaluation of contributions in the next chapter, this chapter reviews the projects that underpin the academic outputs that are considered in this thesis. It reports on project aims, methods and outcomes and is used to underpin the next chapter, in which the resulting publications are evaluated.

3.2 Inclusion of papers in the portfolio under consideration

The papers considered ([1] – [10]) are listed on page ix, and the full contents are annexed. Table 3-1 below summarises the papers in relation to the underlying projects which are reviewed in the remainder of this section. [3] was an invited book chapter, others are published peer-reviewed conference and journal papers.

As is typical in the fields of information systems and information science, all the papers under consideration were co-authored with research colleagues and partners. I had primary responsibility for research design, evaluation of the results and writing up the research in all the papers under consideration. In co-authored publications where I am the first author, I was the principal researcher responsible for designing, implementing and reporting the research.

At this point, it is important to acknowledge the role of two colleagues in the creation of the papers under consideration:

– Dr Bruce Ryan acted as research assistant in the CC-related projects, responsible for data collection and analysis in accordance schemes with developed by me.

– Professor Hazel Hall was principal investigator (PI) in some projects, resulting in her being recorded as lead author. However, I led the empirical work reported in [7] and [8], selected the framework for analysis, wrote the first drafts of the papers, and contributed to the refinement of the final versions of the two papers as published.

Both have confirmed the accuracy of the account of my contribution contained within this thesis.

I co-authored papers [2] and [3] with (now) Dr Noella Edelmann: our contributions are clearly separable: mine relate to SCT information systems and e-petitioning; hers relate to psychological concepts and prosocial behaviours.

Table 3-1 Summary of relationship between projects and publications

Project	Date ended	Funder	Project role	Other output	Resulting paper under consideration (cited as) and outlet
EuroPetition	2009-2011	European Commission eParticipation project EP-08-01-009	WP leader (evaluation)	Various project reports & blog posts	[1] (Cruickshank and Smith, 2011) *Transforming Government: People, Process and Policy*[*]
					[2] (Cruickshank, Edelmann and Smith, 2010) *Electronic Government and Electronic Participation*[†]
					[3] (Edelmann and Cruickshank, 2011) *E-Governance and Civic Engagement*[‡]
Surveys of CCs' online presences	2012, 2014	Internship project; Napier Research Funding Competition (RFC)	PI	Survey report (Ryan and Cruickshank, 2012, 2014)	[4] (Cruickshank, Ryan and Smith, 2014b) *CeDEM 2014 Conference for E-Democracy and Open Government*[†] [5] (Cruickshank, Ryan and Smith, 2014a). *Scottish Affairs*
Hyperlocal Government Engagement Online	2015	CCN+	PI	Project report[§]	[6] (Cruickshank and Ryan, 2015) *Electronic Government and Electronic Participation*[†]
digiCC and extension	Feb - Dec 2015	Napier RFC, Scottish Government	PI	Reports to stakeholders [**][††]	-
Information Literacy for Democratic Engagement (IL-DEM)	Jan 2017	Chartered Institute of Library and Information Professionals (CILIP)	Co-I	Project report to CILIP[‡‡]	[7] (Hall, Cruickshank and Ryan, 2018a) *Journal of Librarianship and Information Science*[†]
					[8] (Hall, Cruickshank and Ryan, 2018b) *European Conference on Information Literacy* (ECIL) 2017[†]
					[9] (Cruickshank and Hall, 2020) *Information Research*[†]
Longitudinal/ More IL for Democratic Engagement (LIL-DEM & MIL-DEM)	End 2017	Internal resources and Napier RFC	PI	Report to stakeholders on initial findings[§§]	[10] (Cruickshank, Hall and Ryan, 2020) *Information Research (ISIC2020)*[†]

[*] Invited paper, on basis of previous double-blind reviewed conference paper
[†] Double blind peer review by at least two reviewers
[‡] Book chapter
[§] https://www.napier.ac.uk/research-and-innovation/research-search/outputs/hyperlocal-government-engagement-online
[**] https://www.napier.ac.uk/research-and-innovation/research-search/outputs/digicc-workshop-outcomes-report
[††] https://www.napier.ac.uk/research-and-innovation/research-search/outputs/digital-engagement-workshops-for-community-councils-and-registered-tenant-organisations
[‡‡] https://www.napier.ac.uk/research-and-innovation/research-search/outputs/information-literacy-for-democratic-engagement-il-dem
[§§] https://communityknect.wordpress.com/2017/10/03/lil-dem-stakeholder-report-released/

Two potentially relevant papers have been excluded from the portfolio as their publication date is outwith the period under consideration. The first, Cruickshank and Smith (2009), included the first consideration of the role of self-efficacy in e-petitioning systems. It won the prize for best paper at EDEM 2009, as an invited contribution, it was developed into [1]. The second, Widén, et al. (2021 *in press*), is cited in relation to the challenges presented by measurement of the IL of community councillors.

I have been involved in a number of projects that have not been considered for this thesis. These are described in Appendix A. They have provided background experiences that have helped in development of the papers under consideration.

3.3 EuroPetition: Lurking and citizen engagement with e-petitioning systems

The first contributions arose from the EuroPetition project (2009-2012). This project was designed to evaluate a e-petitioning system designed as a trans-European Local Authority service, providing distributed citizen engagement and interaction using an open-source UK e-petitions system. Partners included Local Authorities across Europe, in Sweden (led by Malmö), Spain (Málaga), England (Bristol), Italy (Vicenza), and service providers based in England and the Netherlands. It allowed the evaluation of the effectiveness of formal* e-petitions as a mechanism for engaging of citizens with the political process.

Data were gathered from:

– Administrators: questionnaires and stakeholder workshops, gathering data on technical/installation and systems/process aspects of the system

– Petitioners: online survey integrated into the petitioning system gathering information as part of the signing process

– Records on the e-petitioning system database.

The focus of the academic publications is conceptual development. In papers [1], [2] and [3] sociotechnical approaches derived from social cognitive theory (SCT) were applied to the relationship between computer and political self-efficacy. Signing an online petition was used in modelling the behaviour of citizens in choosing to engage with e-participation systems. This project can be seen as an introduction to the area of online participation at a local level, and the challenges faced by individuals in engaging with it.

---

* Petitions with no formal link to political-administrative processes – such as the ones operated by *change.org* – did not form part of the research.

The findings also raised questions of how to research lurkers, a theme which was revisited in a different context by paper [9].

Numerous internal documents and project reports led to the development of a new visualisation of the petitioning process reproduced in Figure 3-2.
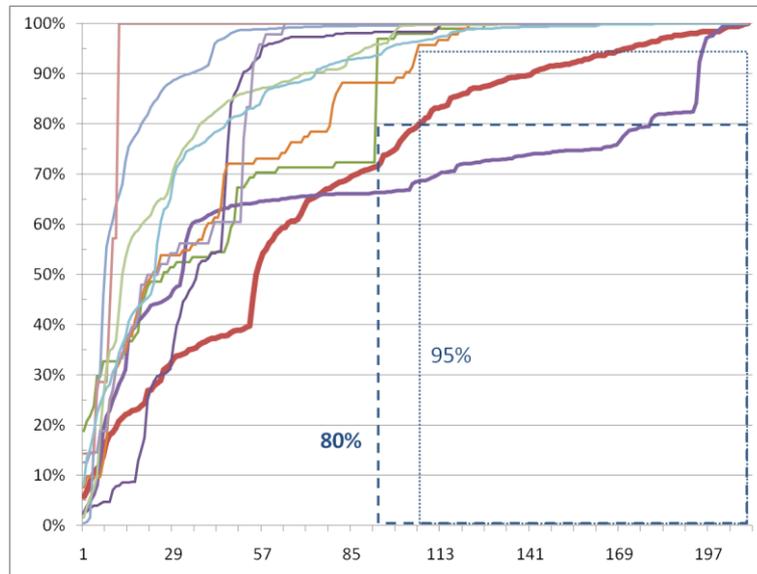
Figure 3-1 Example analysis of petitioning data, showing that 80% of signatures are generated within 90 days of a petition opening

Data were gathered on the demographics of the people who signed e-petitions including age, education and levels of political and computer self-efficacy (PSE and CSE), and on petition lifespan (Figure 3-1). However, resource constraints meant that it was not possible to publish any evaluation of the results in the academic press. The project resulted in engagement with the wider community. For instance:

–   Presentations at the National Digital Inclusion Conference (2009) and other conferences (PEP-NET, FDEM 10) – including the visualisation of the e-participation process in Figure 3-2.

–   [Blog Posts]*: to the point where my blog became one of the main sources of information on e-petitioning systems in the period around 2010-2012.

–   Engagement with the European Commission in the development of the European Citizens' Initiative, including consideration of multi-lingual aspects, and issues of signature verification and its relation to identity infrastructures.

–   Advice on the basis for coding of the diffusion of e-participation systems in English local government (Panagiotopoulos, Moody and Elliman, 2012).

---

* https://spartakan.wordpress.com/tag/europetition/
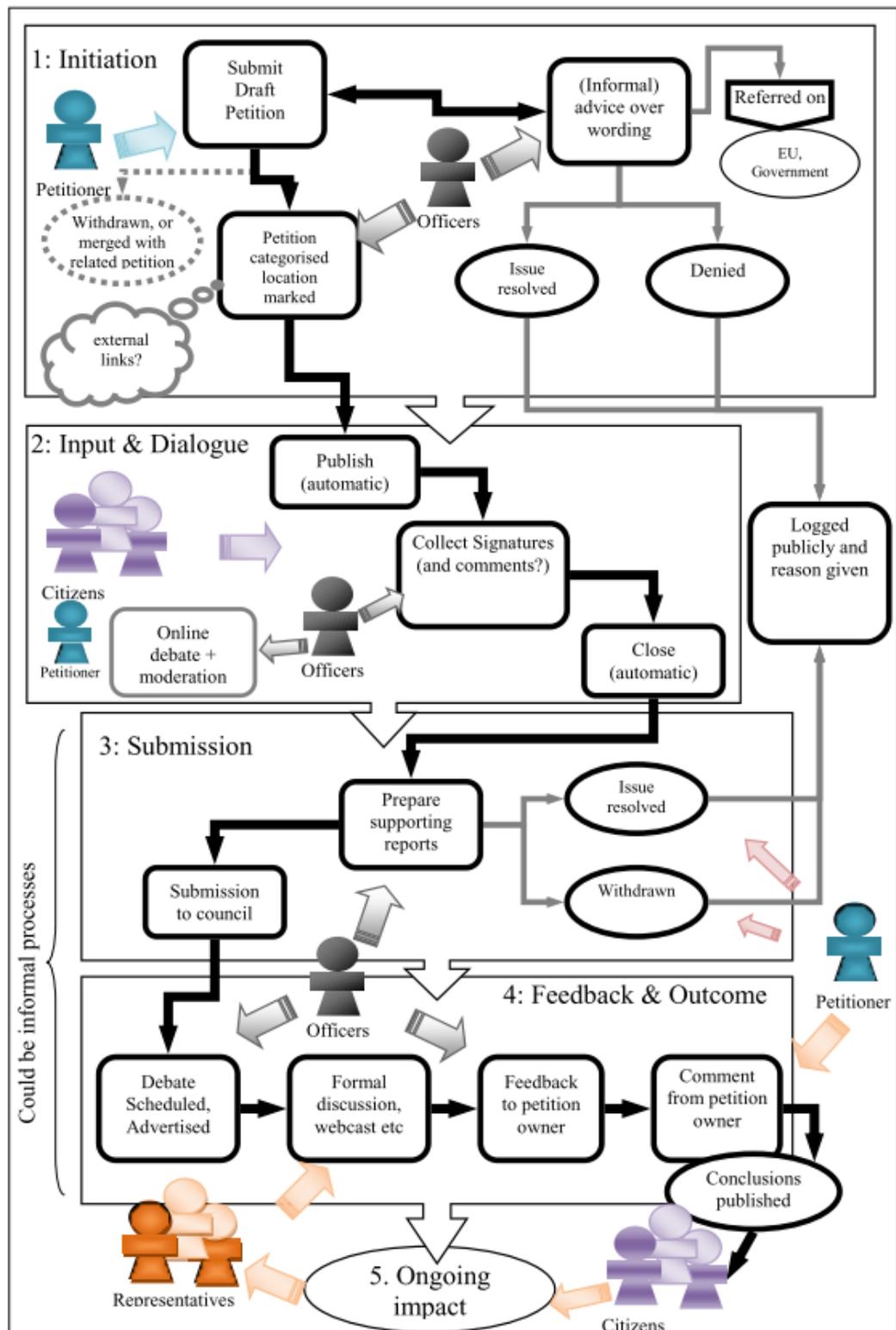
Figure 3-2 Visualisation of e-petitioning process
Source: Cruickshank and Smith (2009)

3.4   Surveys of the online presences of Scottish community councils: 2012, 2014

Here is described the first in a series of projects in which the information activities of community councils (CCs) and councillors in Scotland was researched. The research took place in the context of a period when it seemed that CCs would be empowered and invigorated. Studies calling for a more localised level of democracy in Scotland were published by the COSLA's Commission on Strengthening Local Democracy in 2014[*], Reform Scotland (Thomson, Mawdsley and Payne, 2012) and the Jimmy Reid Foundation (Bort, Mcalpine and Morgan, 2012). Eventually, with the Community Empowerment Act (Scotland) 2015, the Scottish Government chose a different route, creating multiple, competing bodies for community level improvement. The nature of community councils is explained in Figure 3-3 overleaf.

In 2012 and 2014, I led, supported by Dr Bruce Ryan, two large-scale census exercises of the online presences of Scottish community councils. The results of these are reported in Ryan and Cruickshank (2012, 2014). These have been the first and only known publications of such data and provided for the first time the basis for a fact-based dialogue on the impact of websites and social media on hyperlocal democracy. They have also supported analysis and knowledge development in this under-researched area.

The main motivation was evidence gathering, with an assumption that community councils have three broad functions: government-duty; objective news reporting; and campaigning. This was reflected in the development of a framework and method for the survey and analysis of online presences described in [4]. A mixed method research approach was used, centred around a 100% survey of 1369 CCs, with high-level content analysis, categorising timeliness, content-type and hosting. Interviews with seven community councillors were used to help interpret the findings. Analysis was through descriptive statistics and visualisation.

The 2012 survey found that around a quarter (308) of CCs are active online, a further quarter (357) have out of date presences. A wide variation within and between LAs was found, with no pattern in terms of local demographics – highlighting that differences will be down to information capabilities of CCs, and level of support from different LAs.

---

[*] See for example the article *Scottish local democracy has been "dismantled", commission claims* (2014): https://www.holyrood.com/news/view,scottish-local-democracy-has-been-dismantled-commission-claims_14425.htm

Community councils in Scotland

This summary paraphrases the details in papers [4] and [5]

Scotland has a population of 5.3 million; since 1996, local government has been divided into 32 Local Authorities (LAs) with populations varying between 20,000 and 600,000 and ranging between densely populated urban areas and remote rural communities (Scottish Government, 2012).

CCs operate as a third tier below the Scottish Government and Local Authority tiers of government. They were set up in 1973 as successors to Burgh and Parish Councils to represent small pieces of Local Authority areas. Although detailed arrangements of hyperlocal government vary across the United Kingdom between England, Wales and Scotland and Northern Ireland, they share a common model – that is Community Council members are unpaid volunteers. They are statutory consultees in limited circumstances, including planning permission applications and licensing matters. Apart from this, CCs have no statutory powers or responsibilities. In terms of funding, they have small to non-existent budgets (Bort, McAlpine, and Morgan, 2012): average annual income in 2011 was around £400, mostly from Local Authority grants (Bort, et al., 2012) – enough to hire a monthly meeting room, pay for some stationery and little else. In terms of impact, Community Councils have had mixed success at best (Thomson, et al., 2012; Bort, et al., 2012).

In 1999, potentially 1390 CCs could exist, but only 1152 were active (83%), covering 83% of the Scottish population (Goodlad, Flint, Kearns, Keoghan, Paddison and Raco, 1999, p. 21). A 2014 survey found that the figures were nearly unchanged at 1369, 1158 and 85% respectively (Ryan and Cruickshank, 2014, p. 2). Uncontested elections have been a feature of CCs throughout their existence: only 21% of CCs had contested elections in 2011 (Ryan and Cruickshank, 2012, p. 5). Community Councillors were generally aged over 40, and often were not representative of the demographics of their areas (Goodlad, et al., 1999). All this has combined to reduce their democratic legitimacy.

In summary, Community Councils have a function as 'representatives', but little or no function in delivering (state or government) services. This creates a challenge for conventional models of accountability in democracy and government. In terms of the use of technology, there is potential for e-participation without e-government. On the other hand, the purely informational role of CCs provides a unique context for the study of information practices.

Figure 3-3 Overview of community councils in Scotland

The 2014 survey found similar figures, with around half of community councils having an online presence in each year. However, an analysis of the data revealed that only around a quarter of online presences sustained activity between the 2012 and 2014 surveys, as visualised in Figure 3-4. In 2014, there were 308 active online presences, compared to 307 in 2012 (Ryan and Cruickshank, 2014, p. 8). This included 85 formerly inactive presences, and a further 46 new online presences (131 newly active) – but offset by 96 no longer updating their online presences, and a further 39 going offline (leaving 135 no longer active). This high turnover implied that community councils were facing real challenges in achieving a sustainable online presence. It was also found that different

community councils do seem to operate in different ways – news, branch of local government or campaigning group. Throughout, there was a lack of evidence of online deliberation.
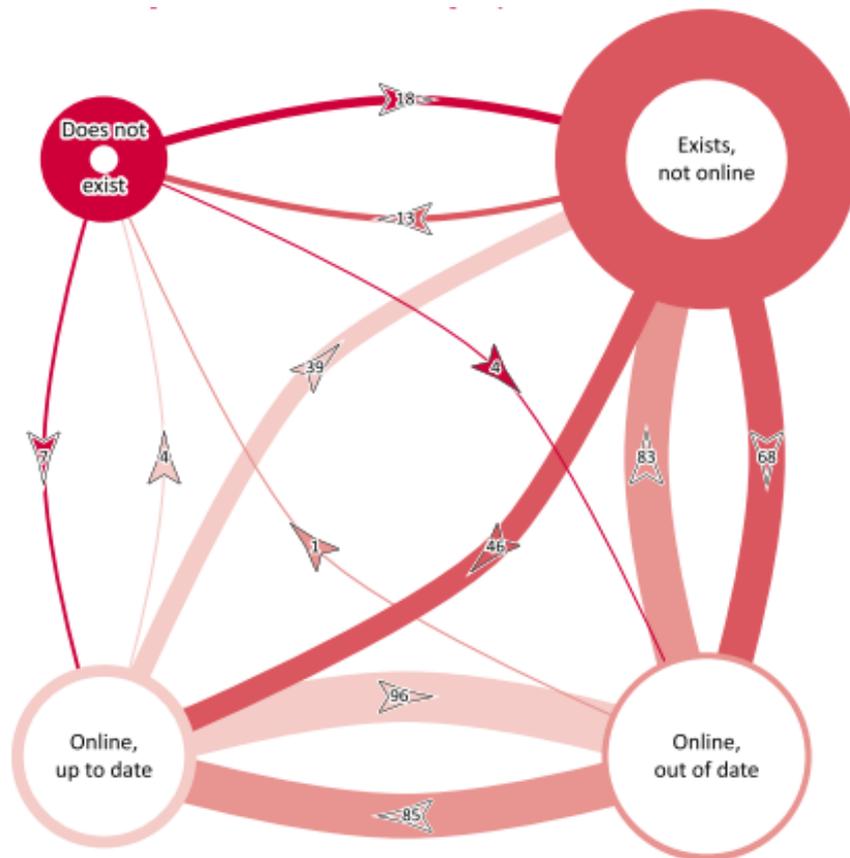
Figure 3-4 The difficulty sustaining online presences highlighted
Source: 2014 survey report (Ryan and Cruickshank, 2014)

Findings were directly evaluated in [4], and the reports and analysis provided the background data for papers [6, 7, 8 and 9] considered below. This research also showed the importance of *hyperlocal* as a concept in understanding activity at this level. It raised a number of questions around the information and digital literacies of Scottish community councillors, opening up a new avenue of work.

This research led to the creation of strong working links with the Improvement Service[*] (IS) which supported future research. An immediate impact was that the findings led to the IS maintaining its own lists of CC online presences. The information gathered through the 2012 and 2014 censuses led to support for the development of a pilot CC finder application by Dr Ryan and its successor can still be found online[†].

---

[*] https://www.improvementservice.org.uk/ The IS was established in 2005 as the national improvement organisation for Local Government in Scotland. It delivers improvement support to help councils provide effective community leadership, strong local governance and deliver high quality, efficient local services.
[†] https://www.communitycouncils.scot/community-council-finder

3.5 Hyperlocal engagement: Learning communities supporting the online presences

The findings from the 2014 survey led directly to a second project, 'Hyperlocal engagement', supported by the RCUK-funded Communities & Culture Network+ (2015). In this project we investigated the challenges faces by community councillors in maintaining an online presence. The focus was the communities around the creation and maintenance of online presences by the community councillors and those supporting them.

The data gathered supported the evaluation of the extent to which information science models and concepts such as Communities of Practice (CoP), communities of interest and learning networks can contribute to an understanding of how actors at the lowest level of representation can succeed in creating sustained engagement with citizens, while others fail. Data were gathered through workshops, questionnaires, supporting textual analysis and network visualisation. It was established that there is no clear community of practice associated with the creation of online context – instead there are overlapping localised networks of representatives and supportive practitioners. The findings are evaluated in [6]; in it was identified the need for community councillors to network and learn more widely, for instance through links with community councils with similar online presences across LA borders.

This work highlighted the potential for CCs to learn from each other, as well as the need for support from LAs. As a result, the project was used as the basis for a series of five ('digiCC') public engagement events funded by the Scottish Government. They were held around Scotland in 2015 and 2016 and used to support the creation of local knowledge sharing networks between community councillors and those supporting them in local authorities and elsewhere. This in turn led to a series of presentations to LA community council liaison officers (CCLOs) and some changes in practice around training in communication for CCs. This in turn led to the formation of knowledge communities dedicated to CCLOs and community councillors (the "Scottish Community Councillors Development Network"[*]) on the local government Knowledge Hub[†]. The research and feedback provided by the researchers also supported the creation by IS of the website providing information to CCs and community councillors[‡].

---

[*] https://www.khub.net/group/scottish-community-councillors-online
[†] Knowledge Hub: https://www.khub.net/
[‡] https://www.communitycouncils.scot/

3.6   Information Literacy for Democratic Engagement: Information practices of community councillors

The purpose of Information Literacy for Democratic Engagement (IL-DEM) (2016) was to investigate the practices of elected, yet unpaid, community councillors in Scotland as they exploit information channels for democratic engagement with citizens. Data were gathered through interviews with 19 community councillors from across Scotland. Its focus was both novel and significant in that it considered the information literacy (IL) of Scottish community councillors as a group that has not been studied before. The interviews for the IL-DEM project were designed to capture information on the community of practice and information literacies; simple thematic analysis was used.

As well as the publication of stakeholder reports, the project resulted in three papers. In the first [7], activity theory was addressed as a framework for analysing the context of the information practices of community councillors. In the second [8] we evaluated use of information channels by the representatives. It was found that the focus of information activity by community councillors was local authorities – citizens are not seen as part of the 'community' within the activity system for information sharing. The interview data were also used to revisit the information sharing issues raised by lurking, this time from the perspective of the community representative [9].

3.7   Longitudinal Information Literacy for Democratic Engagement: Survey of impact of information literacy

Information sharing by community councillors was explored through two further related projects. In them, we captured and analysed data from an online survey of active community councillors across Scotland on their information literacy and its relation to their effectiveness. The first was Longitudinal Information Literacy for Democratic Engagement (LIL-DEM), which ran February-May 2017. LIL-DEM was followed up by More Information Literacy for Democratic Engagement (MIL-DEM). It supported further evaluation of the data gathered and ran from the September to December 2017.

The survey resulted in over a thousand responses, including 876 full responses that could be used for analysis of IL, 7% of the estimated 12,000 community councillors. The data provided evidence to support an analysis of information as a joint activity in non-work and non-study context, addressed in paper [10]. This project also resulted in negative findings as a result of the methodological challenges encountered in attempting to measure the information literacy of community councillors and its relation to

effectiveness in role. These are evaluated as part of a wider review of IL measurement in (Widén, et al., 2021).

This account of the underlying research and its impact provides the context for the consideration of contributions to the research themes identified in the literature review and serves as a preface for the consideration of contributions by theme reported in the next chapter.

4 Consideration of contributions by theme

4.1 Introduction

The papers [1] though [10] listed on page ix are evaluated in this chapter in relation to the three broad themes identified in section 2.5, namely:

– The role of the hyperlocal in shaping information practices of representatives.

– The role and actions of elected representatives in the system.

– Lurking and the decision to engage by citizens, and the response by their representatives.

This discussion is made in respect of the underlying projects described in Chapter 3, and with reference to relevant sections of Chapter 2, which set out the research context.

4.2 Theme 1: Framing hyperlocal representation

Prior to publication of the papers evaluated in this thesis, little academic research had been disseminated on the nature and actions of Scottish community councils (CCs) and councillors. Scottish community councils are almost unique in Europe in having solely representative duties, with none for delivery of services [4, pp. 76-78], and no revenue raising power. An example of an informational duty is the role of community councils in spatial planning [8], where there is a right to formally comment on proposals by other official bodies. This makes CCs a very relevant and near unique research domain for information science and e-participation: this allows the exploration of the information practices associated with working in a geographically bound, digitally connected, heterogeneous community, without having to consider the impact of service delivery.

4.2.1 Defining the term *hyperlocal*

To capture this aspect of working in a localised but digital context, I adapted *hyperlocal* from news media research, as summarised in Metzgar, Kurpius and Rowley (2011) – see section 2.4.3.3. *Hyperlocal democracy* is therefore defined in [4] as operating in a digital context as:

> the smallest official level of democracy: geographically based, community-oriented and intended to promote civic engagement. [4, p. 74]

In [6] the term is later contrasted with *municipality* with its implication of service delivery [6, p. 12]. Given the lack of democratic (electoral, deliberation) practices that have been found in the subsequent research, the concept may be better considered to be

hyperlocal *representation*: this is the term that is generally used here, leading to the refined statement below:

> The actions of representations in the context of the smallest official level of democracy: digitally enabled, geographically based, community-oriented and intended to promote civic engagement.

This definition also allows community councils to be distinguished from pressure groups and other voluntary groups.

4.2.2 Challenges from acting in the *hyperlocal* context

A neighbourhood or village is likely to be heterogeneous, containing people with a mixture of backgrounds [9, p. 6]. This can be contrasted with the relatively homogeneous knowledge community or communities of interest often reported on in the information science literature. The models constructed of knowledge communities might therefore not apply: in this context, expectations of reciprocity in knowledge exchange are low; rather, other motivations need to be found for engagement by stakeholders. This is revisited under the third theme.

The proximity inherent to hyperlocal has also been identified in my research to impact on the relationship between representatives and citizens [4, p. 75]. Relatively small communities of people in physical proximity have access to physical (non-digital) channels of communication (see 2.2.2 and 2.3.3 above). The channels of communication therefore include a mix of face-to-face (embodied) and online (digitally mediated) interactions analysed in [8] and [9]: apparent non-engagement online may be due to engagement on physical channels [4, p. 75]. The need is identified for further work to identify other locations of engagement, and the factors behind the choices to use internet technologies [4, p. 81]. E-Participation research has explored the roles of demography, and geography (see 2.3.4), based on the assumption that the goals of online communication are deliberation and increasing online engagement (2.1.1). Perspectives from information science-related research are also valuable in understanding the importance of place and channel (2.4.2 and 2.4.3.3) and information/ communication studies (2.4.3.3).

4.2.3 Information activities undertaken in the hyperlocal context

The limited responsibilities of community councils raise the question of the most appropriate model for understanding hyperlocal government. The role of representative as a stakeholder in the systems is also not clear (2.3.1): one approach to this is the insight that the information communicated gives an understanding of self-perception (2.2.2.2).

The surveys provided evidence that different CCs exhibit a range of information sharing strategies – as democratic/governmental bodies, as sources of news and as campaigning/voluntary groups. These aspects confirm the themes implicit in the literature (2.4.2.1) and are summarised in Table 4-1 below.

Table 4-1 Communication characteristics of CC websites

Role	Target type	Characteristics
News source	Audience	Local news and events from a range of sources including other hyperlocal media Audience of passive consumers
Voluntary organisation	Public Members	Public: informational, campaigning, aimed at recruitment Members: Information resource
Governmental	Citizens	Official communications: minutes, planning content

The first characteristic found in almost all CC online presences, is as a *news source*, with content and original stories from a range of sources including other hyperlocal media. This creates a parallel with local journalism, along with recognition of the role of passive consumption (the audience, readership) – which is revisited when *lurking* is considered below. This self-image is confirmed in subsequent research evaluated in [6 – 9], where local media landscape and available communication channels are identified as a major factor in the level of information sharing: the hyperlocal community includes a mix of existing community groups and news sources to engage with or bring together.

The second characteristic is *voluntary organisation,* working in a space of multiple overlapping (and sometimes competing) local bodies. The content is informational, campaigning, aimed at recruitment, and perhaps as a resource for members (discussion platform; document management), limited by lack of skills and resources [4, p. 76]. The dependence of CCs on voluntary work by members is also highlighted in later papers [7, p. 3], including the contradictions that arise as a result (p. 9) and it may be better to see their role as more like a volunteer [4, p. 76,77]. The pattern of poor and infrequent communications is also likened to another category of often poorly resourced organisations, small businesses [5, p. 497]. The pattern of information sharing (though not its low level) is consistent with research in other countries (Nyseth and Ringholm, 2008; Saglie and Vabo, 2009) and with the issues found in information science researching in clarifying stakeholder roles (section 2.4.2.1).

The final characteristic exhibited by some CCs is *governmental,* which includes the use of information relating to a CC's umbrella LA. Here, content is official in nature, for instance minutes of meetings, or sharing relevant documents from the LA or national government. The survey [4] found a lack of planning-related content, highlighting a general weakness in the governmental role.

However, the research found no evidence that CCs are providing a platform for a participatory democratic process, starting with the low level of online presences of Scottish community councils observed. Paper [4] problematises the poor level of engagement, and relates it to the lack of responsibility for service delivery – with representation being the sole role. In this context, the online presences are related to the ladder of participation [4] where it is noted that e-participation tools cannot fix wider issues with democratic engagement.

4.2.4 Evaluation of the contribution to the hyperlocal theme in the shaping of information practices

In conclusion, the work in the portfolio addresses the challenges of providing local (information) services to sustain online participation and sets the context for the "myth of citizen participation" to use the words of López, Farzan and Lin (2017). The works on this theme demonstrate the development of an aspect of e-participation as a new domain for information science research, in particular through the identification of *hyperlocal* as a key concept in the context of community representation, on the basis that the physical and social context constrains and shapes their scope for use of information. This provides a way to distinguish CCs from pressure groups, but also access to wider research through the link to media and communications studies.

Implicit to this are the challenges of community formation and sustainability long considered within information science (2.4.2.2), including lurking and choice of level of engagement by the audience. The evidence from [4] of poor levels of online presences demonstrated a gap in knowledge relating to the skills and motivations of community councillors, and was used as the starting point for the research into learning communities in [6], and information literacies and sharing practices in [7-10]. With hyperlocal representation, these challenges are extended to relate to citizens. In [6], different modes of learning communities, including communities of practice, are explored as the bridge between joint work and individual activity. This is related to discussion of the level of analysis of joint information activities in [10] and further explored in the second theme

which considers the role of hyperlocal representative. The practices of councillors as individuals are considered under theme three.

The work has also explored the policy implications of the findings. One in particular is the weak role played by public libraries. As local centres of information skills, they should have a key role in supporting this level of community [8, p. 3] beyond providing a meeting place and basic information services offered to all other residents. This research has highlighted the lack of formal support by and for public libraries in this role (p. 8): in other ways, public libraries are a key component in the local community, and are currently fighting to highlight their importance.

The biggest impact on the literature from this work has been on publications in the field of urban technology. For example, paper [4] has been used as an example of a critique of a "narrow mindset" on the use of digital technology for communications and engagement (Martin, et al., 2019), with 44 citations[*]. It is also used in a discussion of the factors behind levels of e-participation, and supporting factors such as organisation size and dispersed populations (Tomor, et al., 2019), with 20 citations[*].

4.3 Theme 2: Hyperlocal representatives as actors in their own right

The previous theme largely addressed CCs as an entity. This theme focusses on the representatives, as individuals and working together as a team. There has been a tendency to neglect representatives as stakeholders in e-participation research (2.3.1) and information science (2.4.2.1), albeit with some exceptions – for instance Baxter and Marcella (2013) and Smith and Webster (2008) in the Scottish context. The development of my research therefore took place in the context of the existence of few publications on representatives as information actors in their own right, and very few at the hyperlocal level. Perhaps understandably, the focus in the past has been on the citizens engaging with the platforms, and the government employees responsible for responding to their feedback. Papers [1, 2 and 3] partly fall into this category, though in [1, p. 320] and [3], elected representatives are at least recognised as "internal stakeholders", alongside government officials; this model holds for hyperlocal representatives too. In [4], e-participation is characterised as helping communication between citizens and politicians, but also supplanting traditional democratic processes. It is noted that (in 2014) there was a general sense that e-participation systems still have a "lack of real influence" [4. p. 74], implying that representatives (still) have a role.

---

[*] Citation counts from Google Scholar, 20 January 2021

4.3.1   Clarifying the representative role and its context

The surveys of the online presences of CCs (Cruickshank and Ryan, 2012; 2014) found little evidence that demographics of the community involved correlated with their level of online activity, so I concluded that the explanation must lie with information activities of individual community councillors [4] (p. 80).

One aspect of this is the role of community councillors as stakeholders in the communication or participation system. The stakeholders in the wider community of learning for the community councillors identified in [6] include CC members, activist citizens, and representatives of other bodies. These were found to have a range of roles: for instance technical training, providing expertise in digital engagement techniques, providers of news. Construction of the activity system in [7] confirmed the relevant stakeholders to be:

> fellow community councillors; the citizens that they represent (especially those who engage with their community councils); and functionaries such as the local authority officials and councillors who interact with community councils [7, p. 7].

As visualised in Figure 4-1 below, the stakeholders identified in [7] exist in a *community of learning,* or intersecting communities of *interest (CCs* or *digital communications)*.

Simply learning to take advantage of online communication can be a challenge for hyperlocal representatives, as they are generally operating without the support of officials, instead having to rely on their own resources. Evaluation of this situation allowed the development of two models covered in this section: the learning community around information sharing, and the use of an activity system to analyse the factors shaping information sharing. Papers [6] and [7] used these different lenses to evaluate learning in the context of (hyper) local representation.

The word *community* is found to be challenging in the analyses in both [6] and [7]. An important distinction is established between the working community *(Gemeinschaft)* of practice (within an activity system) and the community of *citizens (Gemeinde)* that is being represented and sometimes addressed. [6] was framed as a study of the socio-technical challenges faced by CCs in creating or sustaining a digital presence, in the context of the high turnover of online presences which had been found in online CC presences between 2012 and 2014 [4]. [6] explored how learning happens in overlapping communities of interest between representatives and interested stakeholders and activists. It was shown that a more appropriate model was based on communities of interest (and learning), supporting networks of learning between representatives and interested

(communications) professionals, fleshing out the stakeholder roles involved. Sociograms were used to explore the detailed structure of the community; these were abstracted and visualised in the modified Venn diagram in Figure 4-1.
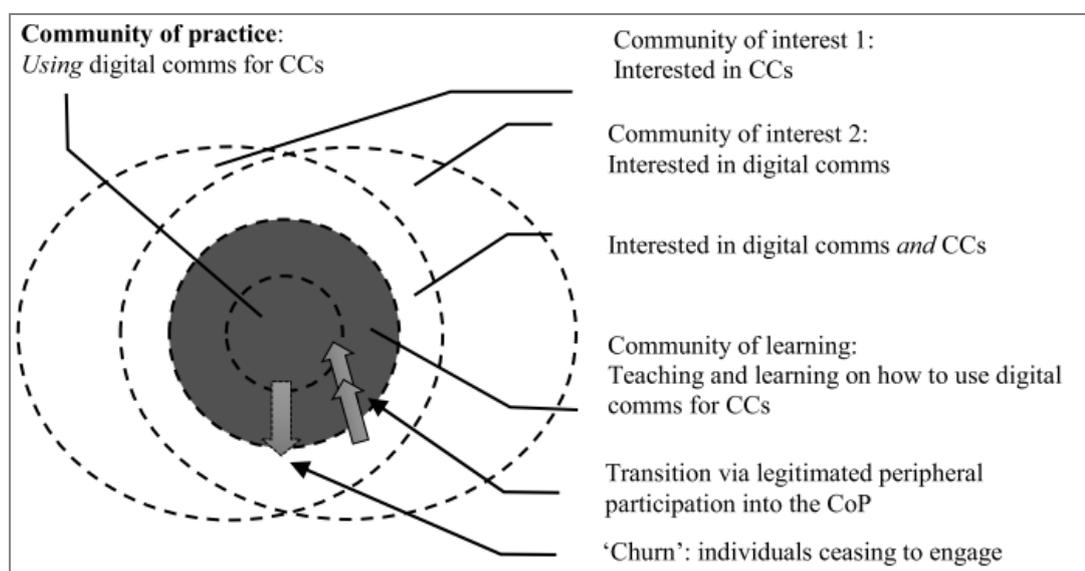
Figure 4-1 Communities of learning: sharing of skills around CC digital engagement [6]

Paper [6] shows the first application of this model to hyperlocal representatives. Starting from the limitations of community of practice theory, for instance in identifying a clear boundary (*cf.* Cox, 2013, p. 11), I went on in [6] to create a new model for the analysis of core and peripheral participation in networks of stakeholders in (hyper) local democracy. In [6], concepts from knowledge management theory are applied, in particular social constructivism and the management of tacit knowledge. The applicability of *community of practice* (Wenger, 1998) and *legitimate peripheral participation* (Lave and Wenger, 1991; Lave, 2008) is tested: the lack of intentionality and low barriers to exit are identified as factors in the failure to create a sustained learning community, and hence sustained online presences. This led to the development of the novel model for the analysis of core and peripheral participation in networks of stakeholders in (hyper) local democracy. The findings provided evidence of the need for community councillors to be networking and learning more widely *across* LA borders [6].

The second approach was to apply activity theory (AT) (Engeström, 1987) as a framework for examining information literacy in the context of (hyper)local democracy. In paper [7], with my co-authors I demonstrated for the first time the value of an application of AT for evaluating information literacy in the context of hyperlocal democracy. AT provides a mechanism to add a social context to individual actions (papers

[7] and [8]). In [7], Wilson's (2008, 2013) approaches to AT are developed in the context of information behaviours to create a model of the activity system of CC information sharing practices. This process allowed consistent collection of granular data, and provided a theory-based explanation of the challenges in sustaining the learning community identified in [6]. One example is the finding that the community that matters to the community councillors is the one of elements of the activity system of content creation – as illustrated in Figure 4-2. Different types of collaboration within an activity system are identified in [7], with collaboration having elements of co-ordination, co-operation and co-construction.
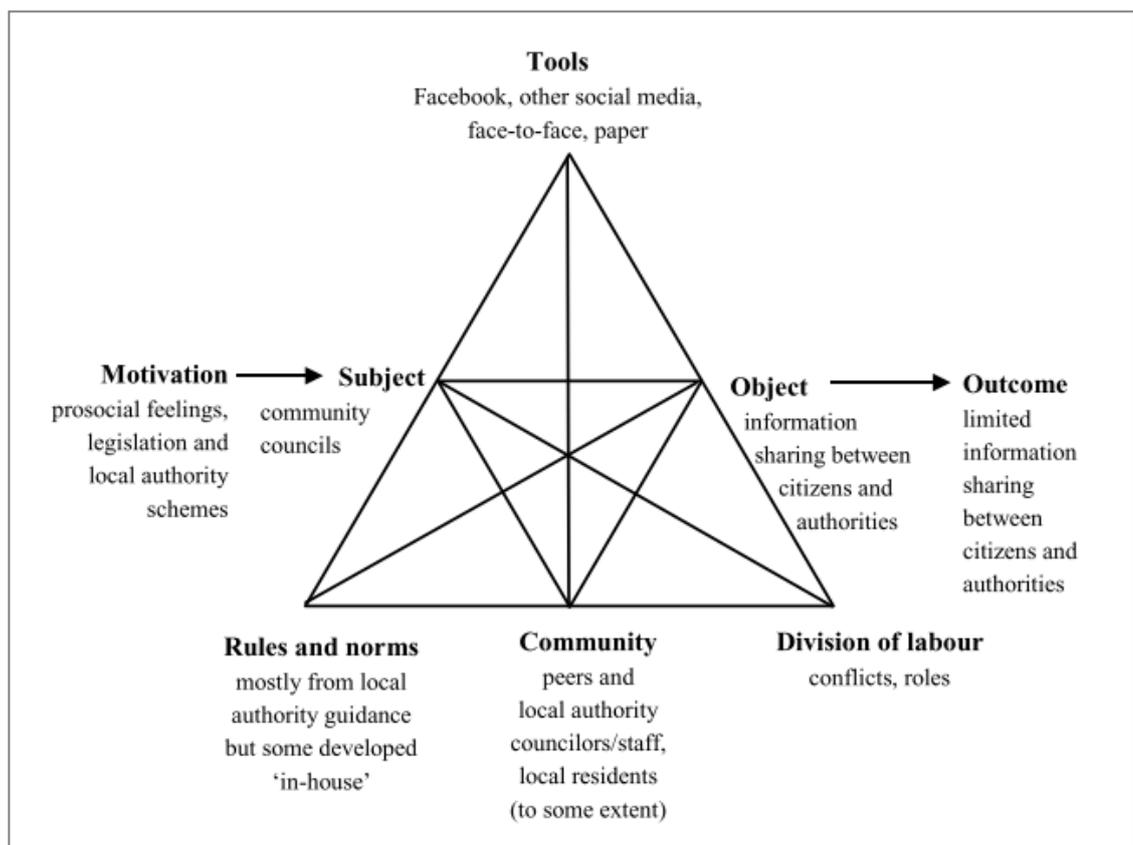
Figure 4-2 Activity theory analysis of information sharing [7]

The identified contradictions provide an exploratory framework for identifying issues with information literacy, giving an insight into the difficulties faced by community councillors in Scotland sustaining their online presences, as shown in the re-survey of internet presences (Ryan and Cruickshank, 2014, p. 8; Figure 3-4 above). The analysis in [7] highlights other contradictions: examples given include lack of time to share information. These in turn allowed opportunities for change to be identified – and were used to generate recommendations including a skills audit; information skills training; more support from public libraries for CCs.

In reporting on the same data as used in [7], [8] it was found that the most important information source engaged with by community councillors is their local authority, as they fulfil their roles of accessing and sharing information between local communities and public authorities. That is, the 'community' includes other representatives, and local government, but not the wider body of citizens (*Gemeinschaft* over *Gemeinde)*. The finding in [8] of the lack of (awareness of need for) support from public libraries can also be explained by observing that libraries are not part of the relevant activity system.

4.3.2 IL is a joint activity in a work-like context

The research considered here was a new domain for testing the understanding of IL in a new context; activity theory and everyday information practice were both found to provide useful insights.

The findings reported in [6] were used as the starting point for research into the information literacies involved in [7] and [8], using the SCONUL (2011) model of IL. In [7,8] (workplace) information seeking and sharing is analysed as part of an activity system which defines a set of practices related to workplace IL. Evidence is shown in [8] of the challenges in finding information from local authorities, and assessing information and opinions from citizens. In [7] questions are raised on the applicability of the SCONUL framework away from the education environment. In [8], the difficulty is noted of aligning actual information activities with the SCONUL model, returning to the challenge of domain dependency of some IL models (section 2.4.3.2).

The nature of the literacies are explored further in [10] and visualised in Figure 4-3, which provided evidence for the first time that in this context, IL is a joint activity[*], This implies that learning also happens through joint activities, shaped by information skills previously acquired in other contexts. IL is shaped by social context, with evidence of the transfer of work- and life-based information skills to the quasi-workplace of a community council.

---

[*] This was retweeted in December 2020 by Marc Forster, author of Forster (2015), as being a "very important paper". However, (frustratingly) he has now deleted his Twitter account
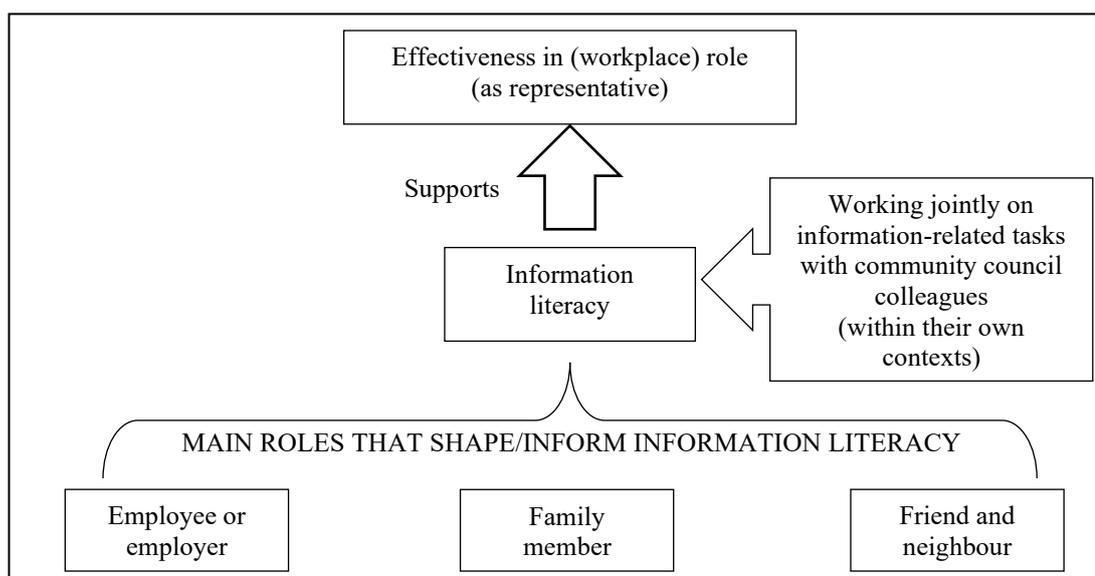
Figure 4-3 Factors underpinning community councillors' effectiveness [10]

The nature of this activity also raises questions on what is meant by "work" in models of work-based information literacy. This led to a novel account of the nature of information literacy of (hyper) local representatives [10], in the context of knowledge creation in a work-like context (Forster, 2015; Lloyd, 2017).

4.3.3 Evaluation of the contribution to understanding joint information practices by representatives

The works considered here demonstrate the application and evaluation of existing models used in information science to a new context. In particular, information practice and information literacy provide useful lenses for analysis of a previously under-researched area of work-like voluntary activity by representatives. Two models of learning-in-context for the development of information seeking and sharing by hyperlocal representatives have been developed, through the application of models of learning communities to (hyper)local representation, identifying overlapping communities of interest, and conflicts within the associated activity systems. Building on this, work with community councillors has continued with the idea of self-enablement, in this case, how community councillors acquire the skills and knowledge to become effective in their role. The work here has identified gaps in research into work-like activities by volunteers, which are not covered by Lloyd.

The papers use different lenses to research the community of learning [6], the collective nature and social context of the community councillor role [7, 8, 10], providing evidence of the importance of co-production of services (Linders, 2012). The findings show that it is not just the demographics of citizens that are important (Lee and Kim, 2018; Alcaide Muñoz and Rodríguez Bolívar, 2019): the representatives' ability to learn

is also influenced by their older, educated profiles. This work also goes to fill existing gaps in research into the actions of representatives (Smith, et al., 2011, p. 313) in contrast to citizens or administrators (Pina and Torres, 2016, p. 290).

4.4   Theme 3: Lurking by citizens, and the responses of representatives

The issue of non-engagement by citizens has been an ongoing theme in my work. When my research in this area started in 2009, the focus of e-participation was still on the citizens who engaged with e-participation systems. There was little thought given to the non-participants, other than to find the factors which drove their non-engagement. This theme addresses my development of models of engagement in the context of e-participation research. (*cf.* 2.4.2.2 which addresses the information science context). The focus is on the citizens becoming engaged with the local e-participation system (in the widest sense), and the responses of representatives to non-engagement.

4.4.1   The citizen perspective: self-efficacy and "why engage?"

The models constructed in papers [1–3] use SCT and models of self-efficacy in their consideration of the reasons citizens would choose to engage with an e-participation system. The particular focus is online petitioning: in the context of the analysis presented in section 2.3.2, signing an e-petition can be seen as engagement with a custom e-participation system.
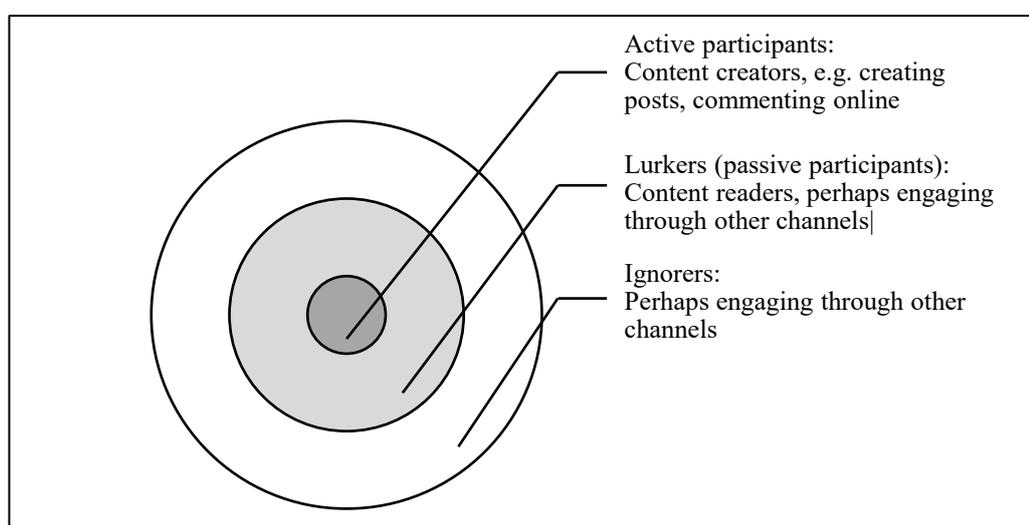
Figure 4-4 Levels of participation
(Developed from diagram in [9])

Self-efficacy is identified as a model for the decision of citizens to participate, based on past successes. Political self-efficacy (PSE) and computer self-efficacy (CSE) are both identified as being relevant [1, p. 324] and potentially interacting and mutually

reinforcing (p. 325). CSE is extended from workplace usage to the voluntary use of an e-petitioning system by citizens – allowing personal and social aspects of the e-petitioning process to be modelled (p. 325). A model of signing a petition is developed in [2] and [3] to be a bridge from lurking to (active) engagement, and from informal to formal processes, so potentially supporting an increase in PSE [1, p. 321]. An important argument is that *lurking* still implies a positive choice to pay attention [2, p. 7] (see also section 2.3.3), in contrast to *ignorers* (p. 5) as illustrated in Figure 4-4.

The information science literature (2.4.2.1) and the e-participation literature (2.3.4) both contain evidence that the demographic profile of the members of the community are also a significant determinant in expected engagement. Paper [3] includes a discussion of the potential socio-economic / demographics factors behind the decision to participate, and potential system success factors. Concern is also expressed over the demographic profile of petitioners ("the usual suspects") [1, p. 322] and [2. p. 3] – that is, for them the step to participation (delurking) and therefore for widening their range of democratic participation is very small.

Paper [3] is positioned in the context of a shift to more individualised engagement, but also acknowledges that "[use of] ICT …reflects and amplifies existing political trends" (p. 3), though the impact of e-petitioning is noted. The dilemma of the desired level of participation is also identified – that most processes could not cope with a significant level of citizen participation [2].

4.4.2 Expectations of participation

The evaluation in [4] and [5] of the 2012 survey of online presences was based on an assumed ladder of participation and the associated need to support a move to (online) deliberative democracy, in line with the norm of e-participation research discussed in section 2.1.1. Within the paper, provision of *information* [4, p. 75] is described as the lowest tier in a ladder of e-participation (*cf.* Macintosh, 2004), rather than the subject of the study itself as in papers from [6] onwards. The general finding was that, where used at all, the internet is used for communication or information sharing, but *not* for increasing participation. The role of local online platforms is noted (see section 2.3.2), and the focus of the survey is centred around use of information: the use of online sharing platforms and social media. The concept of *interest at hand* from social phenomenology (2.4.2.2) implies the importance of the *hyperlocal* context: local information may be that which is most easily reachable. It was found that there was evidence of online information sharing by some CCs: this has an obvious parallel with (hyperlocal) journalism. However, no

evidence was found to support a ladder of increasing participation, which raised questions of one of the normative assumptions in e-participation research. This idea is revisited in [10], which recaps the different levels of engagement and lurking, but this time as a categorisation, with no expectation of movement between "levels".

4.4.3 The representative perspective: "why share?"

A further challenge that my research identified is the need for an understanding of the actions required from the representatives. The surveys reported in Ryan and Cruickshank (2012 and 2014) provided evidence that while information sharing by elected community representatives takes place online, there is little visible engagement from citizens. This raised the question of the representatives' motivation to share information, and their response to this apparent non-participation. Representatives face the challenges of evaluating information and opinions from citizens – that is, gauging public opinion [7, p. 8], and giving due weight to those who are not active participants: the majority of citizens who are not in contact with them (that is, the lurkers and ignorers), but who still need representation. At the same time, they have to evaluate and filter out (a) fake issues/news and (b) special pleading by vocal individuals.

[7] and [8] represent the investigation of the use of an IL to model the approach by hyperlocal representatives to the challenge of identifying and meeting the information needs of citizens. The "uncertain knowledge" of the needs of the communities is highlighted in [7]. The main focus of [7] is community councillors seeking information on their role, and seeking and sharing news. In [7], questions are also asked about information literacies and skills, the role of public libraries, and hence the required skills for sharing information. Community councillors were found to engage with a wide range of information sources and tools [8]. Bi-directional information sharing to/from citizens and local authorities and other official bodies is also noted: sharing is with multiple stakeholders [8, p. 6]. The use of AT in [7] highlighted the contradiction between the *object* and *outcomes* in the activity system: the *object* of communicating with citizens does not always match the *outcome* – for instance when 60 citizens are emailed, out of a population of 25,000; or a community councillor considers resigning because of poor communication with residents. However, as already noted, it follows from the finding that citizens are not part of the information sharing activity system, that representatives are less driven to communicate publicly than might be assumed.

The information sharing aspect of this is modelled in [9]. Already in [6], the importance of 'duty' and 'social' aspects in the information sharing practices of the representatives had been noted:

> The rewards for participation were most often personal satisfaction at fulfilling 'democratic duties' and helping neighbours, 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… their role includes emotional support as well as teaching know-how [6, p. 15]

[9] examines the response to non-engaging citizens and explores how community councillors go about imagining the needs of citizens, including the use of logs and analytics (see *social media monitoring* in 2.3.2). It introduces the concept of *information sharing by proxy* to complement information *seeking* by proxy (see 2.4.3.1), and visualised in the model of information sharing by representatives in Figure 4-5 below.
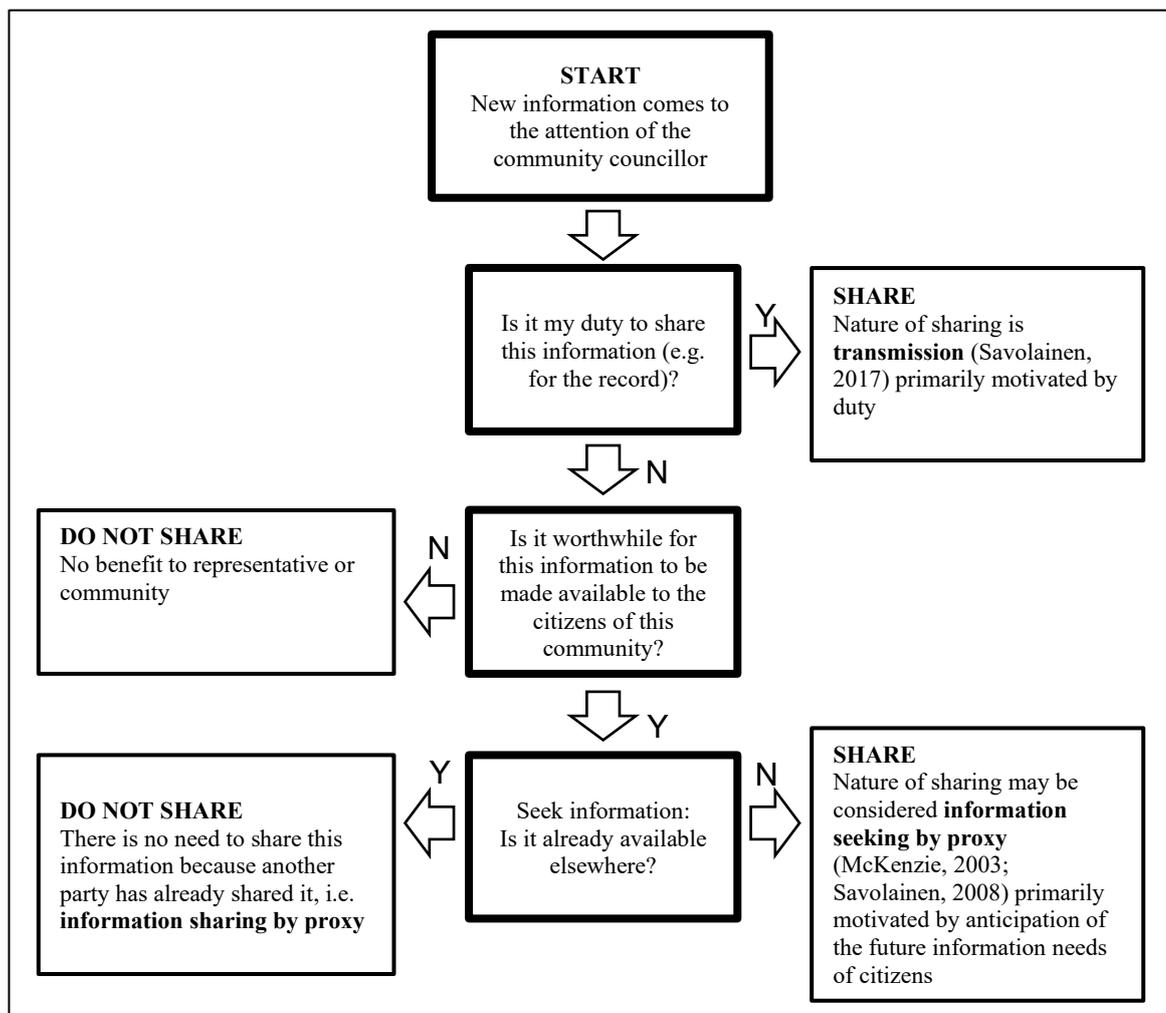
Figure 4-5 The nature of information sharing by community councillors [9]

It is based not on the exchange of information (as predicted by social exchange theory), but on duty and reinforcement of self-identify. This model for information sharing

practice by hyperlocal representatives is derived from an application of Savolainen's account of information sharing as an ELIP (section 2.4.2.2). It addresses the reality of online participation as experienced by many community councillors: an absence of online deliberation or even engagement.

4.4.4 Evaluation of the contribution to the information practices associated with lurking

Development of this theme demonstrates the applicability of AT and IL in these (non-work) spaces. It was shown that lurking behaviour is valuable and should be recognised in the design of e-participation spaces, and could support a move to active engagement (if the citizens so desire) through increased self-efficacy of citizens. The work included a new account of representatives as information proxies, allowing the development of *information sharing by proxy* as a new form of ELIP.

A wider implication of the publications under consideration, [9] in particular, is the significance of non-knowledge-based information communities for information sharing practices. Where the information sharing is asymmetrical (as it is with representatives sharing official information online), a significant factor in the activity can be duty and the need to be seen as fulfilling their role.

Paper [2] has been used as a source by many e-participation papers (with 53 citations, and a further 56 for papers [1] and [3] and the related (Cruickshank and Smith, 2009). A major example of the use of [2] is the development of the concept of *passive crowdsourcing* for e-participation (Charalabidis, Triantafillou and Karkaletsis, 2012; Charalabidis, et al., 2014). Papers [1] and [2] were used by Panagiotopoulos and other e-participation researchers as evidence when considering the impact of e-participation systems in the UK and EU (Panagiotopoulos and Elliman, 2012; Panagiotopoulos, Moody and Elliman, 2012; Susha and Grönlund, 2012). The use of *self-efficacy* has also been picked up in a number of papers by Alathur which analyse e-participation in the Indian context (e.g. Alathur, et al., 2016). The concept of *lurking* developed in papers [2] and [3] was used by one of the co-authors, Edelmann, as a starting point for her PhD (Edelmann, 2017). She develops the idea of lurking from psychological models and development on company-based knowledge communities (e.g. Nonnecke, Preece and Andrews, 2004; Takahashi, Fujimoto and Yamasaki, 2007; Preece and Schneiderman, 2009). Combined, these two approaches have ensured that the importance is acknowledged of lurkers as passive participants in the e-participation processes and

e democracy more widely (Edelmann, 2013). There has also been a limited take up in other fields, for instance (Bode, 2017) in *Social Media and Society.*

4.5   Methodological considerations

The findings considered in this chapter all result from the methodological decisions made in the projects involved. In the research under consideration, a range of methodologies and frameworks have been evaluated and developed in novel contexts. In section 2.4.1 the importance was emphasised in information science of the role that models and methods play in evaluation and interpretation of the data, that is in creating meaning from findings. In section 2.4.4, the methods used within information science were considered.

4.5.1   Application of theoretical frameworks

The research has lent itself to the application of a range of explanatory tools and analytical approaches. With the limited exceptions of the census results in [4] and [5], there is a theoretical underpinning to all the publications under consideration. The publications that are being put forward have provided a new domain for testing models of information and learning behaviours, including:

– A perspective derived from an interpretive use of social cognitive theory for the evaluation of e-participation in papers [1 – 3] which highlighted the relevance of both computer- and political self-efficacy.

– Application of community of practice theory to the analysis of core and peripheral participation in networks of stakeholders in (hyper) local democracy in [6]: issues with meeting the precise preconditions of a CoP were consistent with the issues found by Cox (2013).

– Application of activity theory as a framework for examining information literacy in the context of (hyper)local democracy [7, 8]. This was the first application of AT to collective activity by representatives at this level. In [7], the application of AT was evaluated: it was found to be a useful analytic tool, especially in the context of collaborative information practices. However, challenges were also found in identifying the appropriate level of establishing activity system: for instance as relating to individual or collective work, or whether sharing and evaluation are separate systems (p. 9). The distinction between rules and norms and division of labour was also difficult to establish.

– ELIP was found to provide a useful explanatory approach to the actual information sharing practices of community councillors [9].

4.5.2 Methods for data collection

The detail of research design inevitably involves the creation of new tools for collection of data for analysis.

The census surveys reported in Ryan and Cruickshank (2012 and 2014) were the first comprehensive data on online presences of Scottish community councils. They required the development of a method for identification of all active CCs; they also needed a framework for identifying and evaluating content created for purposes of hyperlocal democracy. This method is presented in papers [4] and [5]. Online activity was measured on three dimensions: level of activity; content type; hosting arrangements. Analyses of the community level of government from an e-participation perspective have been carried out in other European regions but are rare, and had not been carried out in Scotland before (2.2.2). Scotland provided a region of a suitable scale for a full survey of this level of local governance. This approach anticipated the critiques and approaches discussed in section 2.2.2 and described by Steinbach, et al. (2019). It has proven robust and is now into its third iteration, with a new survey currently underway.

The application described in [7] followed the precedent of the use of AT to structure interview questions (Widén-Wulff and Davenport, 2007; Wilson, 2008). However, it was the first in relation to hyperlocal representation, ensuring consistency of data collection and analysis across 19 hour-long semi-structured interviews with community councillors recruited through contacts across the country.

The final piece of work involved a large-scale survey of community councillors for the LIL-DEM project (section 3.7), gathering of evidence on their IL and the contexts of information use. The survey was very successful, collecting around a thousand responses, a significant proportion of the target population. The main thrust of the questions was designed to test a hypothesised link between information literacy and impact in the role. This was tested using a range of statistical techniques: an evaluation of the reasons for the failure to find this connection is presented in Widén, et al. (2021 in press). However, the questions were able to also capture data on the social context and the joint information activities of the respondents, this supported the results presented in [10]: methods used are primarily descriptive statistics, combined with some text analysis of comments.

4.5.3 Analysis and visualisation

Visualisation has proven to be a powerful tool in understanding data and explain the findings.

In analysing the learning communities associated with community councillors for [6], social network analysis (SNA) had to be ruled out, as there was no clear boundary to the community under consideration in this exploratory study. However, a sociogram was developed using the Microsoft Excel NodeXL* add-in. It was interpreted visually and reinterpreted as a Venn-like diagram seen in Figure 4-1. This is in contrast with other research projects into the contexts of learning and information sharing within a known bounded community, where SNA has been of value (Buckner and Cruickshank, 2008; Hall, Irving and Cruickshank, 2012; Hall, et al., 2018).

Visualisation (again as a Venn Diagram) is used in [10] for showing the overlapping factors in social context that provided the IL skills needed in their roles as *hyperlocal representatives*. Another form of visualisation used the in the creation of a activity system diagram (Figure 4-2) applying the model from Engeström (1987) to recording the findings from the research [7] into the context for information sharing by community councillors sharing information.

Finally, visualisation has also been used to capture key findings in diagrammatic form – for instance a flow chart for signing an e-petition (Figure 3-2), for sharing by proxy (Figure 4-5), or a diagram summarising the factors underpinning the information literacy of community councillors and its impact on their work (Figure 4-3).

4.6   Conclusion

The portfolio contains evidence of the development of a number of unique significant contributions to knowledge on the three themes, and these are summarised in Table 4-2 below, which also summarises the methodological contributions.

These contributions together with consideration of the impact of the work on others are contextualised with reference to the evolution of ideas across the portfolio of my work in the next chapter.

---

* https://nodexl.com/

Table 4-2 Summary of contributions

Theme	Main contribution
Identification of hyperlocal representation as key concept	
Section 4.2.1	Hyperlocal representation defined and refined
4.2.3	New characterisation of the information activities by CCs: as *news source*, *voluntary organisation* or *governmental body*
Characterising the hyperlocal representative	
4.3.1	Identification of the learning communities surrounding hyperlocal representation, identifying overlapping communities of interest
	Application of AT as a framework for examining information literacy in the context of hyperlocal representation, showing that communication with citizens is an *objective* which may be delivered as an *outcome*. Instead, the focus of information exchange is within the activity system: between the representatives and authorities.
4.3.2	Novel account of the work-like and joint nature of information literacy of hyperlocal representatives, shaped by the individual social contexts of the representatives.
Lurking and responses to passive participation	
4.4.1 4.4.2	Application of SCT to identify (computer and political) self-efficacy as a factor to be addressed in the design of e-participation spaces.
	Not every citizen can be expected to engage, nor do they wish to climb a ladder of participation. This allows for a definition of lurking as passive engagement, in contrast to ignoring. Lurking needs to be recognised in the design of e-participation spaces
4.4.3	Application of ELIP to create a novel account of the sharing practices of hyperlocal representatives emphasising duty and ritual, and identifying sharing by proxy as a new category of information practice.
Application of methods	
4.5.1	Applications of SCT, CoPs, AT and ELIP to the evaluation of e-participation.
4.5.2	Development of method for full census of CC public online presences, and associated content analysis, provides bases for consistent measurement of use of the public internet by CCs.
	Development of research instruments for capturing information practices and literacies of hyperlocal representatives through questionnaires and interviews.
4.5.3	Visualisations used in analysis and communication of findings.

5 Conclusion

5.1 Achievement of thesis aims

As stated in the introduction to this thesis in Chapter 1, the work presented here represents the original application of theory to research data. In particular, the subject area which forms the basis for the thesis relates to e-participation and information practices, with a focus on the information activities of representatives and the citizens they represent. This thesis demonstrates my contribution through the publications evaluated in the portfolio to:

1. The development of the concept of hyperlocal representation as a domain with its own challenges including limited resources, availability of (non-digital) channels of communication, and different communicative roles.

2. The characterisation of hyperlocal representatives as stakeholders in the participation process.

3. Expansion of the existence and nature of lurkers (passive participants) in the process, and the responses of representatives to the lack of feedback to sharing of information.

The research underlying the papers considered here started with a recognition of the limitations of the e-participation tradition, with its focus on adoption of technology and systems by citizens. It evolved into developing a new understanding of the actions of representatives as stakeholders in the process. Throughout, research was carried out at municipal and community level. The significance and originality of this is now discussed in the context of the evolution of my work.

5.2 Evolution of the research across the portfolio

The first three papers [1, 2, 3] relate to the development of an original model of an e-petition supporting the transition between lurking and (limited) engagement with the political process through an e-participation application. One of the frustrations of this period is that although data on the positive impact on self-efficacy was gathered, and presented in project reports to stakeholders as described in section 3.3, there was no opportunity to write them up for academic publication, and an evaluation of the model has not been published. Hence, the contribution to this thesis is that the relevance of the concept of *lurking* is introduced and challenged. The papers demonstrate the potential of having a research focus on the social context of the stakeholders as they make decisions,

rather than on the uptake or "success" of an information system. This exposed the challenges presented to governments and representatives by the choice of many citizens to passively engage (lurk).

The remaining papers relate to an evolving understanding of the information activities associated with CCs. The survey evaluation in [4] and [5] was a first analysis of CC activities online. Although it used peer reviewed sources as the basis for the research design, it can be seen to lack the solid theoretical foundation that was identified in section 2.4.1 as being so important in this area. This in turn limited the possible explanations of findings. However, the two associated survey reports provided policy information that had not been available before, and resulted in the actions by the local government Improvement Service noted in section 3.4. The findings also raised a number of questions about the use community councillors were making of digital media. This in turn provided a starting point for the range of further research that makes up the rest of the portfolio.

An evolution from the generally descriptive approach in [4] and [5] to more mature theory-based approaches can be seen in subsequent papers. For instance, paper [6] shows the first application of a framework from information science, evaluating the suitability of communities of practice as a model (referenced in section 2.4.2) for the behaviours of community councillors as they meet the challenges of digital communication.

Paper [7] shows continued development of the research approach, for instance with clearly defined research questions and a further critical evaluation of a theoretical model, this time activity theory. The results of this research also allowed a return to consideration of passive participation and choice of level of engagement – by community councillors in [7], and their response to passive participation by citizens in [9]. The latter resulted in *sharing by proxy* being proposed as a new aspect for information practice.

Finally, the survey data analysed and evaluated in [10] allowed in depth consideration of the construction of IL in a non-education/library context. A result has been the establishment of quantitative evidence of the importance to IL of joint work in quasi-work roles, to supplement the qualitative evidence in the literature.

5.3   Significance of the contributions

Overall, the research presented here typifies the balance between positivist and interpretivist approaches in information science. In practice though, the emphasis has been on phenomenological and interpretivist approaches to data. This thesis also provides evidence of the close relation between information science, and communications studies

and critical media studies. All are concerned with similar research problems and evaluate similar data using similar frameworks.

The portfolio presents evidence of the development of three themes and a number of significant contributions to knowledge as summarised in Table 4-2 at the end of the previous chapter. The idea of community representatives as stakeholders in the e-participation system has been emphasised in (*cf.* the discussion in 2.3.1). The work evaluated in papers [5–10] for the first time focused on the information practices of community councillors as stakeholders in democratic participation systems. As a result, the work has been able to establish *hyperlocal representation* as a unit of analysis for research, as discussed in section 4.2.

This thesis provides evidence which focusses on participation rather than system acceptance or service delivery aspects. This demonstrates the value in applying theoretically informed information science perspectives to evaluation of participation practices of stakeholders (*see* the discussion of theoretical frameworks in section 2.4.1). This in turn provided a new approach to research non-engaging participants (the lurkers), in particular, the evaluation of the information practices of representatives in communicating with them as an imagined community in [9].

The explanations provided also show the value of analysing the space between micro and macro levels in understanding individual actions and organisational success. These approaches have generated both qualitative and quantitative data to explain for the first time the information practices of community councillors. The application of activity theory as an analytical lens allowed the evaluation of the social and cultural context shaping the IL of community councillors in [7]. This for the first time identified the relevant activity system and information community associated with the information practices of representatives. This includes identification of the stakeholders involved in the related activity system. This includes the objective of reaching an audience of citizen-lurkers as passive users of information, rather than members of the activity system itself. These citizens are identified in [9] as the targets of seeking and sharing by proxy.

In turn this provides evidence for the wider consideration of the nature of the 'workplace' for community councillors and its relation to everyday life (ELIP). The importance of self-image and social profile in information sharing is then made clear in [9]. This has in turn provided an explanation of the reason that interaction with digital content is not an expectation, and would be minimised where possible (that is, online deliberation is unlikely). The resulting contribution is the demonstration that ELIP rather

than social exchange theory is a more appropriate model for explaining the information sharing practices of the representatives.

5.4 Future directions – how the work could be extended

The review of the portfolio for this thesis opens up a number of avenues for further related research. The relevance of all of these been emphasised by the impact of the COVID-19 lockdowns as more information activities have shifted to digital channels.

The first area is the perception of membership of (or boundaries of) hyperlocal communities *(Gemeinden)*. This could involve addressing the issues raised in the footnotes to section 2.3 on pages 17 and 23: What does it mean to be a citizen in a local community or their representative, with access to multiple channels of communication?

The second area is the nature of the communities (*Gemeinschaften)* associated with the learning and sharing activities of hyperlocal representatives. This could include an evaluation of the model for collective and proxy agency within SCT (Bandura, 2018; Ludwig, 2017) to further develop the model of the activities of hyperlocal representatives developed in theme two (section 4.3). In addition, a follow up study on the digiCC workshops mentioned in 3.5 of the extent of inter-CC knowledge networking and the usage of the KnowledgeHub community would provide evidence to evaluate the factors shaping sustainability in this context. A study of power relations and the different forms of structuring joint activities noted in [9] would also be a useful direction, filling the gaps of SCT, practice theory and AT noted in section 2.4.1.

Finally, more consideration is needed on the impact of position in the policy cycle on the information practices of representatives. This is touched on in section 2.1.2 but considered out of scope for this thesis. A common problem faced by CCs is the perception that they are notified of relevant developments by LAs when it is too late for the CC to make a difference. Related work could examine the impact on communities of the use of e-participation platforms for a one-off project, rather than for embedded practice for ongoing digital engagement with and by citizens.

This portfolio covers research over the last decade, but is still timely when considering the importance of the informational role of representatives. It has shown why it is necessary to recognise the role representatives play in e-participation processes, even in the era of almost total online communication. The portfolio presented here has addressed the value of understanding and representing (lurking) citizens in their community, not just

responding to the minority of engaged and activist citizens. It forms a reminder of the value of representative democracy compared to direct participatory democracy with its vulnerability to be hijacked by small groups of activists. Recent developments remind us of the importance of informed (information literate) elected representatives who understand the needs of all the citizens they represented.

References

Acedo, A. et al. (2019) 'Place and city: toward a geography of engagement', *Heliyon*, 5(8), p. e02261. doi: 10.1016/j.heliyon.2019.e02261.

Aharony, N. and Gur, H. (2019) 'The relationships between personality, perceptual, cognitive and technological variables and students' level of information literacy', *Journal of Librarianship and Information Science*, 51(2), pp. 527–544. doi: 10.1177/0961000617742450.

Alathur, S., Vigneswara Ilavarasan, P. and Gupta, M. P. (2016) 'Determinants of e-participation in the citizens and the government initiatives: Insights from India', *Socio-Economic Planning Sciences*, 55, pp. 25–35. doi: 10.1016/j.seps.2016.04.005.

Alcaide Muñoz, L. and Rodríguez Bolívar, M. P. (2019) 'Demographic Profile of Citizens' Interest, Evaluation and Opinions of Local Government Apps in Smart Cities', in Lindgren, I. et al. (eds) *EGOV 2019: Electronic Government*. Cham: Springer International Publishing (Lecture Notes in Computer Science), pp. 313–325. doi: 10.1007/978-3-030-27325-5_24.

Allen, D., Karanasios, S. and Slavova, M. (2011) 'Working with activity theory: Context, technology, and information behavior', *Journal of the American Society for Information Science and Technology*, 62(4), pp. 776–788. doi: 10.1002/asi.21441.

Allwinkle, S. and Cruickshank, P. (2011) 'Creating Smart-er Cities: An Overview', *Journal of Urban Technology*, 18(2), pp. 1–16. doi: 10.1080/10630732.2011.601103.

Arnstein, S. (1969) 'A ladder of citizen participation', *Journal of the American Institute of Planners*, 35(4), pp. 216–224.

Bandura, A. (2018) 'Toward a Psychology of Human Agency: Pathways and Reflections', *Perspectives on Psychological Science*, 13(2), pp. 130–136. doi: 10.1177/1745691617699280.

Barnes, R. (2016) 'The "imagined community" of readers of hyperlocal news: A case study of Baristanet', *Journal of Alternative and Community Media*, 1, pp. 84–96. Available at: https://joacm.org/index.php/joacm/article/view/841.

Baxter, G. and Marcella, R. (2013) 'Online Parliamentary Election Campaigns in Scotland', *JeDEM*, 5(2), pp. 107–127. Available at: http://www.jedem.org/article/view/210.

Baxter, G., Marcella, R. and Illingworth, L. (2010) 'Organizational information behaviour in the public consultation process in Scotland', *Information Research*, 15(4). Available at: http://www.informationr.net/ir/15-4/paper442.html.

Benton, A. L. (2016) 'How "Participatory Governance" strengthens authoritarian regimes: evidence from electoral authoritarian Oaxaca, Mexico', *Journal of Politics in Latin America*, 8(2), pp. 37–70. doi: 10.1177/1866802X1600800202.

Bertone, G., De Cindio, F. and Stortone, S. (2015) 'LiquidFeedback in large-scale civic contexts : framing multiple styles of online participation', *Journal of Social Media for Organizations*, 2(1), pp. 1–23.

Bingham-Hall, J. and Tidey, J. (2016) 'Visualizing social media's impact on local communities', *Visual Communication*, 15(3), pp. 317–328. doi: 10.1177/1470357216645710.

Bode, L. (2017) 'Gateway Political Behaviors: The Frequency and Consequences of Low-Cost Political Engagement on Social Media', *Social Media + Society*, 3(4), p. 205630511774334. doi: 10.1177/2056305117743349.

Bonsón, E., Royo, S. and Ratkai, M. (2015) 'Citizens' engagement on local governments' Facebook sites. An empirical analysis: The impact of different media and content types in Western Europe', *Government Information Quarterly*, 32(1), pp. 52–62. doi:

10.1016/j.giq.2014.11.001.

Borsekova, K. et al. (2018) 'Functionality between the size and indicators of smart cities: A research challenge with policy implications', *Cities*, 78(March), pp. 17–26. doi: 10.1016/j.cities.2018.03.010.

Bort, E., Mcalpine, R. and Morgan, G. (2012) *The Silent Crisis: Failure and Revival in Local Democracy in Scotland*. Biggar: The Jimmy Reid Foundation.

Boyd, D. M. and Ellison, N. B. (2007) 'Social network sites: Definition, history, and scholarship', *Journal of Computer-Mediated Communication*, 13(1), pp. 210–230. doi: 10.1111/j.1083-6101.2007.00393.x.

Brettle, A. (2017) 'Gathering Evidence for Routine Decision-making', *Evidence Based Library and Information Practice*, 12(4), p. 193. doi: 10.18438/B85Q29.

Buckner, K. and Cruickshank, P. (2008) 'Social Network Analysis as a Tool to Evaluate the Effectiveness of EC Funded Networks of Excellence: The Case of DEMO-net', *Proceedings of the 41st Annual Hawaii International Conference on System Sciences (HICSS 2008)*, pp. 60–60. doi: 10.1109/HICSS.2008.401.

Case, D. O. and Given, L. M. (2016) *Looking for Information*. 4th edn. Emerald Group Publishing Limited. Available at: https://www.dawsonera.com/abstract/9781785609671.

Charalabidis, Y. et al. (2014) 'Passive crowdsourcing in government using social media', *Transforming Government: People, Process and Policy*, 8(2), pp. 1–21. Available at: http://www.emeraldinsight.com/journals.htm?articleid=17109498&show=abstract (Accessed: 4 June 2014).

Charalabidis, Y., Triantafillou, A. and Karkaletsis, V. (2012) 'Public Policy Formulation through Non Moderated Crowdsourcing in Social Media', in *Electronic Participation*, pp. 156–169.

Christensen, H. S. (2013) 'Broadening Democratic Participation? An exploratory study of e-democracy in 188 Finnish municipalities', *Scandinavian Journal of Public Administration*, 17(3), pp. 3–21. Available at: http://ub016045.ub.gu.se/ojs/index.php/sjpa/article/view/2690.

CILIP (2018) *CILIP Definition of Information Literacy 2018*. Available at: https://infolit.org.uk/wp-content/uploads/2018/03/CILIP-Definition-Doc-Final-for-website.pdf (Accessed: 8 April 2018).

Codagnone, C. et al. (2015) 'Institutional isomorphism, policy networks, and the analytical depreciation of measurement indicators: The case of the EU e-government benchmarking', *Telecommunications Policy*, 39(3–4), pp. 305–319. doi: 10.1016/j.telpol.2015.01.005.

Coelho, T. R., Cunha, M. A. and Pozzebon, M. (2017) 'eParticipation and the policy cycle', in *Proceedings of the 18th Annual International Conference on Digital Government Research - dg.o '17*. New York, New York, USA, New York, USA: ACM Press, pp. 368–376. doi: 10.1145/3085228.3085277.

Coleman, S. and Gøtze, J. (2001) *Bowling Together : Online Public Engagement in Policy Deliberation*. London: Hansard Society.

Collard, A., Smedt, T. De and Fastrez, P. (2016) 'How is information literacy related to social competences in the workplace?', in Kurbanoğlu, S. et al. (eds) *Communications in Computer and Information Science*. Prague: Springer, pp. 79–88. doi: 10.1007/978-3-319-52162-6_8.

Cooke, L. and Hall, H. (2013) 'Facets of DREaM: A social network analysis exploring network development in the UK LIS research community.', *Journal of Documentation*, 69(6), pp. 786–806. doi: 10.1108/JD-09-2012-0124.

Cox, A. M. (2012) 'An exploration of the practice approach and its place in information

science', *Journal of Information Science*, 38(2), pp. 176–188. doi: 10.1177/0165551511435881.

Cox, A. M. (2013) 'Practice Theory', in Wilson, T. D. (ed.) *Theory in information behaviour research*. Sheffield: Eiconics.

Cranefield, J., Yoong, P. and Huff, S. L. (2015) 'Invisible Leading and Following in a Knowledge Transfer Ecosystem', *Journal of the Association for Information Systems*, 16(4), pp. 213–247.

Cruickshank, P. (2011) 'SCRAN: The Network', *Journal of Urban Technology*, 18(2), pp. 83–97. doi: 10.1080/10630732.2011.601121.

Cruickshank, P., Edelmann, N. and Smith, C. F. (2010) 'Signing an e-petition as a transition from lurking to participation', in Chappellet, J. et al. (eds) *Electronic Government and Electronic Participation*. Linz, Austria: Linz, Austria: Trauner Verlag, pp. 275–282.

Cruickshank, P. and Hall, H. (2020) 'Talking to imagined citizens? Information sharing practices and proxies for e-participation in hyperlocal democratic settings', *Information Research*, 25(4), pp. 1–26. doi: https://doi.org/10.47989/irpaper880.

Cruickshank, P., Hall, H. and Ryan, B. (2020) 'Information literacy as a joint competence shaped by everyday life and workplace roles amongst Scottish community councillors', in *Proceedings of ISIC: the information behaviour conference Pretoria, South Africa, 28th September to 1st October, 2020*. University of Borås, Borås, Sweden, pp. 1–16. doi: 10.47989/irisic2008.

Cruickshank, P. and Ryan, B. M. (2015) 'The Communities of Practice model for understanding digital engagement by hyperlocal elected representatives', in Tambouris, E. et al. (eds) *Electronic Government and Electronic Participation*. IOS Press, pp. 11–18. doi: 10.3233/978-1-61499-570-8-11.

Cruickshank, P., Ryan, B. M. and Smith, C. F. (2014a) 'Disconnected Democracy? A Survey of Scottish Community Councils' Online Presences', *Scottish Affairs*, 23(4), pp. 486–507. doi: 10.3366/scot.2014.0045.

Cruickshank, P., Ryan, B. M. and Smith, C. F. (2014b) '"Hyperlocal E-participation"? Evaluating Online Activity by Scottish Community Councils', in *CeDEM 2014 Conference for E-Democracy and Open Government*, pp. 74–84.

Cruickshank, P. and Smith, C. F. (2009) 'Self-efficacy as a factor in the evaluation of e-petitions', in *Proceedings of EDEM 2009*, pp. 223–232.

Cruickshank, P. and Smith, C. F. (2011) 'Understanding the "e-petitioner"', *Transforming Government: People, Process and Policy*, 5(4), pp. 319–329. doi: 10.1108/17506161111173577.

Davidson, S. and Elstub, S. (2014) 'Deliberative and participatory democracy in the UK', *British Journal of Politics and International Relations*, 16(3), pp. 367–385. doi: 10.1111/1467-856X.12001.

Deng, S. et al. (2017) 'How do personality traits shape information-sharing behaviour in social media? Exploring the mediating effect of generalized trust', *Information Research*, 22(3). Available at: http://www.informationr.net/ir/22-3/paper763.html.

Detlor, B., Hupfer, M. E. and Smith, D. H. (2016) 'Digital storytelling and memory institutions: A case study using activity theory', *Proceedings of the Association for Information Science and Technology*, 53(1), pp. 1–6. doi: 10.1002/pra2.2016.14505301095.

Edelmann, N. (2013) 'Reviewing the Definitions of "Lurkers" and Some Implications for Online Research', *Cyberpsychology, Behavior, and Social Networking*, 16(9), pp. 645–649. doi: 10.1089/cyber.2012.0362.

Edelmann, N. (2017) *Online lurking: Definitions, Implications, and effects on E-Participation*. Talinn University of Technology. doi: 10.13140/RG.2.2.21750.70725.

Edelmann, N. and Cruickshank, P. (2011) 'Introducing Psychological Factors into E-Participation Research', in Manoharan, A. and Holzer, M. (eds) *E-Governance and Civic Engagement*. Hershey, PA: IGI Global, pp. 338–361. doi: 10.4018/978-1-61350-083-5.ch017.

Edelmann, N., Krimmer, R. and Parycek, P. (2017) 'How online lurking contributes value to E-participation: A conceptual approach to evaluating the role of lurkers in e-participation', in *2017 Fourth International Conference on eDemocracy & eGovernment (ICEDEG)*. IEEE, pp. 86–93. doi: 10.1109/ICEDEG.2017.7962517.

Engeström, Y. (1987) *Learning by expanding: an activity-theoretical approach to developmental research*. Helsinki: Helsinki: Orienta-Konsultit. doi: 10.1016/j.intcom.2007.07.003.

Fatima, R. et al. (2019) 'Sharing information online rationally: An observation of user privacy concerns and awareness using serious game', *Journal of Information Security and Applications*, 48, p. 102351. doi: 10.1016/j.jisa.2019.06.007.

Ferguson, J. and Taminiau, Y. (2014) 'Conflict and learning in inter-organizational online communities: negotiating knowledge claims', *Journal of Knowledge Management*, 18(5), pp. 886–904. doi: 10.1108/JKM-06-2014-0248.

Forster, M. (2015) 'Refining the definition of information literacy: the experience of contextual knowledge creation', *Journal of Information Literacy*, 9(1), p. 62. doi: 10.11645/9.1.1981.

Forster, M. (2017) 'Information Literacy and the Workplace: new concepts, new perspectives?', in Forster, M. (ed.) *Information Literacy in the Workplace*. London: Facet Publishing, pp. 1–9.

Freeman, J. (2020) 'Differentiating distance in local and hyperlocal news', *Journalism*, p. 146488491988644. doi: 10.1177/1464884919886440.

Goodlad, R., Flint, J., Kearns, A., Keoghan, M., Paddison, R., & Raco, M. (1999). *The Role and Effectiveness of Community Councils with Regard to Community Consultation.* Edinburgh: Scottish Office Central Research Unit.

Hall, H., Cruickshank, P. and Ryan, B. M. (2018a) 'Exploring Information Literacy Through the Lens of Activity Theory', in *European Conference on Information Literacy*. St Malo: Springer, pp. 803–812. doi: 10.1007/978-3-319-74334-9_81.

Hall, H., Cruickshank, P. and Ryan, B. M. (2018b) 'Practices of community representatives in exploiting information channels for citizen democratic engagement', *Journal of Librarianship and Information Science*, p. 096100061876996. doi: 10.1177/0961000618769966.

Hall, H. Cruickshank, P. and Ryan, B. M. (2018c) 'Long-term community development within a research network: a social network analysis of the DREaM project cadre', *Journal of Documentation*, 74(4), pp. 844–861. doi: 10.1108/JD-05-2017-0069.

Hall, H., Irving, C. M. and Cruickshank, P. (2012) 'Improving access to Library and Information Science research: Maximizing its relevance and impact to practitioners', *Business Information Review*, 29(4), pp. 224–230. doi: 10.1177/0266382112470413.

Hall, H., Widén, G. and Paterson, L. (2010) 'Not what you know, nor who you know, but who you know already: Examining Online Information Sharing Behaviours in a Blogging Environment through the Lens of Social Exchange Theory', *Libri*, 60(2). doi: 10.1515/libr.2010.011.

Haro-de-Rosario, A., Saez-Martin, A. and del Carmen Caba-Perez, M. (2016) 'Using social media to enhance citizen engagement with local government: Twitter or Facebook?', *New Media & Society*. doi: 10.1177/1461444816645652.

Harte, D., Williams, A. and Turner, J. (2017) 'Reciprocity and The Hyperlocal Journalist', *Journalism Practice*, 11(2–3), pp. 160–176. doi: 10.1080/17512786.2016.1219963.

Hollis, H. (2018) 'Information literacy as a measurable construct', *Journal of Information Literacy*, 12(2), p. 76. doi: 10.11645/12.2.2409.

Holzer, M. et al. (2020) *Global e-government survey (2018-19)*. Boston, MA: E-Governance Institute, National Center for Public Performance, Suffolk University-Boston. Available at: www.publicperformance.org/e-governance.

Hung, S.-Y., Lai, H.-M. and Chou, Y.-C. (2015) 'Knowledge-sharing intention in professional virtual communities: A comparison between posters and lurkers', *Journal of the Association for Information Science and Technology*, 66(12), pp. 2494–2510. doi: 10.1002/asi.23339.

Irving, C. M., Hall, H. and Brettle, A. (2015) 'Towards a model of information literacy with a lifelong learning perspective', in *i3*.

Karamagioli, E. et al. (2008) 'Bringing social and technological innovation to the work of national, regional and local elected representatives: the eRepresentative project', in Parycek, P. and Prosser, A. (eds) *EDem08 E-Democracy Conference*.

Killick, L. et al. (2016) 'The census as an information source in public policy-making', *Journal of Information Science*, 42(3), pp. 386–395. doi: 10.1177/0165551516628471.

Koutropoulos, A., Honeychurch, S. and Singh, L. (2019) 'Rethinking lurking', *eLearn Magazine*. Available at: http://eprints.gla.ac.uk/187634/.

Kubicek, H. (2016) 'What Difference Does the "E" Make? Comparing Communication Channels in Public Consultation and Collaboration Processes', in Aichholzer, G., Kubicek, H., and Torres, L. (eds) *Evaluating e-Participation*. Cham: Springer International Publishing, pp. 307–331. doi: 10.1007/978-3-319-25403-6_15.

Lave, J. (2008) 'Situated learning and changing practice', in Amin, A. and Roberts, J. (eds) *Community, economic creativity, and organization*. Oxford: Oxford University Press, pp. 283–296.

Lave, J. and Wenger, E. (1991) *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press.

Layne, K. and Lee, J. (2001) 'Developing fully functional E-government: A four stage model', *Government Information Quarterly*, 18(2), pp. 122–136. doi: 10.1016/S0740-624X(01)00066-1.

Lee-Geiller, S. and Lee, T. (David) (2019) 'Using government websites to enhance democratic E-governance: A conceptual model for evaluation', *Government Information Quarterly*, 36(2), pp. 208–225. doi: 10.1016/j.giq.2019.01.003.

Lee, J. and Kim, S. (2018) 'Citizens' e-participation on agenda setting in local governance: Do individual social capital and e-participation management matter?', *Public Management Review*, 20(6), pp. 873–895. doi: 10.1080/14719037.2017.1340507.

Levine, J. R. (2016) 'The Privatization of Political Representation', *American Sociological Review*, 81(6), pp. 1251–1275. doi: 10.1177/0003122416670655.

Linders, D. (2012) 'From e-government to we-government: Defining a typology for citizen coproduction in the age of social media', *Government Information Quarterly*, 29(4), pp. 446–454. doi: 10.1016/j.giq.2012.06.003.

Lloyd, A. (2010) 'Framing information literacy as information practice: site ontology and practice theory', *Journal of Documentation*, 66(2), pp. 245–258. doi: 10.1108/00220411011023643.

Lloyd, A. (2013) 'Building Information Resilient Workers: The Critical Ground of Workplace Information Literacy. What Have We Learnt?', *Communications in Computer and Information Science*, 397 CCIS, pp. 219–228. doi: 10.1007/978-3-319-03919-0_28.

Lloyd, A. (2016) 'Reflection on: "On Becoming Citizens: Examining Social Inclusion from an Information Perspective"', *Australian Academic and Research Libraries*, 47(4), pp. 316–

319. doi: 10.1080/00048623.2016.1256805.

Lloyd, A. (2017) 'Information literacy and literacies of information: a mid-range theory and model', *Journal of Information Literacy*, 11(1), p. 91. doi: 10.11645/11.1.2185.

Lloyd, A., Lipu, S. and Kennan, M.A. (2016) 'On becoming citizens: examining social inclusion from an information perspective', *Australian Academic & Research Libraries*, 47(4), pp. 304–315. doi: 10.1080/00048623.2016.1256806.

López, C., Farzan, R. and Lin, Y.-R. (2017) 'Behind the Myths of Citizen Participation', *ACM Transactions on Internet Technology*, 18(1), pp. 1–28. doi: 10.1145/3093892.

Ludwig, K. (2017) 'Proxy Agency', in Jankovic, M. and Ludwig, K. (eds) *The Routledge Handbook of Collective Intentionality*. Routledge, pp. 1–10.

Lundh, A. H., Limberg, L. and Lloyd, A. (2013) 'Swapping settings: researching information literacy in workplace and in educational contexts', *Information Research*, 18(3), p. paperC05. Available at: http://informationr.net/ir/18-3/colis/paperC05.html.

Macintosh, A. (2004) 'Characterizing E-Participation in Policy-Making', in *Proceedings of the 37th Hawaii International Conference on System Sciences*. doi: 10.1109/HICSS.2004.1265300.

Macintosh, A. and McKay-Hubbard, A. (2004) 'Renewing democracy with "e-community councils"', in Isiais, P., Kommers, P., and Mcpherson, M. (eds) *e-Society*. Avila, Spain: IADIS, pp. 808–811.

Malinen, S. (2015) 'Understanding user participation in online communities: A systematic literature review of empirical studies', *Computers in Human Behavior*, 46(2015), pp. 228–238. doi: 10.1016/j.chb.2015.01.004.

Mariën, I. et al. (2016) 'Digital by Default: Consequences, Casualties and Coping strategies Introduction':, in Servaes, J. and Oyedemi, T. (eds) *Social Inequalities, Media and Communication: A Global Perspective*. Lexington Books, p. No Pages. Available at: http://www.dt.co.kr/contents.html?article_no=2012071302010531749001.

Mariën, I. and Prodnik, J. A. (2014) 'Digital inclusion and user (dis)empowerment: a critical perspective', *info*. Edited by D. Luciano Morganti, Assistant Prof. N, 16(6), pp. 35–47. doi: 10.1108/info-07-2014-0030.

Martin, C. et al. (2019) 'Smart-sustainability: A new urban fix?', *Sustainable Cities and Society*, 45, pp. 640–648. doi: 10.1016/j.scs.2018.11.028.

Martzoukou, K. and Sayyad Abdi, E. (2017) 'Towards an everyday life information literacy mind-set: a review of literature', *Journal of Documentation*, 73(4), pp. 634–665. doi: 10.1108/JD-07-2016-0094.

McKenzie, P. J. (2003) 'A model of information practices in accounts of everyday-life information seeking', *Journal of Documentation*, 59(1), pp. 19–40. doi: 10.1108/00220410310457993.

Medaglia, R. (2012) 'eParticipation research: Moving characterization forward (2006–2011)', *Government Information Quarterly*, 29(3), pp. 346–360. doi: 10.1016/j.giq.2012.02.010.

Medaglia, R. and Zheng, L. (2017) 'Mapping government social media research and moving it forward: A framework and a research agenda', *Government Information Quarterly*, 34(3), pp. 496–510. doi: 10.1016/j.giq.2017.06.001.

Metzgar, E. T., Kurpius, D. D. and Rowley, K. M. (2011) 'Defining hyperlocal media: Proposing a framework for discussion', *New Media & Society*, 13(5), pp. 772–787. doi: 10.1177/1461444810385095.

Middleton, L., Hall, H. and Raeside, R. (2019) 'Applications and applicability of Social Cognitive Theory in information science research', *Journal of Librarianship and Information Science*, 51(4), pp. 927–937. doi: 10.1177/0961000618769985.

Naranjo-Zolotov, M., Oliveira, T. and Casteleyn, S. (2018) 'E-participation adoption models research in the last 17 years: A weight and meta-analytical review', *Computers in Human Behavior*, 81, pp. 350–365. doi: 10.1016/j.chb.2017.12.031.

Nonnecke, B., Preece, J. and Andrews, D. (2004) 'What lurkers and posters think of each other [online community]', *37th Annual Hawaii International Conference on System Sciences, 2004. Proceedings of the*, 00(C), pp. 1–9. doi: 10.1109/HICSS.2004.1265462.

Nyseth, T. and Ringholm, T. (2008) 'Municipal Response to Local Diversity: Flexibility in Community Governance', *Local Government Studies*, 34(4), pp. 471–487. doi: 10.1080/03003930802217405.

Ocepek, M. G. (2017) 'Bringing out the everyday in everyday information behavior', *Journal of Documentation*, 74(2), p. JD-10-2016-0119. doi: 10.1108/JD-10-2016-0119.

Olsson, M. R. and Lloyd, A. (2017) 'Being in place: embodied information practices', *Information Research*, 22(1). Available at: http://www.informationr.net/ir/22-1/colis/colis1601.html.

Orlikowski, W. J. (2007) 'Sociomaterial Practices: Exploring Technology at Work', *Organization Studies*. Sage Publications, pp. 1435–1448. doi: 10.1177/0170840607081138.

Pálsdóttir, Á. (2013) 'Social Cognitive Theory', in Wilson, T. D. (ed.) *Theory in Information Behaviour Research*. Sheffield: Eiconics.

Panagiotopoulos, P. and Bowen, F. (2015) 'Conceptualising the Digital Public in Government Crowdsourcing: Social Media and the Imagined Audience', in Tambouris, E. et al. (eds) *Electronic Government*. Springer, pp. 19–30. doi: 10.1007/978-3-319-22479-4_2.

Panagiotopoulos, P. and Elliman, T. (2012) 'Online Engagement from the Grassroots: Reflecting on over a Decade of ePetitioning Experience in Europe and the UK', in *Empowering Open and Collaborative Governance*. Berlin, Heidelberg: Springer Berlin Heidelberg, pp. 79–94. doi: 10.1007/978-3-642-27219-6_5.

Panagiotopoulos, P., Moody, C. and Elliman, T. (2012) 'Institutional Diffusion of eParticipation in the English Local Government: Is Central Policy the Way Forward?', *Information Systems Management*, 29(4), pp. 295–304. doi: 10.1080/10580530.2012.716991.

Panopoulou, E., Tambouris, E. and Tarabanis, K. (2018) 'An eParticipation acceptance model', *IEEE Transactions on Emerging Topics in Computing*, pp. 1–1. doi: 10.1109/TETC.2018.2861426.

Pilerot, O. (2012) 'LIS research on information sharing activities – people, places, or information', *Journal of Documentation*, 68(4), pp. 559–581. doi: 10.1108/00220411211239110.

Pina, V. and Torres, L. (2016) 'The managers' view of participation processes with citizen panels', *Public Administration and Information Technology*, 19, pp. 289–305. doi: 10.1007/978-3-319-25403-6_14.

Pirannejad, A., Janssen, M. and Rezaei, J. (2019) 'Towards a balanced E-Participation Index: Integrating government and society perspectives', *Government Information Quarterly*, 36(4), p. 101404. doi: 10.1016/j.giq.2019.101404.

Polizzi, G. (2019) 'Information Literacy in the Digital Age: Why Critical Digital Literacy Matters for Democracy', in *Informed Societies*. Facet, pp. 1–24. doi: 10.29085/9781783303922.003.

Popovac, M. and Fullwood, C. (2018) 'The Psychology of Online Lurking', in Attrill-Smith, A. et al. (eds) *The Oxford Handbook of Cyberpsychology*. Oxford, UK: Oxford University Press. doi: 10.1093/oxfordhb/9780198812746.013.18.

Porumbescu, G. A. (2015) 'Using Transparency to Enhance Responsiveness and Trust in Local Government', *State and Local Government Review*, 47(3), pp. 205–213. doi:

10.1177/0160323x15559427.

Porwol, L., Ojo, A. and Breslin, J. G. (2018) 'Social Software Infrastructure for e-Participation', *Government Information Quarterly*, 35(4), pp. S88–S98. doi: 10.1016/j.giq.2016.01.002.

Preece, J. and Schneiderman, B. (2009) 'The Reader-to-Leader Framework: Motivating Technology-Mediated Social Participation', *AIS Transactions on Human-Computer Interaction*, 1(1), pp. 13–32. doi: 10.5121/ijfcst.2014.4403.

Prieto-Martín, P., de Marcos, L. and Martínez, J. J. (2012) 'A Critical Analysis of EU-Funded eParticipation', in *Empowering Open and Collaborative Governance*. Berlin, Heidelberg: Springer Berlin Heidelberg, pp. 241–262. doi: 10.1007/978-3-642-27219-6_13.

Riehm, U., Böhle, K. and Lindner, R. (2014) *Electronic petitioning and modernization of petitioning systems in Europe*. Berlin. Available at: https://www.tab-beim-bundestag.de/en/pdf/publications/books/riehm-etal-2013-146.pdf (Accessed: 9 June 2014).

Rodgers, S. (2018) 'Roots and fields: excursions through place, space, and local in hyperlocal media', *Media, Culture and Society*, 40(6), pp. 856–874. doi: 10.1177/0163443717729213.

Ryan, B. M. and Cruickshank, P. (2012) *Scottish Community Councils online: a survey*. Edinburgh: Institute for Informatics and Digital Innovation, Edinburgh Napier University. doi: 10.14297/enr.2016.000001.

Ryan, B. M. and Cruickshank, P. (2014) *Scottish Community Councils online: the 2014 survey*. Edinburgh. doi: 10.14297/enr.2016.000002.

Saglie, J. and Vabo, S. I. (2009) 'Size and e-Democracy: Online Participation in Norwegian Local Politics', *Scandinavian Political Studies*, 32(4), pp. 382–401. doi: 10.1111/j.1467-9477.2009.00235.x.

Saunders, L. (2017) 'Connecting Information Literacy and Social Justice: Why and How', *Communications in Information Literacy*, 11(1), pp. 55–75. doi: 10.15760/comminfolit.2017.11.1.47.

Savolainen, R. (2008) *Everyday information practice: a social phenomenological approach*. Lanham, MD: Scarecrow Press.

Savolainen, R. et al. (2009) 'The behaviour/practice debate: a discussion prompted by Tom Wilson's review of Reijo Savolainen's Everyday information practices: a social phenomenological perspective', *Information Research*, 14(2). Available at: http://www.informationr.net/ir/14-2/paper403.html.

Savolainen, R. (2016) *Everyday life information seeking*. Available at: https://www.asist.org/files/bulletin/feb-17/Savolainen_2016Meeting.pdf.

Savolainen, R. (2017) 'Information sharing and knowledge sharing as communicative activities', *Information Research*, 22(3), p. 767. Available at: http://www.informationr.net/ir/22-3/paper767.html.

Sayyad Abdi, E. and Bruce, C. (2015) 'From Workplace to Profession: New Focus for the Information Literacy Discourse', in Kurbanoglu, S. et al. (eds) *Communications in Computer and Information Science*. Cham: Springer International Publishing (Communications in Computer and Information Science), pp. 59–69. doi: 10.1007/978-3-319-28197-1_7.

Sayyad Abdi, E., Partridge, H. and Bruce, C. (2016) 'Web designers and developers experiences of information literacy: A phenomenographic study', *Library and Information Science Research*, 38(4), pp. 353–359. doi: 10.1016/j.lisr.2016.11.008.

SCONUL (2011) *The SCONUL seven pillars of information literacy: core model for higher education*. London. Available at: http://www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf.

Smeaton, K. et al. (2017) 'The online life of individuals experiencing socioeconomic disadvantage: How do they experience information?', *Information Research*, 22(3), p. 768. Available at: http://www.informationr.net/ir/22-3/paper768.html.

Smith, C. F. and Webster, C. W. R. (2008) 'The emergent ICT culture of parliamentarians: The case of the Scottish Parliament', *Information Polity*, 13(3,4), pp. 249–273. doi: 10.3233/IP-2008-0152.

Smith, S., Macintosh, A. and Millard, J. (2011) 'A three-layered framework for evaluating e-participation', *International Journal of Electronic Governance*, 4(4), pp. 304–321.

Song, J. et al. (2018) 'The Effects of Institution-Based Trust on Community Commitments', *ACM SIGMIS Database: the DATABASE for Advances in Information Systems*, 49(3), pp. 34–53. doi: 10.1145/3242734.3242738.

Steinbach, M., Wilker, N. and Schöttle, S. (2019) 'E-participation on the local level – A census survey approach for researching its implementation', *Journal of Information Technology & Politics*, 00(00), pp. 1–21. doi: 10.1080/19331681.2019.1676361.

Sundberg, L. (2018) 'Shaping up e-Participation Evaluation: A Multi-criteria Analysis', in Edelmann, N. et al. (eds) *Electronic Participation. ePart 2018. Lecture Notes in Computer Science vol 11021*. Springer, Cham, pp. 3–12. doi: 10.1007/978-3-319-98578-7_1.

Susha, I. and Grönlund, Å. (2012) 'eParticipation research: Systematizing the field', *Government Information Quarterly*, 29(3), pp. 373–382. doi: 10.1016/j.giq.2011.11.005.

Takahashi, M., Fujimoto, M. and Yamasaki, N. (2007) *Active Lurking: Enhancing the Value of In-house Online Communities Through the Related Practices Around the Online Communities*, *CCI Working paper*. 4646–07. Cambridge MA. Available at: http://cci.mit.edu/publications/CCIwp2007-06.pdf.

Taylor-Smith, E. and Smith, C. F. (2018) 'Investigating the online and offline contexts of day-to-day democracy as participation spaces', *Information, Communication & Society*, pp. 1–18. doi: 10.1080/1369118X.2018.1469656.

Thomson, B., Mawdsley, G. and Payne, A. (2012) *Renewing Local Government*. Edinburgh: Reform Scotland.

Tinto, F. and Ruthven, I. (2016) 'Sharing "happy" information', *Journal of the Association for Information Science and Technology*, 67(10), pp. 2329–2343. doi: 10.1002/asi.23581.

Tomor, Z. et al. (2019) 'Smart Governance For Sustainable Cities: Findings from a Systematic Literature Review', *Journal of Urban Technology*, 26(4), pp. 3–27. doi: 10.1080/10630732.2019.1651178.

Toots, M. (2019) 'Why E-participation systems fail: The case of Estonia's Osale.ee', *Government Information Quarterly*, 36(3), pp. 546–559. doi: 10.1016/j.giq.2019.02.002.

Wang, H., Zhang, R. and Wellman, B. (2018) 'Are older adults networked individuals? Insights from East Yorkers' network structure, relational autonomy, and digital media use', *Information, Communication & Society*, 4462, pp. 1–16. doi: 10.1080/1369118X.2018.1428659.

Webber, S. and Johnston, B. (2017) 'Information literacy: conceptions, context and the formation of a discipline', *Journal of Information Literacy*, 11(1), p. 156. doi: 10.11645/11.1.2205.

Webster, F. (2014). *Theories of the information society* (Fourth edition.). Routledge.

Wenger, E. (1998) *Communities of Practice: Learning, Meaning and Identity*. Cambridge: Cambridge University Press.

Whyte, A. et al. (2005) *Towards an e-Democracy Model for Communities*. Edinburgh: International Teledemocracy Centre, Napier University.

Widén-Wulff, G. and Davenport, E. (2007) 'Activity systems, information sharing and the development of organizational knowledge in two Finnish firms: an exploratory study using Activity Theory', *Information Research*, 12(3). Available at: http://www.informationr.net/ir/12-3/paper310.html.

Widén, G. et al. (2021) 'Workplace information literacy: Measures and methodological challenges', *Journal of Information Literacy*, in press.

Williams, A., Harte, D. and Turner, J. (2015) 'The Value of UK Hyperlocal Community News', *Digital Journalism*, 3(5), pp. 680–703. doi: 10.1080/21670811.2014.965932.

Wilson, T. D. (2008) 'Activity Theory and Information Seeking', *Annual Review of Information Science and Technology*, 42, pp. 119–161. doi: 10.1002/aris.2008.1440420111.

Wilson, T. D. (2010) 'Information sharing: an exploration of the literature and some propositions', *Information Research*, 15(4). Available at: http://www.informationr.net/ir/15-4/paper440.html.

Wilson, T. D. (2013) 'Activity theory', in Wilson, T. D. (ed.) *Theory in Information Behaviour Research*. Sheffield: Eiconics.

Wilson, T. D. and Savolainen, R. (2013) 'Social Phenomenology', in Wilson, T. D. (ed.) *Theory in Information Behaviour Research*. Eiconics.

Wouters, N., Claes, S. and Moere, A. Vande (2015) 'Investigating the role of situated public displays and hyperlocal content on place-making', *Interaction Design and Architecture(s)*, 25(1), pp. 60–72.

Total: 158

Appendix A: Overview of research projects

This appendix is provided to contextualise my career and publications by providing information on the main projects I have had a role in since I started work in 2006 as a researcher at Edinburgh Napier University. It is grouped into the three areas of e-participation, Library and Information Science (LIS) research, and the information practices of community councils and councillors in Scotland.

The first domain of research has been *e-participation*. This term refers to the use of internet technologies to support citizen participation in democratic processes. Since the emergence of the internet as a tool for mass engagement, there has been the hope that it could address perceived issues with declining rates of participation and engagement with the democratic process, perhaps even providing a route for traditionally less engaged citizens (such as young people) to participate (see for instance Coleman & Gøtze, 2001). e-participation is a cross-disciplinary domain which has been approached from different academic perspectives with various methods (see for instance Smith & Macintosh, 2011). Significant projects here have been:

- DEMONET. A Network of Excellence funded under the European Commission's FP6 programme (FP6-2004-27219). Its aims included strengthening scientific, technological and social research excellence in e-participation by integrating the research capacities of individuals and organisations spread across Europe. My main contribution was using Social Network Analysis (SNA) to study the effectiveness of the network in creating a new EU-wide network of researchers (Buckner & Cruickshank, 2008).

- eRepresentative[*]. This FP6-IST project evaluated the development of an online platform to support remote working by elected representatives at national and local level (Karamagioli, et al., 2008).

- EuroPetition. This project evaluated a e-petitioning system designed as a trans-European Local Authority service, providing distributed citizen engagement and interaction using an open-source UK e-petitions system. It allowed the evaluation of the effectiveness of formal[†] e-petitions as a mechanism for engaging of citizens with the political process. I applied sociotechnical approaches, in particular showing how

---

[*] http://www.cordis.europa.eu/project/rcn/79304_en.html (Accessed 14 March 2021)
[†] Petitions with no formal link to political processes – such as the ones operated by change.org – did not form part of the research.

computer self-efficacy alongside political self-efficacy can model the behaviour of citizens in signing a petition. (Cruickshank, Edelmann, & Smith, 2010; Cruickshank & Smith, 2009, 2010; Edelmann & Cruickshank, 2011).

– Smart Cities. An ERDF funded knowledge network which researched organisational learning and knowledge sharing within medium sized cities in the North Sea region[*] (Allwinkle and Cruickshank, 2011; Cruickshank, 2011).

My second research domain has been *information science*. I have participated in three significant projects (together with follow-up investigations) where the networking and learning contexts of librarianship and information science researchers and practitioners were evaluated. These projects provided me with access to tools and concepts which I could apply in the context of community participation.

– Research in Librarianship - Impact Evaluation Study (RiLIES and RILIES2). (Cruickshank, Hall, & Irving, 2012; Cruickshank, Hall, & Taylor-Smith, 2012; Hall, et al., 2012). The Research in Librarianship Impact Evaluation Study (RiLIES) identified the factors that increase or hinder the impact of research findings on those who deliver library and information services. The findings highlighted the disconnect between the librarianship and information science research and practitioner communities, and were able to support a number of recommendations for increasing the impact of research. I carried out analysis of the survey responses and was able to identify the factors that are most likely to lead to practitioners acquiring knowledge generated by research projects (ie academic impact). As part of the project, I developed a new model for research impact. These projects were followed up by a consultancy project in 2013 which evaluated the training provision in the LIS sector.

– Survey of training provision in the library, information and knowledge sector (2013), unpublished research commissioned by the Chartered Institute of Library and Information Professionals (CILIP). This provided comprehensive up-to-date data that has been informing CILIP's policy decisions.

– Developing Research Excellence and Methods (DREaM). (Cooke & Hall, 2013; Hall, Cruickshank, Ryan, et al., 2018). AHRC-funded Developing Research and Excellence Methods (DREaM) project had the aim of developing a UK-wide network of library and information science (LIS) researchers. The focus was networking PhD students

---

[*] http://archive.northsearegion.eu/ivb/projects/details/&tid=84 (Accessed 14 March 2021)

with experienced senor researchers. I contributed to the use of SNA to measure the continued impact of the workshops in embedding PhD students into the research community.

A third strand has been the study of *community councils and councillors in Scotland* though a number of projects, including:

– I led two large scale surveys in 2012 and 2014 of online presences (Cruickshank, Ryan, & Smith, 2014a, 2014b, Ryan & Cruickshank, 2012, 2014). These have been the first and only gathering of such data in Scotland, allowing for the first time a fact-based dialog on the impact of websites and social media on hyperlocal democracy, and have supported analysis and knowledge development in this under-researched area.

– Hyperlocal engagement (CCNET), A project supported by the RCUK-funded Communities & Culture Network+, researching communities of practice around knowledge sharing (Cruickshank & Ryan, 2015). Using the data gathered, I was able to evaluate the extent to which information science models concepts such as Communities of Practice (CoP) and learning networks can contribute to an understanding of how actors at the lowest level of representation can succeed in creating sustained engagement with citizens while others fail.

– Information Literacy for Democratic Engagement (IL-DEM) (Hall, Cruickshank and Ryan, 2018a, 2018b), supported by CILIP's information literacy group. The purpose of the research was to investigate the practices of elected, yet unpaid, community councillors in Scotland as they exploit information channels for democratic engagement with citizens. Its focus is both novel and significant in that it considers the information literacy (IL) of a group that has not been studied before.

– This work continued with two further projects. Longitudinal Information Literacy for Democratic Engagement (LIL-DEM), which ran February-May 2017, collecting data on their information literacy from over 1300 community councillors through an online survey. It was followed up by More Information Literacy for Democratic Engagement (MIL-DEM) which supported further evaluation of the data gathered. It ran from the September to December 2017, resulting in novel insights into information literacy (Hall, Cruickshank and Ryan, 2020) and information sharing (Cruickshank and Hall, 2020).

The research has generated new insights on the social and cultural context shaping the IL of community councillors, using Activity Theory as an analytical lens. This has opened up the potential for seeing hyperlocal democracy as a social context for activities and actions.

Although not all these projects led to academic publications that I am including in the works to review, they have informed my work by providing practical insights into and examples of the issues involved in sharing practice between democratic institutions.

At various points, I have maintained or contributed to research blogs (spartakan.wordpress.com) and (https://communityknect.wordpress.com/); they have been used for contextual information. Similarly, public project reports for Smart Cities, EuroPetition and eRepresentative have been referred to where relevant.

Appendix B: Full publication list

All sections are sorted to show most recent publications first. This list excludes conference presentations, internal project reports and blog posts.

Refereed publications

Widén, G., Nikou, S., Ahmad, F., Ryan, B. M., & **Cruickshank, P.** (2021, *in press*). Workplace information literacy: Measures and methodological challenges. *Journal of Information Literacy*, *in press*.

Milosheva, M., Hall, H., Robertson, P., **Cruickshank, P.,** & Lyall, C. (2021, *in press*). The socio-material nature of careers work: an exploration of knowledge co-creation amongst career practitioners. In *iConference 2021 Poster Proceedings*

Cruickshank, P., Webster, G., & Ryan, F. (2020). Assisting information practice: from information intermediary to digital proxy. *Proceedings of ISIC: The Information Behaviour Conference Pretoria, South Africa, 28th September to 1st October, 2020*, 1–3. https://doi.org/10.47989/irisic2017

Cruickshank, P., & Hall, H. (2020). Talking to imagined citizens? Information sharing practices and proxies for e-participation in hyperlocal democratic settings. *Information Research*, *25*(4), 1–26. https://doi.org/https://doi.org/10.47989/irpaper880

Cruickshank, P., Hall, H., & Ryan, B. (2020). Information literacy as a joint competence shaped by everyday life and workplace roles amongst Scottish community councillors. *Proceedings of ISIC: The Information Behaviour Conference Pretoria, South Africa, 28th September to 1st October, 2020*, 1–16. https://doi.org/10.47989/irisic2008

Bamgboye, O., Liu, X., & **Cruickshank, P.** (2019). Semantic stream management framework for data consistency in smart spaces. *Proceedings - International Computer Software and Applications Conference*, *2*. https://doi.org/10.1109/COMPSAC.2019.10188

Hall, H., **Cruickshank, P.** & Ryan, B. (2019). Closing the researcher-practitioner gap: an exploration of the impact of an AHRC networking grant. *Journal of Documentation*. http://doi.org/10.1108/JD-12-2018-0212

Bamgboye, O., Liu, X., & **Cruickshank, P.** (2018, July). Towards modelling and reasoning about uncertain data of sensor measurements for decision support in smart spaces. In *2018 IEEE 42nd Annual Computer Software and Applications Conference (COMPSAC)* (Vol. 2, pp. 744-749). IEEE.

Hall, H., **Cruickshank, P.**, & Ryan, B. M. (2018). Exploring Information Literacy Through the Lens of Activity Theory. In *European Conference on Information Literacy* (Vol. 810, pp. 803–812). St Malo: Springer. http://doi.org/10.1007/978-3-319-74334-9_81

Hall, H., **Cruickshank, P.,** & Ryan, B. M. (2018). Long-term community development within a research network: a social network analysis of the DREaM project cadre. *Journal of Documentation*, 74(4), 844–861.

Hall, H., **Cruickshank, P.,** & Ryan, B.M. (2018). Practices of community representatives in exploiting information channels for citizen democratic engagement. *Journal of Librarianship and Information Science*. http://doi.org/10.1177/0961000618769966

Ryan, F. V. C., **Cruickshank, P.,** Hall, H., & Lawson, A. (2018). Blurred reputations: Managing professional and private information online. *Journal of Librarianship and Information Science*. http://doi.org/10.1177/0961000618769977

Ryan, F. V. C., **Cruickshank, P.,** Hall, H., & Lawson, A. (2017). Building identity in online environments: An information science perspective. *Proceedings of the Association for Information Science and Technology,* 54(1), 792–793. http://doi.org/10.1002/pra2.2017.14505401187

Cruickshank, P. (2016). The Perceptions of Postgraduate International Students of Examinations. *Journal of Perspectives in Applied Academic Practice*, 4(3). http://doi.org/10.14297/jpaap. v4i3.200

Ryan, F. V. C., **Cruickshank, P.,** Hall, H., & Lawson, A. (2016). Managing and evaluating personal reputations on the basis of information shared on social media: a Generation X perspective. Information Research, 21(4).

Cruickshank, P., & Ryan, B. M. (2015). The Communities of Practice model for understanding digital engagement by hyperlocal elected representatives. In E. Tambouris, H. J. Scholl, M. Janssen, M. A. Wimmer, K. Tarabanis, M. Gascó, … Ø. Sæbø (Eds.), *Electronic Government and Electronic Participation* (pp. 11–18). IOS Press. http://doi.org/10.3233/978-1-61499-570-8-11

Cruickshank, P., Ryan, B. M., & Smith, C. F. (2014). Disconnected Democracy? A Survey of Scottish Community Councils' Online Presences. *Scottish Affairs*, 23(4), 486–507. http://doi.org/10.3366/scot.2014.0045

Cruickshank, P., Ryan, B. M., & Smith, C. F. (2014). "Hyperlocal E-participation"? Evaluating Online Activity by Scottish Community Councils. *In CeDEM 2014 Conference for E-Democracy and Open Government.* 74–84.

Spyra, G., Buchanan, W. J., **Cruickshank, P.,** & Ekonomou, E. (2014). Cloud-Based Identity and Identity Meta-Data*: International Journal of Reliable and Quality E-Healthcare,* 3(1), 49–66. http://doi.org/10.4018/ijrqeh.2014010105

Deakin, M., & **Cruickshank, P.** (2013). Smart Cities. In M. Deakin (Ed.), *Smart Cities: Governing, Modelling and Analysing the Transition.* 150–170. Routledge. http://doi.org/10.4324/9780203076224

Cruickshank, P., Hall, H., & Irving, C. (2012). The right resources to support LIS research: findings from the RiLIES2 project poll. *Library and Information Research* 36(113), 24–31.

Cruickshank, P., Hall, H., & Taylor-Smith, E. (2012). Realising the value of RiLIES. In *4th International Conference on Qualitative and Quantitative Methods in Libraries*. Limerick, Ireland.

Hall, H., Irving, C., & **Cruickshank, P.** (2012). Improving access to Library and Information Science research: Maximizing its relevance and impact to practitioners. *Business Information Review*, 29(4), 224–230. http://doi.org/10.1177/0266382112470413

Cruickshank, P. (2011). SCRAN: The Network. *Journal of Urban Technology*, 18(2), 83–97. http://doi.org/10.1080/10630732.2011.601121

Cruickshank, P., Hall, H., & Taylor-Smith, E. (2011). *Enhancing the impact of LIS Research Projects* October 2011. Research Information Network.

Edelmann, N., & **Cruickshank, P.** (2011). Introducing Psychological Factors into E-participation Research. In A. Manoharan & M. Holzer (Eds.), *E-Governance and Civic Engagement,* 338–361. Hershey, PA: IGI Global. http://doi.org/10.4018/978-1-61350-083-5.ch017

Lumsden, J., Hall, H., & **Cruickshank, P.** (2011). Ontology definition and construction, and epistemological adequacy for systems interoperability: A practitioner analysis. *Journal of Information Science,* 37(3), 246–253. http://doi.org/10.1177/0165551511401804

Cruickshank, P., Edelmann, N., & Smith, C. F. (2010). Signing an e-petition as a transition from lurking to participation. In J. Chappellet, O. Glassey, M. Janssen, A. Macintosh, J. Scholl, E. Tambouris, & M. Wimmer (Eds.), *Electronic Government and Electronic Participation* (pp. 275–282). Linz, Austria: Linz, Austria: Trauner Verlag.

Cruickshank, P., & Smith, C. F. (2010). Understanding the "e-petitioner." *Transforming Government: People, Process and Policy*, 5(4), 319–329. http://doi.org/10.1108/17506161111173577

Taylor-Smith, E. & **Cruickshank, P.** (2010) Web 2.0 for Collaborative Production. *Proceedings of Digital Economy All Hands Meeting - Digital Futures 2010*, 11-12th October 2010, Nottingham, UK http://itc.napier.ac.uk/gov2/Digital_Futures_Co-Production_2010.pdf

Cruickshank, P., & Smith, C. F. (2009). Self-efficacy as a factor in the evaluation of e-petitions. In *Proceedings of EDEM 2009*, 223–232.

Buckner, K., & **Cruickshank, P.** (2008). Social Network Analysis as a Tool to Evaluate the Effectiveness of EC Funded Networks of Excellence: The Case of DEMO-net. *Proceedings of the 41st Annual Hawaii International Conference on System Sciences (HICSS 2008)*, 60–60. http://doi.org/10.1109/HICSS.2008.401

Karamagioli, E., Koulolias, V., Smith, C.F., & **Cruickshank, P.** (2008) Bringing social and technological innovation to the work of national, regional and local elected representatives: The eRepresentative Project; in Peter Parycek and Alexander Prosser (eds.) *EDem08 E-Democracy Conference*, 29th – 30th September 2008, Danube University Krems, Austria, Austrian Computer Society, Vienna, Austria

Cruickshank, P., & Macintosh, A. (2006). An Intelligent Front-end for Government Websites. In Cunningham, P., & Cunningham, M (Eds.) *Exploiting the Knowledge Economy: Issues, Applications and Case Studies. eChallenges 2006 proceedings* 3, 427.

Non-refereed publications

Hamoudi, J., & **Cruickshank, P.** (2013, November). Blue Sky Thinking? *The Journal of the Law Society of Scotland Online*.

Research reports

Hall, H., **Cruickshank, P.** & Ryan, B. (2017). Information literacy for democratic engagement. *Research report of the IL-DEM project funded by the Chartered Institute of Library and Information Professionals to investigate the information practices of community councillors.*

Ryan, B. M., & **Cruickshank, P.** (2017, October) LIL-DEM Stakeholder report https://communityknectdotnet.files.wordpress.com/2017/10/lildem-stakeholder-report-october-2017.pdf

Ryan, B. M., & **Cruickshank, P.** (2017, September) LIL-DEM Initial report

Ryan, B. M., & **Cruickshank, P.** (2017, January) IL-DEM stakeholder report. https://communityknectdotnet.files.wordpress.com/2017/02/il-dem-stakeholder-report-january-2017.pdf

Ryan, B. M., & **Cruickshank, P.** (2016) Digital engagement workshops for Community Councils and Registered Tenant Organisations https://www.napier.ac.uk/~/media/worktribe/output-168808/digicc-workshop-glasgow-general-report-april-2016pdf.pdf

Cruickshank, P. & Ryan, B.M. (2015) Hyperlocal Government Engagement online. *University of Leeds*. http://eprints.whiterose.ac.uk/114785/

Ryan, B. M., & **Cruickshank, P.** (2015) digiCC workshop outcomes report. https://www.napier.ac.uk/~/media/worktribe/output-685479/digicc-day-outcomes-report.pdf

Ryan, B. M., & **Cruickshank, P.** (2014). *Scottish Community Councils online: the 2014 survey*. Edinburgh: Institute for Informatics and Digital Innovation, Edinburgh Napier University. http://doi.org/10.14297/enr.2016.000002

Ryan, B. M., & **Cruickshank, P.** (2012). *Scottish Community Councils online: a survey*. Edinburgh: Institute for Informatics and Digital Innovation, Edinburgh Napier University. http://doi.org/10.14297/enr.2016.000001

Hall, H., Irving, C., & **Cruickshank, P.** (2013). Training provision for the library, information and knowledge sector. *Unpublished report commissioned by the Chartered Institute of Library and Information Professionals.*

Hall, H., **Cruickshank, P.**, & Irving, C. (2012). RiLIES2: Final report. *Research report of the RiLIES2 project commissioned by the Library and Information Science Research Coalition to support the use and execution of research by librarians and information scientists.*

Cruickshank, P. & Deakin, M. (2011) Co-design in Smart Cities. *Edinburgh Napier University. Report for partners of the Smart Cities ERDC North Sea Region project.* https://www.napier.ac.uk/~/media/worktribe/output-201576/co-design-in-smart-citiespdf.pdf

Cruickshank, P. & Smith, C. F. (2011). *Monitoring and Evaluation Report - EuroPetition.* Edinburgh: International Teledemocracy Centre, Napier University.

Cruickshank, P., Hall, H., & Taylor-Smith, E. (2011). Enhancing the impact of LIS research projects. *Research report of the Research in Librarianship Impact Evaluation Study commissioned by the Research Information Network and the Library and Information Science Research Coalition to explore the extent to which funded librarianship research projects influence library practice in the UK.*

Cruickshank, P. (2010). Your library: supporting mobile users in Edinburgh. *Edinburgh Napier University. Report for partners of the Smart Cities ERDC North Sea Region project* https://www.napier.ac.uk/~/media/worktribe/output-201574/your-library-supporting-mobile-users-in-edinburghpdf.pdf

Cruickshank, P. (2010). Mobile apps for bus users in Edinburgh. *Edinburgh Napier University. Report for partners of the Smart Cities ERDC North Sea Region project* https://www.napier.ac.uk/~/media/worktribe/output-201570/mobile-apps-for-bus-users-in-edinburghpdf.pdf

ANNEX: Papers under consideration

The appended papers are the version as submitted for publication where necessary to avoid copyright issues. The DOI (where available) and the URL of relevant entries in my online profile are provided below. Full citations can be found in Appendix B and on page ix.

[1] Cruickshank, P., and Smith, C. F. (2010) 'Understanding the "e-petitioner"'. doi: 10.1108/17506161111173577. https://www.napier.ac.uk/research-and-innovation/research-search/outputs/understanding-the-epetitioner-1

[2] Cruickshank, P. , Edelmann, N., and Smith, C. F. (2010) 'Signing an e-petition as a transition from lurking to participation'. https://www.napier.ac.uk/research-and-innovation/research-search/outputs/signing-an-epetition-as-a-transition-from-lurking-to-participation

[3] Edelmann, N., and Cruickshank, P. (2011) 'Introducing Psychological Factors into E-participation Research'. doi: 10.4018/978-1-61350-083-5.ch017 https://www.napier.ac.uk/research-and-innovation/research-search/outputs/introducing-psychological-factors-into-e-participation-research

[4] Cruickshank, P., Ryan, B. M., and Smith, C. F. (2014) '"Hyperlocal E-participation"?'. https://www.napier.ac.uk/research-and-innovation/research-search/outputs/hyperlocal-edemocracy-the-experience-of-scotlands-community-councils

[5] Cruickshank, P., Ryan, B. M., and Smith, C. F. (2014a) 'Disconnected Democracy? A Survey of Scottish Community Councils' Online Presences'. doi: 10.3366/scot.2014.0045 https://www.napier.ac.uk/research-and-innovation/research-search/outputs/disconnected-democracy-a-survey-of-scottish-community-councils-online-presences-1

[6] Cruickshank, P., and Ryan, B. M. (2015) 'The Communities of Practice model for understanding digital engagement by hyperlocal elected representatives'. doi: 10.3233/978-1-61499-570-8-11 https://www.napier.ac.uk/research-and-innovation/research-search/outputs/the-communities-of-practice-model-for-understanding-digital-engagement-by-hyperlocal

[7] Hall, H., Cruickshank, P., and Ryan, B. M. (2018a) 'Exploring Information Literacy through the lens of Activity Theory'. doi: 10.1007/978-3-319-74334-9_81 https://www.napier.ac.uk/research-and-innovation/research-search/outputs/exploring-information-literacy-through-the-lens-of-activity-theory-1

[8] Hall, H., Cruickshank, P. and Ryan, B. M. (2018b) 'Practices of community representatives in exploiting information channels for citizen democratic engagement', doi: 10.1177/0961000618769966 https://www.napier.ac.uk/research-and-innovation/research-search/outputs/practices-of-community-representatives-in-exploiting-information-channels-for-citizen-2

[9] Cruickshank, P., and Hall, H. (2020) 'Talking to imagined citizens? Information sharing practices and proxies for e-participation in hyperlocal democratic settings'. doi: 10.47989/irpaper880 https://www.napier.ac.uk/research-and-innovation/research-search/outputs/talking-to-imagined-citizens-information-sharing-practices-and-proxies-for

[10] Cruickshank, P., Hall, H., and Ryan, B (2020). 'Information literacy as a joint competence shaped by everyday life and workplace roles amongst Scottish community councillors'. doi: 10.47989/irisic2008 https://www.napier.ac.uk/research-and-innovation/research-search/outputs/information-literacy-as-a-joint-competence-shaped-by-everyday-life-and-workplace-roles

'Hyperlocal e-democracy'? The experience of Scotland's Community Councils

Peter Cruickshank

Institute of Informatics and Digital Innovation, Edinburgh Napier University. p.cruickshank@napier.ac.uk*

Bruce Ryan

Institute of Informatics and Digital Innovation, Edinburgh Napier University. b.ryan@napier.ac.uk

Colin Smith

Institute of Informatics and Digital Innovation, Edinburgh Napier University. cf.smith@napier.ac.uk

Abstract: Although community or hyperlocal levels of democracy are potentially of great importance, they are arguably under-researched. This paper examines the state of e-participation in Scotland's Community Councils, its lowest (and voluntary) tier of democracy. Under a quarter were found to maintain an updated online public presence. Most Community Councils websites hosted one-way communication, with only a small minority hosting online discussion and opinion-gathering. Only 4% make planning content easily available online, despite their key importance in the planning process. More positively, it seems that real community control of website content makes the difference between having no presence at all, mediocre presences and informative, content-rich presences that may serve citizens well. Factors that may drive this state of affairs are explored and further research is proposed.

Introduction

Community or hyperlocal-level democracy is important; it has a place alongside hyperlocal media and other local third sector and campaigning groups. This is the non-'political' level of politics, where residents talk about local planning, street lighting, annual fêtes, potholes and road crossings. Following partially from Metzgar, Kurpius and Rowley (2011) we define the emerging term 'hyperlocal democracy' as 'the smallest official levels of democracy: geographically-based, community-oriented, and intended to promote civic engagement'. This definition serves to distinguish these units, which must be given audience by higher tiers of democracy, from pressure groups which can be ignored by those in power (McIntosh, et al., 1999, p. 37).

In the light of the opportunities offered by the internet, especially those offered by social media, and of other European examples of its use by community-level government, we became interested in how Scotland's Community Councils are using the internet to engage with citizens. The core questions addressed in this paper relate to the ways in which Community Councils are manifesting online; the extent of their online presences, how well are these set up to allow communication with citizens, and the scope for further useful innovation

This paper addresses these questions in two ways. Firstly, Community Councils – and some of their democratic deficits – are introduced. Next we consider what might be expected of Community Council internet presences by considering equivalents in two other European countries similar to Scotland, Community Councils' representation-only roles and how Community Councils may be affected by factors such as geography and the context of other tiers of government. We then present findings from a survey of all Community Council websites.

So this paper has two purposes: firstly to inform and secondly to form an agenda for further work.

Background and literature review

This section starts with an overview of Community Councils in Scotland and a brief comparison to their equivalents in two other European countries. Broadly following on from the classic description of levels of e-participation (Macintosh, 2004), it goes on to address areas of interest in three possible levels of community-level or hyperlocal e-participation: communication (informing citizens), consultation and participation (a channel for speaking to power) and service delivery (achieving community objectives). It concludes with a comparison to local third sector organisations as they operate in a similar participatory area.

Community Councils in Scotland

This paper focusses on the lowest level of local government in Scotland, a semi-federated constituent nation of the United Kingdom. Scotland has a population of 5.3 million; local government being divided into 32 Local Authorities (LAs) with populations varying between 20,000 and 600,000 and ranging between densely populated urban areas and remote rural communities (Scottish Government, 2012).

The purpose of Community Councils is to represent small areas within Local Authorities. Although detailed arrangements of hyperlocal government vary across the United Kingdom between England, Wales and Scotland and Northern Ireland, they share a common model – that is Community Council members are unpaid volunteers, they have small to non-existent budgets (Bort, McAlpine, & Morgan, 2012), and their powers are limited (UK Government, 1973). In terms of funding, their average annual income is around £400, mostly from Local Authority grants (Bort, McAlpine, & Morgan, 2012) – enough to hire a monthly meeting room, pay for some stationery and precious little else. In terms of impact, Community Councils have had mixed success at best (Goodlad, Flint, Kearns, Keoghan, Paddison and Raco (1999), Local Communities Reference Group (2012)).

In 1999, potentially 1390 CCs could exist, but only 1152 were active (83%), covering 83% of the Scottish population (Goodlad, et al., 1999, p. 21). By 2011, the figures were nearly unchanged at

1369, 1156 and 84% respectively (Ryan & Cruickshank, 2012, p. 18). Uncontested elections have been a feature of CCs throughout their existence as candidate numbers have very often been less than the number of places available – in 1999, the number of Community Councillors was around 65% of the potential number, and only 17% of CCs had contested elections. Community Councillors were generally aged over 40, and often were not representative of the demographics of their areas (Goodlad, et al., 1999). All this has combined to reduce their democratic legitimacy.

The Scottish Government and before that the UK Government have made several attempts to invigorate Community Councils, for example (Scottish Government (2005), Scottish Government (2012)).

Research has been carried out in the past to develop websites that allowed Community Councils to host discussion of issues with constituents, and Community Councillors to converse privately online (Whyte, Macintosh, & Shell, 2006). This experiment showed that web-based tools enabled and encouraged more people to have their say, that there was significant appetite for such tools and that electronic documentation is readily used given web access and relevant skills. This experiment finished in 2006 and the tools were not maintained. Despite this, most of the CCs involved are still online in various ways.

In summary, Community Councils have a function as 'representatives', but little or no function in delivering (state or government) services. This creates a challenge for fitting in with conventional models of democracy and government. In terms of the use of technology, we have potential for e-participation without e-government.

Others' experiences: expectations of the use of the internet

In many other European countries, municipalities are more active in using the internet to communicate with their citizens. In 2008, 98% of Austrian *Gemeinden*[1] had websites. Of these, 80% were under the 'official' Austrian Government '.gv.at' domain (Centre for eGovernment, 2009). As early as 2003, 90% of Norwegian *kommuner*[2] had websites (Haug & Jansen, 2003) and by 2011, 58% of *kommuner* had social media presences – the major provider was Facebook, used by 38% of *kommuner* (Volan, 2011). Despite this, online engagement by citizens has not been widespread (Saglie & Vabo, 2009) showing that being active online should not be expected to be a panacea.

An appetite for online engagement by citizens certainly exists: 14% of UK adults have taken part in online discussions of civic or political issues (Office for National Statistics, 2011).

Communication: hyperlocal news and hyperlocal politics?

The initial rung of e-participation is *information*, as a one-way relationship in which government produces and delivers information for use by citizens (Macintosh, 2004). In this area, the often close relationship between local representation and community/citizen journalism needs to be remembered (Bruns, 2010): the topics that are addressed overlap with Community Council

---

[1] Austria is not too dissimilar to Scotland, having a population of 8.3 million and a large proportion of remote mountainous regions. Austria has 9 *Bundesländer* ('federal states'), divided into 84 *Bezirke* ('districts') and 15 Statutarstädte ('statutory cities'). *Bezirke* are subdivided into *Gemeinden* ('parishes'), of which there are 2346

[2] Norway has a population of 5.0 million. Its local government structure has 19 *fylker* ('counties'), divided into 434 *kommuner* ('municipalities').

3

interests, for example local planning. The role of a pre-prepared platform (e.g. myHeimat.de) can be important in allowing representatives to focus on communication, rather than the details of technology. Such platforms can also provide resources to engage, motivate and train contributors – accepting that levels of activity will differ, and will vary over time. This model may particularly apply in small towns and rural communities – residents of larger cities do not have the same identification with their suburbs. (Bruns, 2010).

There needs to be recognition that most people use the internet as an information source rather than a medium for conversations or a tool for change: although they appear to 'lurk' (Cruickshank, Edelmann, & Smith, 2010) a lack of evidence of online engagement is not evidence that there is no interest. There also needs to be an awareness of the multiplicity of channels on and offline, public and private that communication be taking place on (Saglie & Vabo, 2009).

Consultation and participation

Community Councils have three statutory *representative* roles: community opinions, planning and (alcohol) licensing, but these often lead to conflict with powerful interests such as developers and higher levels of government who often see community objections as blocking their agendas (Cotton & Devine-Wright (2010), Parker (2008)).

Technology has often been found to provide further channels for the self-efficacious to communicate with power (Saglie & Vabo (2009), Cruickshank & Smith (2009)), thereby *reinforcing* the digital divide. A further challenge is therefore for society is to empower local government such as Community Councils in deprived and marginalised areas of the country (Bochel, 2012). This includes dealing with their geographical range (Saglie & Vabo, 2009).

Larger geographical size (and numbers of constituents) can provide motivation for representatives to use technology by creating efficiencies of scale (Saglie & Vabo, 2009). On the other hand, citizens in smaller communities have been found to have higher incidences of internet-based participation, despite relatively poor connectivity. Younger and more educated people are more likely to use internet technologies.

At the hyperlocal level, the motivation to become a Community Councillor might be different from political representation: for instance joining a Community Council can be a good way to get to know people (Nyseth & Ringholm, 2008).

Service delivery

Democratic government is about improving citizens' lives through delivery of services, but Community Councils have no obligatory service-provision duties. In Scotland, service-provision is associated with Local Authorities, central government and the outsourced organisations funded by them such as development companies and third sector organisations (Scottish Government, 2011).

By contrast, the equivalent local government units (often generically labelled *municipalities*) in other European countries generally provide services, and raise income to enable this. For example, Austria's *Gemeinden* provide services such as water, sewerage and recreation facilities. *Gemeinden* are funded from federal taxes, local taxes and charges, and even have a strong voice in European matters (Österreichischer Gemeindebund, 2013).

Similarly, Norwegian *kommuner* provide services such as primary and lower secondary schools, nurseries and kindergartens, some social services, local land-use planning, roads and harbours, and work on agricultural and environmental issues. In 2003, *kommuner* spent approximately £20 billion on these services. *Kommuner* received 42% of their income from local income and property taxes and 47% from grants from local government and other sources (Ministry of Local Government and Regional Development, 2003).

Community councils - a kind of voluntary organisation?

Given the limitations of Community Councils, maybe it is better to look at other community groups for models of online engagement. Community Councils are largely composed of volunteers and exist in a context of other local groups, official and unofficial, competing for space with NGOs and other governments agencies, which are often established at local level but exclude Community Councillors. This 'new governance process' has been characterised by deliberative processes, informal channels and multiple organisations (Bingham, Nabatchi, & O'Leary, 2005).

Many charities have websites. Most of these are about raising awareness and providing information, rather than acquiring new supporters, raising funds or allowing beneficiaries/clients to interact (Goatman & Lewis, 2007). Charity websites can be useful for staff and fieldworkers, e.g. for submitting reports. Others have specific functions such as providing information about the charity, contact details, downloads, newsletters and news, feedback, links to other websites and campaigning and lobbying.

It seems clear that many of these are similar to the uses of an 'ideal' Community Council presence. For example, considering the lack of contested elections, Community Councils may well want to recruit new members and to provide information and feedback. They might use member-only systems to discuss confidential items outside of meetings, while the CC analogy to project pages would be areas discussing planning issues. Small charity website development is subject to similar pressures to those facing Community Councils, such as decisions over whether (and how) to outsource development or to keep it in-house. A significant difference is that charities do need to compete for attention and donations (Winterich, Zhang, & Mittal, 2012); competition between Community Councils is inherently limited.

Research approach

Probably reflecting their low profile, there has been a lack of concrete data on the actual activity of Community Councils online. Before further detailed research is possible, it is necessary to have some facts in place. Therefore, to gain an initial understanding of the actual level of use of the internet by Community Councils, a survey of their visible internet presences was carried out. In July 2012, lists of Community Councils were used to search Google. If a relevant-seeming hit appeared in the first two pages, the URL was investigated and the hosting and content categorised using a simple framework: presence of minutes, local area information, news and planning process. To ensure completeness, Local Authorities' Community Council Liaison Officers (CCLOs) were asked to validate the lists of Community Councils as some LAs listed online only those which were active. This led to the identification of additional websites.

Websites were then reviewed for timeliness and hosting arrangements, using the categories summarised in Table 1 below. Websites were deemed up-to-date if they had been updated in the previous two months, to allow for summer breaks and minutes not being put online until they had been approved at succeeding meetings.

Table 1: Main dimensions of analysis

Dimension	Main categories
Timeliness	Updated in previous two months.
Content	News, local information, minutes, Information on planning documents
Hosting	Own website, local community site, LA-provided

To investigate the drivers behind this data, representatives of seven Community Councils were interviewed; this also enabled limited follow-up of previous research (Whyte, Macintosh, & Shell, 2006).

Findings and discussion

Level of activity

The results of our survey are summarised in Table 2 below[3]. 1166 CCs were found to function to some extent, of a potential 1369 (i.e. 85% exist). Of these 658 (57% of existing CCs) are online in any way; only about a quarter (307 or 27%) of all existing CCs were found to be up-to-date online.

Table 2: Community Councils' online presences: total

	Inactive CCs	Active with online presences…			Total CCs
		missing	out-of-date	up-to-date	
Total number	213	498	351	307	1369
Percent of all	*16%*	*36%*	*26%*	*22%*	*100%*
Percent of active	*NA*	*43%*	*30%*	*27%*	*100%*

Of the 'out of date' websites, an additional 6% had last been updated within than 6 months of the survey, taking the total with some viable activity to one third; this would still leave around a sixth of the websites surveyed being totally out of date, in addition to the 52% that are either not online or non-existent.

This level of use of websites compares adversely with the 98% of Austrian Gemeinden and 90% of Norwegian kommuner.

---

[3] A more detailed analysis is available elsewhere (Ryan & Cruickshank, 2012)

Variations between LAs and between Community Councils

Given Scotland's geographic and demographic diversity, a range of characteristic behaviour would be expected, and this was the case. Table 3 below illustrates the range of data found: the proportion of up-to-date online Community Councils within individual Local Authorities varied between 88% and 3%.

Table 3: Community Councils' online presences: top and bottom Local Authorities (R=rural, U=(sub)urban)

Local Authority (ranked by proportion of up to date presences)	Popul-ation ('000)	In-active CCs	Active with online presences…			Active CCs	
			missing	out-of-date	up-to-date	on-line	up-to-date
Moray (1) R	87.1	4	0	2	14	100%	88%
East Renfrewshire (2) U	89.5	0	0	3	7	100%	70%
Edinburgh (3) U	486.1	4	0	18	24	100%	57%
Falkirk (4) U	153.3	0	0	9	9	100%	50%
Dumfries & Galloway (28) R	148.2	17	72	9	9	20%	10%
Orkney (29) R	20.1	0	0	18	2	100%	10%
East Dunbartonshire (30) U	104.6	0	8	4	1	38%	8%
Eilean Siar (31) R	26.2	4	22	3	1	15%	4%
East Ayrshire (32) U	120.0	5	26	3	1	13%	3%

A simple review of the data shows that factors to explain this variation must include more than geography and demography – for instance also policy and personality: it may be that some LAs have particularly effective Liaison Officers, or have a more proactive attitude to supporting their Community Councils.

Hosting decisions

It was found that up to date internet presences can be naturally grouped into two categories that cover the majority of circumstances (19% out of the 22% which are active). Figure 1 below illustrates the relationship between hosting arrangements and the currency of their contents. The largest and most up to date segment is where the Community Council maintains its own content (118 out of the 307 up-to-date websites). A further 61 actively maintained sites are associated with local community groups.
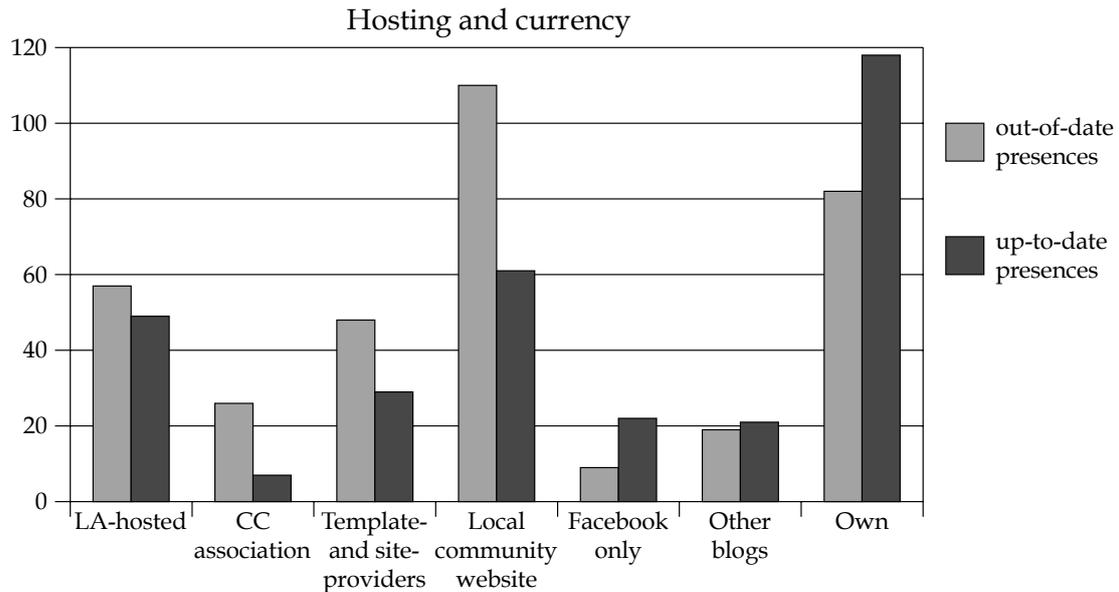
Figure 1: The relationship between hosting arrangements and currency of content

Firstly, *up-to-date, community-driven*: the online presence was under the direct control of the Community Council or members of the local community. 15% of up-to-date Community Council presences fell into this category. Community-driven presences had a wide range of content and almost all (93%) were updated monthly. One interpretation is that Community Councils who have the drive to keep their sites up to date are similarly empowered to have wider ranges of content, hence informing their constituents and others outside their area. Secondly, *up-to-date, LA-hosted*: Here, the online presence that was hosted on its local authority's website. 4% of all Community Councils (sited in six LAs) fell into this category. LA-driven presences almost always contained only minutes and contact details, and were updated monthly. In short, although up-to-date, the content was limited and inflexible.

Content analysis

Looking at the content Community Councils with active web presences chose to include, content could be categorised into five main classes: minutes (recorded on 267 or 87% of active online sites), local area information, news (139 had all of these). Only 38 (12% of active online sites) had information to support engagement with the planning process which is core to Community Councils' mission.

LA-hosted presences tended to have only minutes and CC contact details. Only 50 (4%) of all CCs had Facebook pages - compare this to the 58% of Norwegian kommuner which use social media; these pages tended not to have minutes.

Discussion and conclusion

In conclusion, we found little evidence of activity, and much evidence of inactivity. Although the methodology was not designed to explore or evaluate the drivers and inhibitors behind the raw figures, it is now possible to start to set a research agenda. Revisiting the earlier themes, it can be seen that there is some evidence that the internet is being used for *communication* – and there is

some evidence that Community Councils work best in the context of other hyperlocal media activity.

Community Councils are largely not using the internet as a tool for *consultation or hence (e-)participation*. In particular, the areas where there is a clear duty to gather and represent community viewpoints to other levels of government – planning and licencing – the internet's potential to engage is not being used at all (visibly at least).

Service delivery: as would be expected, no was evidence found – but evidence (e.g. of voluntary activities) was not specifically sought.

Scotland's Community Councils provide an unusual example of representation without taxation or government duties. It may be that the consequences can be seen in low levels of citizen engagement with the Councils, and low levels of engagement by Community Councils with new open forms of communication provided by the internet. Nevertheless, it is hoped that this paper will be a contribution to the emerging study of hyperlocal democracy, if only to highlight some of the restrictions and limitations that can be encountered at this level.

It might be expected that the majority of Community Councils would use online methods to connect with citizens where possible – acknowledging that they are still obliged to connect with offline citizens – if only because this could increase efficiency and decrease operating costs. Yet the opposite seems to be the case (Cruickshank, Ryan, & Smith, In Press).

Although this is more than a problem of e-participation, it seems likely that there are lessons from this field that could be applied to 'improve' the process from the bottom up, even while a broader dialog on the purpose and function of Community Councils continues.

Research limitations

The approach taken in designing the research can be situated in the e-participation tradition, which historically has had an assumption that technology can be used to solve problems (in this case) with democracy, and that direct participatory democracy is superior to representative democracy (Susha & Grönlund, 2012). Models of success of e-participation also tend to measure technological maturity models rather than impact on citizens' lives or democratic practices. All of these notions are highly contestable.

This research may be argued to have some of these weaknesses – in particular, there is no clear line between increasing observed internet presences and empowering Community Councils, which is a political process that this research was not designed to address. Further, it cannot be assumed that a weak or non-existent online presence automatically implies that a Community Council does not have a good engagement with citizens in other ways. However these unspoken assumptions have had the advantage of keeping things simple, which was one of the aims for this small-scale exercise. It is for political scientists to explore the wider issues and consequences of the constitutional situation.

Further work

These results open up a number of avenues for future research. Although we are satisfied we achieved full coverage of Community Councils' internet presences, it is possible that online

activity also takes place elsewhere. In particular, it may be that closed mailing lists or Facebook groups are used. A related point is that it is arguable that the data gathering focussed too much on websites and not enough on social media (which allows for sharing with the local community rather than the 'whole world'): a further project could explore this area. This could be combined with a resurvey to see how the situation is evolving. Research could look at the extent to which demographic and geographic factors are associated with the differences in online activity, allowing comparison with previous research in similar contexts, for example (Saglie & Vabo, 2009).

Further work could provide analysis and explanation at the institutional and individual level; both need to be addressed (Saglie & Vabo, 2009). This could include the processes and factors behind the choices made by individual Community Councils and Councillors to use internet technologies – and their relationship with local third sector and community groups.

References

BBC Scotland. (14 November 2011). *Community councils in your area.* Retrieved 25 May 2012 from http://www.bbc.co.uk/news/uk-scotland-15540699

Bingham, L. B., Nabatchi, T., & O'Leary, R. (2005). The new governance: practices and processes for stakeholder and citizen participation in the work of government. *Public Administration Review , 65* (5), 547-556.

Bochel, C. (2012). Petitions: Different dimensions of voice and influence in the Scottish Parliament and the National Assembly for Wales. *Social Policy & Administration, 46* (2), 142-160.

Bort, E., McAlpine, R., & Morgan, G. (2012). *The Silent Crisis: Failure and Revival in Local Democracy in Scotland.* Retrieved 24 May 2012 from http://reidfoundation.org/wp-content/uploads/2012/04/The-Silent-Crisis1.pdf

Bruns, A. (2010). Citizen journalism and everyday life. In B. Franklin, & M. Carlson (Eds.), *Journalists, Sources, and Credibility: New Perspectives* (p. 182). Taylor & Francis.

Centre for eGovernment. (23 June 2009). *An eGovernment survey amoungst austrian municipalities.* Retrieved 21 June 2012 from http://pep-net.eu/blog/2009/06/23/an-egovernment-survey-among-austrian-municipalities/

Cotton, M., & Devine-Wright, P. (2010). NIMBYism and community consultation in electricity transmission network planning. In P. Devine-Wright, *Renewable Energy and the Public: From NIMBY to Participation* (p. 115). Routledge.

Cruickshank, P., & Smith, C. (2009). Self-efficacy as a factor in the evaluation of e-petitions. *Procedings of EDEM 2009 ,* (pp. 223-232).

Cruickshank, P., Edelmann, N., & Smith, C. (2010). Signing an e-petition as a transition from lurking to participation. In J. Chappellet, O. Glassey, M. Janssen, A. Macintosh, J. Scholl, E. Tambouris, et al. (Eds.), *Electronic Government and Electronic Participation* (pp. 275-282). Linz: Trauner.

Cruickshank, P., Ryan, B., & Smith, C. (In Press). Disconnected democracy? A survey of Scottish Community Councils' online presences. *Scottish Affairs .*

Goatman, A. K., & Lewis, B. R. (2007). Charity E-volution? An evaluation of the attitudes of UK charities towards website adoption and use. *International Journal of Nonprofit and Voluntary Sector Marketing , 12* (1), 33-46.

Goodlad, R., Flint, J., Kearns, A., Keoghan, M., Paddison, R., & Raco, M. (1999). *The Role and Effectiveness of Community Councils with Regard to Community Consultation.* Commission on Local Government and the Scottish Parliament. Scottish Office Central Research Unit.

Haug, A. V., & Jansen, A. (2003). *The window of opportunity for e-democracy is wide open.* Retrieved 21 June 2012 from http://www.jus.uio.no/ifp/om/organisasjon/afin/forskning/notatserien/2004/the_window_of _oppertunity.pdf

Local Communities Reference Group. (24 May 2012). *Paper CCWG 5.2 - Discussion paper on legislative purpose.* Retrieved 21 December 2013 from http://www.scotland.gov.uk/Resource/0039/00393689.pdf

Macintosh, A. (2004). Characterizing E-Participation in Policy-Making. *Proceedings of the 37th Hawaii International Conference on System Sciences.*

McIntosh, N., Alexander, A., Cubie, A., Leicester, G., Mackay, E., Millar, M., et al. (1999). *The Report of the Commission on Local Government and the Scottish Parliament.* Edinburgh: Scottish Office.

Metzgar, E. T., Kurpius, D. D., & Rowley, K. M. (2011). Defining hyperlocal media: Proposing a framework for discussion. *New Media & Society , 13* (5), 772-787.

Ministry of Local Government and Regional Development. (2003). *Local Government in Norway.* Retrieved 11 January 2013 from http://www.forumpartnerships.zsi.at/attach/NO_04_B_MLGRD_LocalGovernment.pdf

Nyseth, T., & Ringholm, T. (2008). Municipal response to local diversity: flexible community governance. *Local Government Studies , 34* (4), 471-487.

Office for National Statistics. (31 August 2011). *Internet Access - Households and Individuals, 2011.* Retrieved 15 March 2013 from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-226727

Österreichischer Gemeindebund. (2013). *Gemeinden in Europa.* Retrieved 21 January 2013 from http://www.gemeindebund.at/content.php?m=3&sm=8#item40

Parker, G. (2008). Parish and community-led planning, local empowerment and local evidence bases. *TPR , 79* (1).

Ryan, B., & Cruickshank, P. (2012). *Scottish Community Councils online: a survey.* Institute of Informatics and Digital Innovation. Edinburgh: Edinburgh Napier University.

Saglie, J., & Vabo, S. I. (2009). Size and e-Democracy: Online participation in Norwegian Local Politics. *Scandinavian Political Studies ,* 382-401.

Scottish Government. (31 October 2005). *What can we do to help community councils fulfil their role? A discussion paper by the Scottish Executive.* Retrieved 27 May 2012 from http://www.scotland.gov.uk/Publications/2005/10/31132008/20095

Scottish Government. (3 November 2011). *What Local Government Does.* Retrieved 4 December 2013 from http://www.scotland.gov.uk/Topics/Government/local-government/localg/whatLGdoes

Scottish Government. (2012). *Short-Life Working Group.* Retrieved 28 May 2012 from http://www.scotland.gov.uk/Topics/Government/local-government/CommunityCouncils/CCShortLifeWorkingGroup

Susha, I., & Grönlund, Å. (2012). eParticipation research: systematising the field. *Government Information Quarterly , 29*, 373-382.

UK Government. (25 October 1973). *Local Government (Scotland) Act 1973.* Retrieved 18 June 2013 from http://www.legislation.gov.uk/ukpga/1973/65/schedule/1/enacted

Volan, I. (9 September 2011). *Norway: almost 40% of municipalities use Facebook.* Retrieved 21 June 2012 from http://socialmedianordic.com/2011/09/09/norway-almost-40-percent-of-municipalities-use-facebook

Whyte, A., Macintosh, A., & Shell, D. (24 February 2006). *An e-Democracy Model for Communities: Final Report of the e-Community Council Project.* Retrieved 26 September 2012 from http://itc.napier.ac.uk/itc/Documents/e-community_council_final_report.pdf

Winterich, K. P., Zhang, Y., & Mittal, V. (2012). How political identity and charity positioning increase donations: Insights from Moral Foundations Theory. *International Journal of Research in Marketing , 29* (4), 346-354.

About the Authors

Bruce Ryan

Bruce Ryan is completing his MSc in Information Systems Development. He is a former Community Councillor, and now works with an Edinburgh Community Council.

Peter Cruickshank

Peter Cruickshank teaches Information Systems, researches e-participation and has a background in business, accountancy, IS Audit and information governance generally.

Colin Smith

Colin Smith's research examines the relationships between new ICTs, strategic innovation and organisational change, particularly in the contexts of e-government and e-democracy.

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

Peter CRUICKSHANK[a,1] and Bruce RYAN[b]

[a, b] *Edinburgh Napier University, Scotland, UK*

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

---

[1] Corresponding Author: Peter Cruickshank, Edinburgh Napier University, 10 Colinton Road, Edinburgh EH10 5DT, Scotland, UK. E-mail: p.cruickshank@napier.ac.uk

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

---

[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.
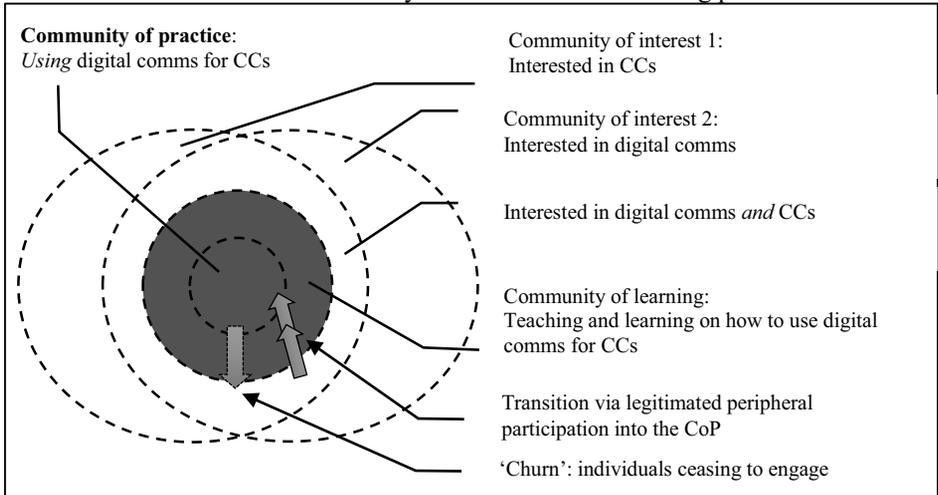
Figure 1: Sharing skills around CC digital engagement

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

References

[1]   S. Vissers and D. Stolle, "The Internet and new modes of political participation: online versus offline participation," *Information, Commun. Soc.*, vol. 17, no. February 2015, pp. 937–955, 2013.

[2]   N. Ellison and M. Hardey, "Social Media and Local Government: Citizenship, Consumption and Democracy," *Local Gov. Stud.*, vol. 40, no. February 2015, pp. 21–40, 2014.

[3]   I. Susha and Å. Grönlund, "eParticipation research: Systematizing the field," *Gov. Inf. Q.*, vol. 29, no. 3, pp. 373–382, Jul. 2012.

[4]   Ø. Sæbø, J. Rose, and L. Skiftenes Flak, "The shape of eParticipation: Characterizing an emerging research area," *Gov. Inf. Q.*, vol. 25, no. 3, pp. 400–428, Jul. 2008.

[5]   A. Chadwick, "Explaining the Failure of an Online Citizen Engagement Initiative: The Role of Internal Institutional Variables," *J. Inf. Technol. Polit.*, vol. 8, pp. 21–40, 2011.

[6]   J. Saglie and S. I. Vabo, "Size and e-Democracy: Online Participation in Norwegian Local Politics," *Scan. Polit. Stud.*, vol. 32, no. 4, pp. 382–401, Dec. 2009.

[7]   S. Davidson and S. Elstub, "Deliberative and participatory democracy in the UK," *Br. J. Polit. Int. Relations*, vol. 16, no. 3, pp. 367–385, 2014.

[8]   P. Cruickshank, B. M. Ryan, and C. F. Smith, "'Hyperlocal e-democracy'? The experience of Scotland's Community Councils," in *CeDEM Proceedings*, 2014, no. 2011.

[9]   B. M. Ryan and P. Cruickshank, "Scottish Community Councils online: the 2014 survey," Edinburgh, 2014.

[10] P. Cruickshank, B. M. Ryan, and C. F. Smith, "Disconnectd Democracy? A survey of Scottish Community Councils' online presences," *Scottish Aff.*, vol. 23, no. 4, pp. 486–507, 2014.

[11] Österreichischer Gemeindebund, "Strong municipalities – Europe's driving force," 2003. [Online]. Available: http://www.gemeindebund.at/rcms/upload/7_60_1_eng.pdf. [Accessed: 09-Jun-2015].

[12] Ministry of Local Government and Regional Development, "Local government in Norway," 2003.

[13] A. V. Haug and A. Jansen, "The window of opportunity for e-democracy is wide open. Some take advantage of it, some don't ! Why?," pp. 1–15, 2003.

[14] I. Volan, "Norway: almost 40% of municipalities use Facebook," *Social Media Nordic*, 2011. [Online]. Available: http://socialmedianordic.com/2011/09/09/norway-almost-40-percent-of-municipalities-use-facebook.

[15] N. Ellison and M. Hardey, "Developing political conversations?," *Information, Commun. Soc.*, vol. 16, no. 6, pp. 878–898, Aug. 2013.

[16] S. Rummens, "Staging Deliberation: The Role of Representative Institutions in the Deliberative Democratic Process," *J. Polit. Philos.*, vol. 20, no. 1, pp. 23–44, Mar. 2012.

[17] P. Matthews, "The longue duree of community engagement: New applications of critical theory in planning research," *Planning Theory*, vol. 12, no. 2. pp. 139–157, Aug-2012.

[18] A. Macintosh and A. McKay-Hubbard, "Renewing democracy with 'e-community councils,'" in *e-Society*, 2004, vol. II, no. July, pp. 808–811.

[19] E. Wenger, *Communities of Practice: Learning, Meaning and Identity*. Cambridge: Cambridge University Press, 1998.

[20] E. Bolisani and E. Scarso, "The place of communities of practice in knowledge management studies: a critical review," *J. Knowl. Manag.*, vol. 18, no. 2, pp. 366–381, Apr. 2014.

[21] E. Wenger, "Communities of practice and social learning systems: the career of a concept," in *Social Learning Systems and Communities of Practice*, C. Blackmore, Ed. London: The Open University, Springer, 2010, pp. 179–198.

[22] S. Leigh Star, "This is Not a Boundary Object: Reflections on the Origin of a Concept," *Sci. Technol. Human Values*, vol. 35, pp. 601–617, 2010.

[23] S. Denning, *A leader's guide to storytelling: mastering the art and discipline of business narrative*. San Francisco: John Wiley, 2005.

[24] E. Davenport and H. Hall, *Knowledge Discovery Organizational Knowledge and Communities of Practice*, vol. 36. Medford, NJ, NJ: Information Today, 2002.

[25] E. Wenger, R. McDermott, and W. M. Snyder, *A guide to manageing knowledge: Cultivating Communities of Practice*. Boston: Harvard Business Press, 2002.

[26] J. Lave, "Situated learning and changing practice," in *Community, economic creativity, and organization*, Oxford: Oxford University Press, 2008, pp. 283–296.

[27] S. Coleman and J. Gøtze, *Bowling Together : Online Public Engagement in Policy Deliberation*. London: Hansard Society, 2001.

Exploring information literacy through the lens of Activity Theory

Hazel Hall, Peter Cruickshank, and Bruce Ryan

Centre for Social Informatics, Edinburgh Napier University, Edinburgh, Scotland
{h.hall, p.cruickshank, b.ryan}@napier.ac.uk

Abstract. Activity Theory (AT) is presented as a framework for explaining Information Literacy (IL) as a technologically mediated social practice. This is achieved in the context of a study conducted in 2016 on the information gathering and sharing activities of Scottish community-level elected representatives. This work demonstrates the value of AT as (i) a tool for IL research that seeks to present information practices in their social contexts, and (ii) as a means of highlighting underlying issues within the social environment under review through the identification of contradictions within the activity system.

Keywords: Activity Theory, information literacy, hyperlocal democracy, libraries, lifelong learning.

1   Introduction and Background

The theme of this paper is Activity Theory (AT) as a framework for exploring Information Literacy (IL) as a technologically mediated social practice. The value of AT is discussed with reference to a research project entitled Information Literacy for Democratic Engagement (IL-DEM). IL-DEM was funded by the Information Literacy Group of the Chartered Institute of Library and Information Professionals in 2016 to investigate the ways in which community-level elected representatives (community councillors) in Scotland undertake two related information activities: (i) seeking and sharing the opinions of the citizens that they represent with higher tiers of government, and (ii) finding and sharing information from higher tiers of government with the citizens that they represent.

The main finding of the analysis presented below is that AT is an appropriate tool for IL research of this nature. Its main strengths are found in the processes of preparing data collection tools and the extraction of 'meaning' from interview data. In addition, AT is especially powerful at identifying contradictions between the activities under scrutiny in research projects. In this case, since IL was viewed through the lens of AT, barriers to information sharing, and the stimulation of change in information practice, came to the fore as strong themes in the findings of the empirical work.

1.1 Activity Theory

AT is a framework that relates human activities to their social contexts. It provides a language for making sense of complex, real-world activities in cultural and historical contexts. As such, AT is not a predictive theory, but rather a tool that can be deployed with empirical data to develop understanding of the activities of actors [1].

AT developed from the work of Soviet psychologists such as Vygotsky [2], Rubenstein and Leont'ev [3]. They wished to understand human activities as systemic and socially-situated phenomena. A general account of AT's early history can be found in the work of Mironenko [3]. In Library and Information Science (LIS) research the application of AT in has been discussed more fully by Wilson [4].

One of the most frequently cited models of AT, and the one deployed in the study reported here, is that advocated by Engeström [5–7]. This version brings technology and context together into a unit of analysis called an 'activity system'. In Engeström's model *subjects* (people) use *tools* (which may be physical, e.g. technology, or cognitive, e.g. skills [7]) to attempt to achieve *objects* (or objectives). *Subjects'* activities spring from one or more *motivation*s, i.e. the reasons for attempting to achieve the objective(s) or goal(s) of the activity. Activities are constrained by social and/or workplace contexts [1, 4]. Contexts comprise *tools*, the *community* (in AT terms, this may be may be the *subject*'s immediate work group or team, or the wider organisational community, or society at large [4], i.e. stakeholders in activities), the *rules and norms* of the community [8], and the *division of labour* around the activities [7]. The *outcome*(s) are distinct from the *object*(s) because they are the consequences of activity, and include unexpected results. It is also important to note that *objects* can change over time. For this reason Wilson introduced the concept of process within activity systems into his work on AT [4].

Issues within an activity system are explained through tensions and *contradictions*. These may be found: (i) within elements (e.g. *tools*, *subjects*); (ii) between elements (e.g. between a *subject* and a *rule*); (iii) between a central activity at one point in time and a central activity later on; and (iv) between activities [5]. AT also suggests that collaborative activities can be *co-ordinated* (participants work independently towards goals and using methods which they have not set), *co-operative* (participants set the common goals), or *co-constructive* (participants set the goals and methods) [9].

The language of activities, AT constructs, and contradictions hence provides a ready-built analytical framework for understanding underlying issues around any social activity. As such, AT has been used in studies of a number of workplace contexts, e.g. use of mobile data by police [10], and in a variety of subject domains including LIS in general (as noted above), e.g. [7]. There are also examples of its prior use in IL research, e.g. [11]. However, to date, AT has not been deployed in research that considers IL in the context of 'hyperlocal' democracy, i.e. democracy 'pertaining to a town, village, single postcode or other small, geographically defined community' [12]. Hyperlocal is interesting in this IL context because it implies that physical/face-to-face information interactions and channel-shifting are inherent, as will be seen below.

1.2 Community Councils

Prior to discussing the means by which IL can be explored through the lens of AT, it is worth providing some background information on the local context of the research study that served as the test site here.

Scotland's local government was subject to major reorganisation in 1975 [13]. Community councils were established as part of this process. Their creation was meant to address fears that citizens might feel remote from the democratic process due to the reduction in the number of local authorities in the new local government structure.

The regulation and support of community councils is currently delegated to Scotland's 32 local authorities. Local authorities are responsible for the 'definitions' of their community councils' areas and numbers of members, for running community council elections, and for providing much of their (somewhat meagre) funding. The 'definitions' are found in documents known as 'Schemes'. Most Schemes also state how community councils are run, and they provide examples of activities that they may undertake with reference to relevant legislation. Membership of any community council comprises voting members (elected and co-opted), and non-voting, ex-officio members (local authority councillors, members of the Scottish Parliament, and members of the UK Parliament whose wards and constituencies overlap the community council's area).

Unlike the vast majority of Europe's democratic systems, community councils are *not* bodies of government [13, 14]. Although they are conceived in the legislation as representative bodies for particular geographic localities, they have no duties to deliver services, nor can they raise taxes. Each community council is set up to 'ascertain, co-ordinate and express to the local authorities for its area, and to public authorities, the views of the community which it represents, in relation to matters for which those authorities are responsible, and to take such action in the interests of that community as appears to it to be expedient and practicable' [15], so their role is explicitly centred on information. They also have a limited role in planning: they may comment on planning applications, e.g. from the change of use of a garage to an office in a conservation area, to large housing or industrial developments.

The community council system in Scotland faces a number of challenges. The main problem is that it relies almost entirely on the voluntary efforts of community councillors, and they have no funding for the hire of additional professional assistance [16]. As a result, many community councils struggle to fill their vacancies. Indeed in some parts of the country community councils do not exist at all [13, 17–20]. The demographic profile of the volunteer community councillor population is also an issue, particularly in terms of information literacy. Typically community councillors are older citizens who have not benefited from any formal information skills training over the course of their lifetime, whether at school or in the workplace. This means that few have developed adequate skills to deal with the tasks of gathering, processing and presenting information on their communities' views. This is reflected in the low numbers of community councils known to use the Internet to engage with, and/or obtain information from, their citizens [18–20].

Whereas the information practices in local government have previously been the subject of academic research [e.g 21, 22], this study is significant as the first to have

considered the information literacy of *volunteers* active in *hyperlocal* government.

1.3   The IL-DEM Project: Motivation and Methods

The main purpose of IL-DEM was to understand reasons for, and seek solutions to, some of the manifest problems outlined above. Community councils' low use of the Internet was one stimulus. It was also deemed important to examine other channels for information sharing such as face-to-face, letters, and telephone. This is because of the hyperlocal nature of the work of community councils. Contact can shift rapidly from one channel to another when information is shared within community councils. For example, a conversation might begin at a formal meeting or in a chance encounter, then may be continued via social media, and again at the next community council meeting.

Data were collected for IL-DEM through hour-long semi-structured interviews with community councillors (n=19) between 21 November and 9 December 2016. The councillors were based in a various localities across Scotland. These ranged from areas with low to high deprivation, and remote rural to highly urban environments. The interviewees were asked to specify their age by decade. The breakdown was one interviewee in his/her 30s, three in their 40s, nine in their 50s, four in their 60s, and two in their 70s. The interviewees served on community councils in eight local authority areas: Aberdeen, Argyll and Bute, Edinburgh, Fife, Glasgow, Perth and Kinross, Renfrewshire, and Shetland

The interviewees responded to a call for participation in the project that was posted to an online discussion board for community councillors, and the national community council web site. Community council liaison officers, i.e. the local authority staff charged with supporting community councils, were also made aware of the project by email and through discussion board postings.

The interview questions were generated with reference to project research questions and dominant themes from a review of the literature. As well as prompting the interviewees to speak about information literacy in general, as well as their own information practices, the questions were designed to address other related topics such as lifelong learning, social capital and citizenship. The interview schedule was piloted with staff from the Improvement Service (the national improvement service for local government in Scotland) prior to implementation.

The AT constructs described in [1] and elements of the SCONUL 7-pillar model of information literacy were used both (i) to inform the development of the interview schedule, and (ii) to manually code the data following transcription of the interviews. The latter was achieved by listing the research questions and the AT constructs in the top row of a spreadsheet, with the interview questions in the left-hand column. Then relevant data from each interview were copied into the spreadsheet cells according to (i) interview question and (ii) research question or construct. Text-concatenation allowed for the assembly of all data thematically for analysis.

It should be emphasised that the focus of the discussion below is not the findings of IL-DEM *per se*, nor their articulation with the SCONUL pillars, but the deployment of AT in a research project concerned with IL. This is achieved with reference to two

information activities undertaken by the community councillors interviewed: (i) their sharing information about citizens' opinions to higher authorities; and (ii) their sharing of information from higher authorities to citizens.

The main findings of the empirical work completed for IL-DEM, i.e. on the practices of community representatives in exploiting information channels for citizen engagement, and their relationship with the SCONUL pillars, are found in the IL-DEM project report, and a paper presented at *Information: interactions and impact (i3)* 2017 [23, 24]. These relate that, despite the high level of education and self-efficacy of community councillors, their democratic activities are not fully underpinned by information practices in line with the SCONUL 7 pillars.

2   Alignment of data from the IL-DEM project to AT Constructs

Since the purpose of this paper is to explore the value of AT in IL research, the constructs of AT introduced above are reframed below with reference to data gathered for a project concerned with IL (IL-DEM). Some examples are also given of project findings that emerged from this process of deliberately considering the IL-DEM data through the lens of AT and its constructs. It should be noted, however, that these examples are for illustration only: the full project findings are found in other outputs that report the empirical study from the perspective of a contribution to the body of extant work in IL [23, 24].

2.1   Subjects

In some cases, the application of AT constructs to IL can be challenging. For example, an initial problem may be the definition of *subjects* following practice in AT. The particular challenge faced in the IL-DEM project was whether to treat individual community councillors as the *subjects* (on the basis that they are the people who are involved in the activity), or for this label to be assigned to the community councils as 'inanimate' groups of actors. Such a decision is important in studies of information behaviour and use, given that there may be a need for findings to be presented at the level of the individual, the group, or from both perspectives.

In partial resolution of this question, a decision was taken to treat individuals as 'interviewees', and community councils as collective *subjects*, in this work. This follows practice in other studies that have used AT in library and information science research. For example, in their study Detlor, Hupfer and Smith class libraries as *subjects*, having collected their data by interview with individuals [7].

2.2   Motivations

At the outset it was anticipated that community councillors would find it easy to report the reasons why they were motivated to undertake information activities in response to the requirements of the legislation for community councils, and the content of local authority Schemes. This proved to be the case: the majority of interviewees (14)

provided data on their reasons for engaging in information activities that fitted with the *motivation* construct of AT. In addition, the interviewees explained the more general *motivations* to volunteer as a hyperlocal representative.

2.3   Objects and Outcomes

Interview questions about the information roles of community councils, and the extent to which they are successful in meeting the requirements of these, allowed for the activity system under review to be considered with reference to the AT constructs of *objects* (i.e. the goals that the *subjects* wish to achieve through their activities) and *outcomes* (i.e. the actual results of activities).

In line with the legislation, it was anticipated that the main *object* of community councillors' information activities would be to gather, process and convey information about their citizens' opinions. The analysis of the interview data using AT constructs confirmed this. For example, 15 interviewees recognised the importance of information sharing *objects*: one said 'We don't transact actions, we don't have any financial power. Our currency is information.'

The consideration of *outcomes* surfaced evidence of poor information practices within community councils. For example, two interviewees from the same community council admitted that its 'mailing list [includes] 60-odd people, which is nothing given that that there are 25,000 people in the area'. Another interviewee joined her community council specifically to make it share information with its community but, at the time of interview, she was considering resignation due to a lack of support from her colleagues.

2.4   Tools

In AT, *tools* are the physical or mental devices used by *subjects* in their activities. Interviewees were therefore asked about information sources and channels used to (i) gather information about local issues, and (ii) to share information with their citizens. This allowed for the identification of a range of *tools* including bodies (e.g. local authorities) and individuals (e.g. citizens by word of mouth) as information sources, as well as traditional media (e.g. local press) and Internet sources (e.g. Facebook). Commentary on the perceived usefulness of such *tools*, and the level of comfort that community councillors experience when using them, provided further data for interpretation when the full project findings were applied to the SCONUL model.

2.5   Rules and norms

Taking into account the AT construct of *rules and norms*, the regulations and conventions that mediate activities and relationships within the activity system under review were identified as part of the IL-DEM project. This brought to the fore the *rules and norms* imposed on community councils (the legislation and Schemes), as well as a number devised by community councillors themselves to improve information practices within their community councils. These included, for example, processes decided at local level to minimise information overload, such as only reviewing planning matters

that impinge directly on the area covered by the community council. The consideration of the AT constructs of *rules and norms* in respect of information activities amongst this group was also useful in revealing the factors that influence the ways in which information tasks are undertaken by community councils, including whether or not they are undertaken at all.

2.6   Community

Prior to entering the field, of the types of *communities* (the AT terminology for stakeholder groups) that develop around the information activities of community councillors were already known: fellow community councillors; the citizens that they represent (especially those who engage with their community councils); and functionaries such as the local authority officials and councillors who interact with community councils. These were confirmed in the data collected and analysed, with additional commentary provided on levels of engagement across the *communities*.

2.7   Division of labour

Division of labour in AT refers to the manner(s) in which work is allocated among various actors in the activity [7]. For this reason interviewees were asked about task-allocation for information-related activities within their community councils. The data gathered provided detail on a range of approaches to task allocation e.g. according to individual skills, or designated community council roles, such as online communication. Thus AT was found to be useful in establishing an overview of the means by which information-related tasks are allocated in community councils.

A challenge of considering the IL-DEM data with reference to the construct of *division of labour*, however, was to take into account the extent to which it is mediated by *rules and norms*. In short, it proved difficult to find clear-cut distinctions between these two constructs.

3   Discussion and Conclusions: the Value of Deploying Activity Theory in the IL-DEM Project

Following the analysis of the full data set, with reference to AT constructs as described above, it was possible to portray the information activities and relationships of the *subjects* in the IL-DEM project in an activity diagram. This is shown below in Fig. 1.

Tools
Facebook, other social media,
face-to-face, paper

Motivation → Subject   Object → Outcome
prosocial feelings,   community   information   limited
legislation and   councils   sharing between   information
local authority   citizens and   sharing
schemes   authorities   between
                                                                   citizens and
                                                                   authorities

Rules and norms   Community   Division of labour
mostly from local   peers and   conflicts, roles
authority guidance   local authority
but some developed   councilors/staff,
'in-house'   local residents
                       (to some extent)

Fig. 1: Activity system for community councillor information activities

The use of AT in this project was valuable first because it allowed for the completion of the data collection and analysis processes in a systematic way. When preparing the main tool of data collection, for example, reference to the main AT constructs (as outlined above) ensured that relevant and useful interview data were collected: the simple process of checking that each of the constructs was 'covered' in the interview schedule ensured that it was comprehensive enough to extract the data required to answer the IL-DEM project research questions from the output of the interviews. Equally, AT furnished a ready-made framework for coding the project data to then generate an analysis of activities reported by the interviewees in the social context under review. In addition, having prepared the data in this way, it was possible to see alignments between the data categorised under the AT constructs and the SCONUL IL pillars, e.g. it was found that data relevant to both *tools* and *community* in AT fit with the *gather* and *present* pillars.

The second main benefit of deploying AT in this work was that it brought to the fore a number of important findings on the level of information literacy amongst community councillors in Scotland, and the factors that influence this, i.e. it was key to answering the core research questions of the IL-DEM project. Of particular interest here are the contradictions identified from the data set, not least because these can serve as the foundations of the future practical benefits of completing this work, by 'exposing opportunities for change' [7]. For example contradictions uncovered in the data set

pointed to the status of community councillors as part-time volunteers who do not have time to undertake all possible information sharing activities. This helps explain community councils' low use of the Internet to engage with citizens.

A further benefit of using AT in this work was that it led to the generation of the project's three main recommendations: (i) community councillors should lobby for suitable training, and take part in an audit of their information skills and practices, with leadership and support from the Improvement Service; (ii) community council liaison officers should do more to emphasise the value of information skills in supporting community councils' statutory role of representing citizen opinions; and (iii) public library services should extend their roles to support community councils.

The deployment of AT in a project such as this, however, is not without its challenges. Some decisions on constructs are difficult to make, as illustrated above with reference to the question of *subjects* in the IL-DEM project. Similarly, here the distinctions between the constructs of the *rules and norms* and *division of labour* were not always clear. The definition of the activity system itself can also raise questions. In the case of Scottish community councils and information sharing for example, it could be argued that there are actually two activity systems in operation: one for information that is disseminated in one direction, and a second for the other.

Despite these challenges, this work has shown that AT is valuable to research design in projects concerned with group information practices. In addition, AT can contribute to the generation of findings that contribute to the development of existing models (in this case the SCONUL 7 pillars). Since activity diagrams provide a snapshot of the system under review at a certain time, a further benefit of deploying AT is in longitudinal studies where the impact of earlier interventions can be observed. This would be particularly interesting in the case of the Scottish community councils, should the recommendations summarised in the project report be implemented [23–24].

References

1. Wilson, T.: A Re-examination of Information Seeking Behaviour in the Context of Activity Theory. Inf. Res. 11 (2006)
2. Vygotsky, L.S.: Mind and Society. Harvard University Press, Cambridge (1978)
3. Mironenko, I.A.: Concerning Interpretations of Activity Theory. Integr. Psychol. Behav. Sci. 47, 376–393 (2013)
4. Wilson, T.: Activity Theory and Information Seeking. Annu. Rev. Inf. Sci. Technol. 42, 119–161 (2008)
5. Engeström, Y.: Learning by Expanding: an Activity-Theoretical Approach to Developmental Research. Orienta-Konsultit, Helsinki (1987)
6. Allen, D., Karanasios, S., Slavova, M.: Working with Activity Theory: Context, Technology, and Information Behavior. J. Am. Soc. Inf. Sci. Technol. 62, 776–788 (2011)
7. Detlor, B., Hupfer, M.E., Smith, D.H.: Digital Storytelling and Memory Institutions: a Case Study Using Activity Theory. ASIST 2016 (2016)
8. Allen, D., Karanasios, S., Norman, A.: Information Sharing and Interoperability: the Case

of Major Incident Management. Eur. J. Inf. Syst. 23, 418–432 (2014)

9. Bardram, J.E.: Collaboration, Coordination and Computer Support: an Activity Theoretical Approach to the Design of Computer Supported Cooperative Work. Aarhus University, Aarhus (1998)

10. Karanasios, S., Vardaxoglou, G., Allen, D.: Innovation in UK law Enforcement: the Emergence of Mobile Data. In: 15th Am. Conf. Inf. Syst. (AMCIS 2009). pp 1–10 (2009)

11. Abdallah, N.B.: Activity Theory as a Framework for Understanding Information Literacy. In: Kurbanoğlu, S., Grassia, E., Mizrachi, D., Catts, R., Špiranec, S. (eds): Worldw. Commonalities Challenges Inf. Lit. Res. Pract. Springer, Istanbul, pp. 93–99 (2013)

12. Radcliffe D.: Here and Now: UK Hyperlocal Media Today. http://www.nesta.org.uk/publications/here-and-now-uk-hyperlocal-media-today (2012)

13. Goodlad, R., Flint, J., Kearns, A., Keoghan, M., Paddison, R., Raco, M.: The Role and Effectiveness of Community Councils with Regard to Community Consultation. Scottish Office Central Research Unit, Edinburgh (1999)

14. Glasgow City Council: The Scheme for the Establishment of Community Councils. (2013)

15. UK Government: Local Government (Scotland) Act 1973. (1973)

16. Bort, E., Mcalpine, R., Morgan, G.: The Silent Crisis: Failure and Revival in Local Democracy in Scotland. Jimmy Reid Foundation, Glasgow (2012)

17. McIntosh, N., Alexander, A., Cubie, A., Leicester, G., Mackay, E., Millar, M., Smith, M., Watt, M.: The Report of the Commission on Local Government and the Scottish Parliament. Scottish Office, Edinburgh (1999)

18. Ryan, B.M., Cruickshank, P: Community Councils Online. Edinburgh Napier University, Edinburgh (2012)

19. Ryan, B.M., Cruickshank, P: Community Councils Online. Edinburgh Napier University, Edinburgh (2014)

20. Cruickshank, P., Ryan, B.M., Smith, C.F.: Disconnected Democracy? A Survey of Scottish Community Councils' Online Presences. Scottish Aff. (2014)

21. Wilson, T.D., Streatfield, D.R. & Mullings, C.: Information needs in local authority social services departments: a second report on Project INISS. Journal of Documentation, 35(2), 120-136 (1979)

22. Wilson, T.D. & Streatfield, D.R.:You can observe a lot . . . A study of information use in local authority social services departments conducted by Project INISS, Postgraduate School of Librarianship and Information Science, University of Sheffield, Sheffield, (occasional publication no. 12). Available at: http://informationr.net/tdw/publ/INISS/ (1980)

23. Hall, H., Cruickshank, P., Ryan, B.M.: Information Literacy for Democratic Engagement. Edinburgh Napier University, Edinburgh. https://communityknectdotnet.files.wordpress.com/2017/02/il-dem-stakeholder-report-january-2017.pdf (2017)

24. Cruickshank, P., Hall, H., Ryan, B.M.: Practices of Community Representatives in Exploiting Information Channels for Citizen Engagement. Paper presented at information: interactions and impact 2017, Aberdeen, 27-30 June 2017. Abstract available at: http://www.napier.ac.uk/research-and-innovation/research-search/outputs/practices-of-community-representatives-in-exploiting-information-channels-for-citizen (2017)

Talking to imagined citizens? Information sharing practices and proxies for e-participation in hyperlocal democratic settings

Peter Cruickshank, p.cruickshank@napier.ac.uk
Hazel Hall, h.hall@napier.ac.uk
Centre for Social Informatics, Edinburgh Napier University
10 Colinton Road, Edinburgh EH10 5DT, Scotland UK

Abstract

Introduction. Prior research in Information Science often uses constructs from Social Exchange Theory to explain online information sharing. Exchange theories have a strong focus on reciprocity, yet in some communities, such as elected democratic representatives at hyperlocal level, it is observed that information is shared online for little visible return. This raises questions as to the extent to which existing models of online information sharing based on the tenets of exchange are applicable across a full range of contexts. In the case of hyperlocal representatives, this also prompts consideration of their motivations for online information sharing, and their response to apparent non-participation or 'lurking' in this process on the part of citizens. In this paper an information sharing practice-based approach is deployed to explore the means by which hyperlocal representatives in Scotland handle their information sharing role and address their relationship with their online 'lurker' audiences.

Method. Hour long interviews were conducted in November and December 2016 with 19 representatives who serve on Scottish community councils.

Analysis. Qualitative analysis of the interview data generated the results of the study.

Results. Information sharing is regarded as an important duty of community councillors. It is largely practised as transmission or broadcast (rather than exchange) using a variety of channels, both online and face-to-face. Such efforts are, however, limited. This is due to restricted resources, a lack of familiarity with the information users (and non-users) that community councillors serve, and poor knowledge of tools for analysing online audiences. Attitudes towards online communities that largely comprise lurker audiences vary from frustration to resignation.

Conclusions. While some of the findings articulate with extant knowledge and extend it further, others contradict the results of prior research, for example on online platforms as deliberative spaces. The practice-based approach as deployed in the study surfaces new contributions on proxies in information sharing. Amongst these, it adds to prior work on information seeking by proxy, and introduces the concept of information sharing by proxy.

1   Introduction

In this article the online information sharing practices of elected democratic representatives in public fora such as web sites and social media is examined. The findings derive from a research project entitled Information Literacy for Democratic Engagement (IL-DEM) completed by a research team at Edinburgh Napier University in 2017. The analysis draws on a set of data gathered in interviews with 19 Scottish community councillors. In Scotland, community councillors are the democratically elected representatives at the lowest tier of government and serve in their communities at a hyperlocal level (Hall, Cruickshank & Ryan, 2018a, p. 2).

Levels of information literacy amongst Scottish community councillors, and the deployment of Activity Theory in research design, have been examined in prior publications from IL-DEM (Hall et al 2018a; Hall, Cruickshank, & Ryan, 2018b). In this article, Scottish community councillors' perceptions of their role are considered in respect of online information sharing, with a focus on one aspect of this: the accommodation of an online 'lurker' audience that, in general, demonstrates only weak engagement with the community councillors' efforts at online information sharing.

The results of the empirical study are prefaced by a literature review in which are discussed the relevance of two theories that are applied in studies of online information sharing: (1) Social Exchange Theory; (2) Practice Theory. Next follows an account of the research design and its implementation for the empirical study. The project findings are then related. These are presented in terms of the information sharing role and practices of community councillors (both online and offline), and the online interactions between community councillors and the audiences that they serve. The analysis indicates the importance of information sharing as a duty of community councillors. It also shows that online deliberation is generally avoided. Community councillors deploy a range of channels for both information seeking and dissemination on behalf of, and to, largely unresponsive audiences. Access to resources has a significant bearing on their information sharing activities, particularly in terms of skills.

Through an exploration of information sharing practices to shed light on democratic representatives' responses to lurkers, this work furnishes new perspectives on motivations for information sharing in the face of low 'end user' engagement. Unlike much of the prior work in the domain of e-participation, the focus falls on representatives rather than citizens, and considers on-going practice rather than a specific intervention. The approach deployed in the study allowed for the generation of new knowledge on the role of proxies in information sharing, and the value of looking beyond Social Exchange Theory to explain information sharing practices.

2 Literature review: information sharing online

2.1 Treatment of online information sharing in the e-participation literature

The theme of online information sharing in the e-participation literature draws on two decades' worth of research on the Internet's impact on the democratic process (Medaglia, 2012, p. 347). Here the discussion of online information sharing is framed around the term 'engagement', usually in respect of particular one-off initiatives (Edelmann, 2017, p. 45). Examples of this work include research into the use of information and communication technologies by elected representatives, such as members of parliament in the UK (Norton, 2007; Seo & Raunio, 2017), and in Norwegian municipalities (Saglie & Vabo, 2009).

More specific to the study discussed in this paper is the published research on communication channels for public consultation purposes and deliberation. For example: Kubicek (2016) compares the advantages and disadvantages of online tools for information sharing in an empirical study, concluding that these should be deployed alongside offline channels according to the resource available amongst the pool of representatives; Cullen and Sommer (2011) draw attention to the strength of social capital evident amongst community members in online (low) and offline (high) groups. Similarly, in their published work on citizen-led participation in democracy, Taylor-Smith and Smith (2018) model online "participation spaces" (such as social media and email) alongside offline equivalents (such as rooms) as sites for communication. Here attention is drawn to the influence that the effectiveness of competing channels has on their overall uptake. Other work more strongly supports the value of online fora as spaces for intense political discussion (e.g. Svensson, 2018).

Models of e-participation that derive from this stream of research are strongly influenced by the ideal of public deliberation, as established by Habermas (e.g. Matthews, 2012; Svensson, 2018). These models have been devised in response to observed low levels of engagement by citizens, often with an explicit agenda of expanding it (Medaglia, 2012). Examples include a maturity model for increasing citizen participation (Williamson, 2015) and 'ladders' of (increasing) participation (Krabina, 2016; Linders, 2012; Medaglia, 2012, p. 354).

The term 'lurking' has been associated with these low levels of e-participation. Lurking behaviours vary. For example, lurkers may leave no traces online, or they may be seen to 'listen' passively. In these two contexts, lurkers are citizens who have chosen to follow, but not engage with, the political process (Cruickshank, Edelmann, & Smith, 2010). There is a third type of lurker, who *does* engage with the online community, albeit indirectly. In this latter case, 'active lurking' occurs when individuals exert influence offline, and that later has a subsequent impact (Edelmann, 2013, pp. 645-7).

This range of lurking participatory behaviours, which draws on the work of Edelmann (2017, p. 37) and Malinen (2015, p. 231), is illustrated in Figure 1. Here it can also be seen that a further set of actors is important to debates about engagement in e-participation. These are the 'ignorers' who sit beyond the lurkers at the periphery of the online community. This group is large since it comprises the majority of citizens, i.e. those who do not directly engage with democratic processes between elections.

Figure 1: Levels of participation

Participants:
Content creators, e.g. commenting online

Lurkers:
Content readers, perhaps engaging through other channels

Ignorers:
Perhaps engaging through other channels
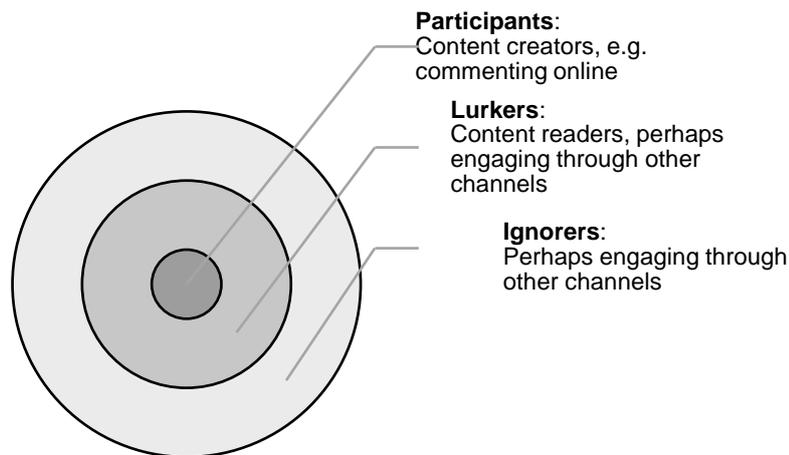
Explanations have been forwarded to account for high degrees of lurking in online communities developed for democratic purposes. It has been established that other than on Facebook (Edelmann, Parycek, & Schossbock, 2011), citizens are generally wary of discussing politics online, as well as worried about the consequences of doing so. They therefore choose to engage off-line instead (Edelmann, 2017, pp. 37-41).

While much of the prior research focuses on the lack of engagement on the part of *citizens*, it should be noted that representatives themselves have also been found to actively avoid online dialogue (e.g. Ellison & Hardy, 2014 pp. 32-33, Hall, et al, 2018a, p. 7). A practical issue in the democratic context is that a large proportion of lurkers is a practical necessity. This is because continual 100% participation would swamp most participatory processes (Edelmann, 2017, p. 48). It is also worth noting that despite the negative connotations associated with the verb 'to lurk', and assumptions in earlier research on online communities in the 1990s that active and visible participation is key to survival of the online community, researchers across subject domains (e.g. Cranefield, Yoong, & Huff, 2015) and some e-participation researchers (e.g. Edelmann, 2013), now generally recognise a degree of value in lurkers. However, in line with the tradition of focusing mainly on citizens in the e-participation literature (as noted by Fedotova, Teixeira & Alvelos, 2012, p. 155), the attitudes of elected representatives to lurkers within their communities has not yet been reported in the extant literature.

2.2 Treatment of online information sharing in the Information Science literature

In Information Science, information sharing (both online and off-line) is considered as a sub-topic of information seeking behaviour and use. Although not as well studied or developed as information *seeking* (Pilerot, 2012; Wilson, 2010), and without clear models, three main foci of this research may be identified. These are: (1) the information shared; (2) those who share the information; and (3) the site(s) of sharing (Pilerot, 2012, p. 574). Much of this existing research addresses information sharing as practised at work in defined communities with clear boundaries for membership, and which operate under 'rules' (whether made explicit or unspoken) for the transition of individuals from the periphery to the core. Examples of this can

be found in the knowledge management literature (e.g. Buunk, Smith & Hall, 2018; Wang, Zhang, Hao & Chen, 2019). Other sharing contexts have also been covered, as summarised by Pilerot (2012). These include, for example, amateur genealogy, political activism, health, and education (Pilerot, 2012, p. 563). As is the case with much information seeking behaviour and use research, it is often assumed that those who share information in online communities are doing so to meet specific information needs, e.g. recreational codebreakers (members of an online community) share hints and tips (information) with the goal of deciphering encoded messages (defined purpose) (Hall & Graham, 2004).

In terms of theoretical underpinning, the research on information sharing within these defined communities published in Information Science titles frequently refers to Social Exchange Theory and/or models of social capital, often with reference to the development of Communities of Practice[1] (e.g. Hall, 2003; Hall, Widen & Paterson, 2010; Yan, Wang, Chen & Zhang, 2016). Here the focus falls on the benefits enjoyed by community members who willingly share their information with one another (Pilerot, 2012, p. 572). Expectations of reciprocity are high within an information or knowledge 'market' that operates as a 'gift economy' (Hall, 2003, p. 293). The two types of exchange structures that operate in these online information sharing environments determine participant expectations of response. In *direct* exchanges two actors are dependent on one another. More than two actors are involved in *generalised* exchanges, and reciprocal dependence is indirect (Hall, 2003, p. 290). In the latter case information sharing is a collaborative activity across the whole community.

Practice Theory has also been invoked to explain information sharing in online environments (for example, Pilerot, 2013). A Practice Theory perspective allows primarily for the consideration of the *motivations* and *intentions* that drive information behaviours. In contrast to the work that explains information sharing online as a series of transactions with reference to Social Exchange Theory, those who adopt a Practice Theory approach consider information sharing as *non-transactional* (Pilerot, 2012, p. 563). Instead it is viewed as a situated social behaviour (Savolainen, 2008, p. 40) that affirms normalcy, and provides confidence in the self-identity in community members' roles (Savolainen, 2008, p. 55).

The work of Savolainen (2008) cited above is especially relevant to the empirical work discussed in this paper in respect of the three main motivations identified for information sharing practice (pp. 192-194). These are:

1. *Information seeking by proxy* (as proposed by McKenzie, 2003), i.e. those who share information online are motivated to do so to help others who may not have access to the information.
2. *Duty*, i.e. those who share information online are motivated to do so because they occupy roles such as information giver, distributor, or intermediary.

---

[1] In the wider literature other theories are also deployed, e.g. Social Cognitive Theory, Theory of Reasoned Action, Theory of Planned Behaviour, Technology Acceptance Model, as noted by Chen and Hew (2015).

3. *Ritual*, i.e. those who share information online are motivated to do so as part of social interactions based on regular dialogue – information sharing is considered an emotionally rewarding experience.

In a later review paper, in which he elaborates information and knowledge sharing as forms of communicative activity, Savolainen (2017) presents two different metaphors for the sharing of information, as prompted by the work of Carey (1989). The first is *transmission of messages*, often conceived as one-directional from giver to receiver. In the second he revisits the theme of ritual, arguing that (a) information sharing is inherently social and interpersonal, and (b) exchange, interaction, dialogue and conversation are important to the building and maintenance of communities.

As is the case in the e-participation literature, researchers in the domain of Information Science have turned their attention to the question of lurkers, particularly in the context of online communities (e.g. Hung, Lai & Chou, 2015). This is also an area of research interest in the wider literature that has strong associations with Information Science, for example Knowledge Management and Information Systems. For example, lurking is discussed in work which focuses on realising business benefits through communities of practice (Malinen, 2015; Takahashi, Fujimoto, & Yamasaki, 2007). Often such studies promote the encouragement of 'de-lurking' by means such as the 'reader to leader' framework (Preece & Schneiderman, 2009).

It has been noted elsewhere in the Information Science literature by Cooke (2014) that research on lurkers does not extend to considerations of the quality of their (passive) participation. This would be worthwhile for understanding lurkers as a group, and their information needs.

2.3 Democratic engagement at hyperlocal level and information sharing online: the opportunity to make a contribution

The design of empirical study reported below allowed for an exploration of online information sharing in a community that is atypical of those normally considered in the Information Science literature. In this case:

- the principal 'sharers' comprise the few (hyperlocal representatives) who attempt to engage the many (citizens)
- the many represent a heterogeneous group of citizens whose single common point of reference is simply shared geography (unlike those brought together in a community of practice, they are not bound by a common objective)
- the many have undefined information needs, of which they are unlikely to be aware.

It is worth noting here that while most prior e-participation research prioritises citizens over representatives (with a focus on the involvement of the former in democratic processes and empowerment), this study favours the latter group. Thus it was anticipated at the outset that this study would furnish an opportunity to discover more about the information practices of an under-researched group.

In particular it was expected that the approach undertaken would generate insight into actors' motivations to share information online with a seemingly unresponsive audience. This is important given the different assumptions about information

sharing associated with the two perspectives introduced above i.e. Social Exchange Theory anticipates a transactional element to this activity, whereas Practice Theory does not. The application of a Practice Theory lens to the findings from the empirical work outlined below has allowed for the nature of the relationship between the information sharing efforts of community councillors and audience engagement to come to the fore.

3   Study design

3.1   The context of Scottish community councils and online information provision

Scottish community councils are conceived as representative bodies for particular geographic localities across the 32 local authorities of Scotland. There are approximately 1,100 active community councils, 'employing' around 10,000 unpaid community councillors in total. Community councillors generally have no duties to deliver services, they cannot raise taxes, nor do they make regulations or laws. Their main role is explicitly centred on information sharing, with an emphasis on communicating local opinion to the higher tiers of local government (Hall et al, 2018a, pp. 2-3). Prior research on community council online presences - such as web sites, Twitter accounts and Facebook pages – reveals that they are characterised by low activity (see, for example Ryan & Cruickshank, 2014). Only around a quarter of community councils are active online. Even where there are high levels of primary postings, there is low or negligible secondary engagement in the form of comments or responses, nor little evidence of sustained debate conducted online. Yet despite the low levels of observed online interaction, a substantial minority of community councillors persist in sharing information online.

1. Taking into account the themes identified from a preliminary literature review on the nature of lurking, and in particular prior work in the e-participation literature (specifically Cruickshank et al, 2010; Edelmann, 2013; Edelmann, 2017; Edelmann et al, 2011), the following questions were addressed in the study: How do community councillors perceive their information sharing role?
2. How do community councillors share information?
3. Which contextual factors shape the sharing of information by community councillors?
4. How do community councillors conceive (or imagine) their audiences and audience levels of engagement?

This approach allowed for a range of community councillor opinion on information sharing to be sought, and it was later possible to match this to tenets of Social Exchange Theory and Practice Theory. For example, there was scope for community councillors to speak about information sharing as a series of reciprocal transactions or, alternatively, as one-directional broadcasting. Similarly, they had the opportunity to point to contextual factors that promote or thwart information sharing. For example, indications in the interview responses of high reliance on face-to-face encounters with known members of the community would be relevant to a Social Exchange Theory perspective on the basis that strong social capital supports social exchange (in general). The sample and fieldwork

The findings presented below draw on the analysis of data collected in hour-long semi-structured interviews held in November and December 2016 with 19 community councillors resident in city, town, rural and remote rural Scottish locations. The interviewees were selected from a set of volunteers who came forward following calls for participation on an online discussion board and the national community council web site. They are profiled in Table 1.

Table 1: Interviewee profiles

	Years of service	**Age band**	**Gender**	**Highest level of qualification (years held)**	**Location**	**SIMD**
P1	4	40s	M	Masters degree (15)	Very urban	9
P2	5	50s	F	Undergraduate degree (15)	Very urban	10
P3	6	50s	M	Masters degree (30)	Very urban	10
P4	17	50s	F	Undergraduate degree (20)	Very urban	10
P5	3	60s	M	Undergraduate degree (40)	Small urban	9
P6	2	40s	M	Undergraduate degree (5)	Small urban	6
P7	<1	50s	M	Masters degree (26)	Rural	7
P8	3	40s	F	Masters degree (20)	Rural	8
P9	3	50s	F	Postgraduate Diploma (26)	Very urban	6
P10	4	50s	F	Diploma (5)	Rural	6
P11	15	70+	M	Masters degree (33)	Small urban	7
P12	1	60s	F	Masters degree (15)	Rural	7
P13	2	70+	F	Masters degree (21)	Very rural	6
P14	<1	50s	F	Undergraduate degree (20)	Small urban	7
P15	4	60s	M	Accountancy (23)	Small urban	7
P16	2	50s	F	Undergraduate degree (34)	Small urban	8
P17	<1	30s	M	Higher National Diploma (10)	Small urban	5
P18	1	60s	F	Postgraduate Diploma (12)	Very urban	10
P19	1	50s	F	PhD (11)	Very urban	10

In this table SIMD refers to the Scottish Index of Multiple Deprivation (SIMD, 2016), where 10 is the most prosperous, and 1 the least. In the event this variable did not distinguish the findings derived from the analysis of data from community councillors who represent different 'types' of community council. This is in line with previous work in this domain such as Ryan & Cruickshank (2014) and Hall et al (2018a).

As can be seen in Table 1, a spread of community council locations is represented in the study. However, it is not possible to be certain about the representativeness of the interviewees themselves as a set of 'typical' community councillors. This is because demographic data on the whole population of Scottish community councillors is unavailable. On the basis of the high levels of qualification held by the

members of the sample and their age range, however, it is obvious that they are not representative of the Scottish population as a whole. This eventual composition of the sample for this study was not unexpected: volunteers who serve in local democratic settings tend to be the well-educated with time available to engage in community activities.

As well as profiling the community councillors, the online presences of the community councils on which they serve were audited in 2017, soon after the collection of the interview data. The summary data on the online activity and engagement of each community council as presented in Table 2 provides context for participant comment gathered at interview. Here 'S' indicates a strong online presence. A weak presence is noted as 'W' to indicate that the online content is out of date, or poorly maintained. In some cases patterns emerged in the data according to community council presence strength/weakness. These are highlighted where relevant in the analysis presented below.

Table 2: Summary of community council online presences

Participant	1	2/3	4	5	6	7	8	9	10	11/14	12	13	15	16	17	18	19	Active
Web site	S	S	S	S	W	S	W	S	W	W	S	S	-	W	-	S	-	9
Facebook	S	W	S	S	-	S	S	S	S	W	-	S	S	S	S	-	S	12
Twitter	S	S	-	-	-	W	W	S	W	-	-	-	-	W	-	-	-	3

Note: 17 community councils are represented in total because participants 2 and 3, and 11 and 14, serve on the same community councils.

The full set of interview questions designed for the study allowed for discussion of a range of topics around the information practices of the community councillors as part of the IL-DEM project. (A full account of the development, validation and piloting of the interview questions for IL-DEM is given in Hall et al (2018a). It should be noted that at this stage the applicability of the tenets of Social Exchange Theory and Practice Theory to the specifics of the research discussed in this paper was not a consideration when the interview questions were devised.) Of most relevance to this analysis on online information sharing practices and the accommodation of a lurker audience were data gathered in response to the following five interview questions:

1. How would you describe your community council's role, and your part within that?
2. How do you go about finding information about local issues and developments? (What sources do you use? How did you learn about them?)
3. How do you go about sharing information with your community?
4. How do you balance online and offline information sharing? (Have you ever chosen to share information only on paper/face-to-face? If so, why?)
5. How important is an online response to your online information sharing? (Does it matter if no one responds? Who do you imagine is reading the material that you post online? How do you know who your online audience is?)

Questions 3, 4 and 5 were designed to address themes related to lurking identified in Edelmann (2013) and Cruickshank et al (2010).

In line with common experience with semi-structured interviews, the responses to the above questions did not align directly with the research questions of the study (see for instance Evans, 2018). However, the responses gathered provided a rich data set for thematic analysis, as described below.

3.2 Data analysis

The thematic analysis of the data was achieved by a process that started with copying the responses to the interview questions into a Microsoft Excel spreadsheet workbook: one row per interview question, one worksheet per interviewee. The data were then examined in three passes. First, all references to information practices and audience perceptions were identified and grouped according to literature review theme. Then the Excel 'TEXTJOIN' concatenation function was implemented to group content by theme for all participants in a summary worksheet. The concatenated data were analysed a second time to ensure that any emergent and unanticipated themes within the data were identified. From this 'bottom-up' analysis, five underlying themes related to practices and perceptions of information sharing emerged:

1. Types of information shared
2. Channels for information sharing
3. Information skills/resources
4. 'Imagining' (or conceiving) the audience
5. Audience interactions with information shared

Taking into account these five themes, the interview data were then re-examined a third time to validate the analysis. In this last pass it was possible to identify comments that exemplified the issues key to the study's main themes. The findings that derived from this analysis of the information sharing perceptions and practices of community councillors are detailed below, and then their implications discussed with reference to Social Exchange Theory and Practice Theory.

4 Findings

The findings from the analysis of the empirical data are presented below according to the research questions introduced in section 3.1. First the perceptions of the community councillors in respect of their information sharing role is considered. Then follows an account of their information sharing - both online and offline – and contextual factors that have an impact this activity. The third main focus of analysis is concerned with community councillors' interactions with their online audiences. Quotations and paraphrased material from individual interviewees cited in this account are indicated by the participant numbers used in Table 2.

4.1 Community councillors' perceptions of their information sharing role

Information sharing is regarded by community councillors as a key duty in their roles as representatives who serve on an "important body" (P8). A significant aspect of this work is explained as the creation of formal content for the record, such as meeting agendas and minutes (P5; P7; P12; P18), details of events (P12), planning applications (P5), or information shared by other organisations (P12). Community

councillors often use the online presence(s) of the community council as a resource for residents to access local news, especially if the local newspaper is seen to be failing (P5). Alongside this 'formal' information content, there is desire to disseminate news that will interest local residents: "You want to put [online] something that's interesting… not the planning applications because most public aren't interested!" (P15). In some instances the community council web pages and Twitter account are deployed to point interested residents to this archived content (P3).

The tasks associated with information sharing extend to information *seeking* activities, such as the monitoring of local newspapers and web sites (P17), or Facebook pages (P6; P16). For example, conversations witnessed on Facebook may later be cited a community council meetings (P7). Information for onward dissemination is also sought out through physical encounters. For example: P15 spoke about "keeping [his] ear to the ground" and taking opportunities to "meet people in the shop or whatever"; P5 referred to gathering comment when he passes people in the street; P8 and P18 spoke about information exchanges at other community gatherings such as at church; and P2 and P17 mentioned chance conversations with their neighbours. The digital equivalent of these interactions is the receipt of feedback by email (P12). The interviewees also showed an awareness of limitations of this aspect of their information sharing role. For example: P1 drew attention to taking care with information accessed through party political contacts; P9 warned of the dangers of miscommunications that trigger negative responses from the community and cause extra work in addressing the consequences of the initial posting; and P15 spoke about disseminating content that could lead to a "pointless argument".

The main purpose of information sharing is to inform residents of local issues, with desired outcomes of "[making] sure that the people have as much information as possible" (P6), and "keeping the community involved" (P18). A further driver for information sharing is to raise awareness of the work of community councils, as noted by P14. P14 believes that many citizens do not appreciate the work of community councillors and said: "I think [community councils] should be promoting what [they're] doing to the public". P1, who serves for one of the community councils with the strongest online presences (see Table 2), provided commentary that shows that, in some cases, this requirement for marketing has been recognised and acted upon:

> "We're competing for attention from people who are bombarded with all sorts of marketing messages all day long, so if I want to get to them about their opinions in a certain topic, then I have to somehow get their attention. We've got a logo, a consistent communications strategy" (P1).

Although much of the interview discussion for this study focussed on the dissemination of information from the community council to citizens, the participants also drew attention to the need to voice community opinion to other parties (P14) as representatives (rather than as individuals (P7)), drawing on their knowledge of local demographics (P18).

4.2 Community councillors' information sharing practices

Community councillors share information using several channels. P6 and P8 identified the importance of deploying multiple methods of communication for reaching different groups of citizens. One of the challenges facing community councillors is identifying the most effective of these (P18), especially in the case of councils that cover large urban areas (P11). Another priority is to ensure that messages put out by community councils are not misunderstood by the population at large (P17). In addition, channel choice is also influenced by contextual factors. These issues are explored in detail below.

It is worth noting here that themes related to Social Exchange Theory, such as reciprocal benefit, were barely mentioned in the interviews. For example, only two interviewees alluded to social capital in respect of face-to-face interactions. For this reason such themes do not feature in this account of the findings on information sharing practices.

4.2.1 Information sharing by community councillors online

The community councillors who contributed to this study generally prioritise online communication channels over those that are offline, as was noted explicitly by P1 and P9. Attention was drawn in the interviews to the affordances of particular online tools, especially in an era when traditional local print media are ailing or "falling away" (P3). For example, it was argued that Facebook is more suitable for information sharing and dialogue than Twitter, conventional web sites or blogs (P5; P16; P17; P19):

> "For Facebook, it's not just about information-giving, it's about getting information back" (P19).

A Facebook community council page is also valued as one of a suite of community resources:

> "Facebook is proving to be a very good tool for us over the last couple of years. We have our own Facebook page… there's other Facebook pages around the area. For example the village hall community association has one, and there's also an official one." (P16).

When speaking about audience interactions, it was noted by the interviewees that the information sharer is not obliged to wait passively for a response, but can rather seek out opinions by proactively garnering responses from known parties who may have an interest, in or be directly affected by, a particular issue (P8; P9). However, in a case cited by P17, it was evident that canvassing opinion when a low response rate was anticipated, and likely to be unrepresentative, was not supported by other members of his community council.

Most participants considered the main function of web sites as electronic noticeboards for the placement of announcements, and not a place for gathering community opinion. P6 went as far as to declare web sites as "passé". There was some reflection amongst the community councillors on the presentation of information on their own community council web sites. For example, P3 criticised his

own for a structure that is "too intricate". Likewise P10 noted that citizens struggle to identify the location of the information that they need. P3 also disapproved of the provision of content that is not easy to read online.

The adoption of online tools by community councillors for information sharing may simply be happenstance, expressed as "faute de mieux *[for lack of something better]*" by P13. At the other extreme, tool adoption results from careful planning, taking into account other community resources available online. For example, P16 explained that it is illogical to create a unique set of web pages for a community council when there already exists a functional community web site. This point can explain the apparent 'poor' online presences of some community councils, as noted by P14, P16 and P17 in their interviews. Equally, the local media landscape is important. If an existing print or other online resource already serves the purpose of a proposed online tool, then the community council should use the existing resource as its main information channel. For example, in P15's location the local newspaper has a very high circulation ("everyone buys a copy") and it offers "far more detail than on Facebook". Similarly P12 made reference to mailing lists and direct mail as the route for sharing information, highlighting that to send an email to the chair of the community council represents the 'real' two-way information sharing channel in hyperlocal democratic settings.

4.2.2 Information sharing by community councillors offline

The main traditional and 'official' channel deployed by community councillors for information sharing is offline through community council meetings. In this face-to-face environment two-way information sharing is possible because these public meetings are open to all citizens (P19). However, the community councillors interviewed for this study noted that the members of the public who attend community council meetings tend to be unrepresentative of the local population as a whole, and are often present to promote "their own agenda" (P18). Thus the 'information' shared by those citizens present is regarded with a degree of scepticism, and the community councillors may choose to ignore it.

Between meetings, noticeboards can also be used for information sharing (P9). However, some of the interviewees doubted the value of noticeboards, especially when they are difficult to access (for example, because they are located inside a shop (P2)), or not regularly updated (P3).

Other physical presences provide opportunities for face-to-face information sharing with citizens, such as a stall at a local farmers' market (P8). The information gathered in such environments supplements that accessed in less formal face-to-face settings such as in the shop or street, at church, or through conversations with neighbours, as noted above.

Just two interviewees alluded to the development of social capital through face-to-face encounters with citizens (P2; P6). Social capital as a prerequisite for information sharing thus appears not to be a concern of Scottish community councillors.

4.2.3 Contextual factors that shape the information sharing practices of community councillors

The primary contextual factor that determines the information sharing practices of community councillors is the availability of resources. In particular, the existing skills of individual community councillors shapes the allocation of information sharing roles (P5; P6), and the channels of communication used for information sharing (P9).

In the face of a lack of specific training, when executing the information sharing role as community councillors, skills acquired in the work place or through everyday life situations are deployed (P1; P6; P16). For example, P1 explained that his community council has a clear communications strategy thanks to the skills that he has developed through work:

> "[In] my last job I was supply team manager for a very big consumer goods company. My job would be in multifunctional teams. I'd have marketing people next to me, finance, sales… [In] that job I became exposed to marketing methods and how to build up a following… I think that's really important for community councils" (P1).

P11 also mentioned the assumption that younger community councillors have a better skills set than their older colleagues and thus are expected to take a lead in their deployment for online information sharing.

Many of the interviewees drew attention in their interviews to the lack of information sharing skills amongst community councillors at large, and highlighted that this constrains their citizen engagement work. In particular they referred to poor general IT literacy (P6; P11; P16), and a lack of knowledge of the tools that could help develop an understanding of their audiences (P2; P4; P6: P12: P18). This results in a high dependence on those who can offer the requisite skills (P9), and generates a sense of obligation on the part of certain community councillors to compensate for the lack of skills amongst others (P6).

Time is also a resource that is in short supply and may also determine the allocation of roles (P9; P12). This is regarded as wasteful in situations where the membership of the community council as a whole has a "fabulous set of skills", but not the time to apply it (P12).

In addition to availability of resources, two further contextual factors were mentioned in the interviews as determinants of information sharing. One is the perception that information sharing is a risky activity, for example on the basis of negative prior experiences (P9; P14). The other is dominant personalities within the community council, as noted by P6.

4.3 Community councillors' interactions with their online audiences

4.3.1 How community councillors imagine (conceive) their online audiences

Overall, the community councillors interviewed for this study showed a weak knowledge of the consumers of the information that they share online on behalf of the Scottish community councils. They also exhibited a lack of awareness of means

to address this. For example, three interviewees reported that they were unaware of the make-up of their audiences, and had no knowledge of techniques that could be used to provide this (P3; P5; P6). Similarly, two interviewees admitted that even in cases where data are available to help build a picture of the audience profile, such as counts of hits on web pages, the conclusions drawn from these may be inaccurate (P16; P18). P11 explicitly highlighted this as a problem, and expressed the view that his community council could make a greater effort to gauge public opinion. P19 echoed this sentiment when she admitted that more could be done to assess the nature of the audiences with which the community councils interact.

This finding on low levels of knowledge of audience profile and information needs may be a reflection of the composition of the sample for this study, rather than representative of the population as a whole. For example, although P2 said that she could not provide detail at interview on hits to her community council's web site, this admission did not take into account that another (or others) in the same community council may have responsibility for the community council's online presence, and would thus have a stronger appreciation of levels of interaction that the web site enjoys with the local population. A lack of access to data may also offer some explanation here too. For example, if much of the online interaction with information shared by community councillors takes place on a platform that is not within the immediate control of the community council in question (such as a local community web site), then it may not be possible for community councillors to collect and analyse audience data.

In some cases the community councillors interviewed for this study felt that they had an *intuitive* understanding of those who read their online postings, and of the information needs of this audience. For example, P8 explained everyday life experiences from the time before they take up community council membership contributes to community councillors' ability to conceive the information needs of citizens. This strategy, however, is perhaps not sensible given the profile of community councillors. As P14 pointed out, although community councillors are elected as representatives of geographical areas, in practice they are not representative of the broad membership of the populations that they serve.

In other cases, it is clear that formal attempts have been made to use online tools to provide an indication of audience engagement and, through this, audience priorities. The tools available are applied with varying levels of skill. For example, basic tracking of interactions is achieved through counting comments made in response to postings on Facebook pages (P15) and web page impressions (P7), and monitoring the derivation of such interactions (P16).

The evidence from this study also shows that those from community councils that have stronger online presences are more aware of the tools that can be deployed to understand online audiences. For example, P9 discussed the use of Facebook engagement statistics to give a better ideas of the issues of most interest to the community at large (in contrast to the low, static number of individuals who attend community council meetings in person). Similarly P1 explained that statistics can provide demographic data on the audience that has been reached. These data can then be compared with known community demographics to give a sense of the extent to which the following that the community council has garnered online (or

reactions to a particular post) represent the opinion of the community as a whole (P1; P7).

Regardless of the extent to which they attempt to assess their demographic composition, information needs, and interactions of their audiences, all community councillors face a single key challenge. This is working with communities online that comprise a high proportion of ignorers and lurkers. These individuals either pay no attention whatsoever to the efforts of community councillors to fulfil their information sharing roles or – at best – listen into such communications without active participation (see Figure 1). This means that community councillors are effectively broadcasting information to 'imagined' audiences.

The analysis of the interview data shows that these imagined audiences may be characterised in a variety of different – and sometimes contradictory – ways. For example, P10 believed that ignorers are under-skilled and thus unable to access any information shared online. P2 referred to the elderly in a similar way, as did P6 and P8 (who do not expect to find older residents online at all). P9 was of the opinion that those people who do interact are the "more public-spirited members of the community [and] people with more time on their hands", hinting at the older and retired demographic that P7 also considered well-engaged. Yet, in contrast, others imagined the online audience to be younger, digitally skilled 25-45 year-olds (e.g. P6). In one respect, however, the interviewees were in agreement: participants who actively interact with the online information shared by on community council platforms are just a few unrepresentative members of the communities in which they reside.

4.3.2 *Community councillors' expectations of online engagement*

Some interviewees made it clear that they had expectations of online dialogue with participant audiences (e.g. P6; P15; P18; P19). Responses to postings are valued because they validate the work of the community councillors:

> "It's quite good when you see a comment, because it's a waste of time if it doesn't happen" (P15).

> "If people… don't contact us, it's easy to believe that no-one knows about us" (P18).

For P19, feedback can be "absolutely vital", although it need not be immediate and may be directed through a channel other than that in which the dialogue was initiated. Those from community councils with a stronger online presence were particularly keen to promote information sharing as a two-way process. For example, P7 exhibited pride when he explained that his community council's online resources show higher levels of interaction than the official council web site when controversial issues such planning applications are under consideration. In contrast, the distress of those associated with an online presence (limited to a web site only) that prompted no end user comment was evident when P12 explained that the developer was "despondent", and then admitted "I just don't think the community necessarily wants or needs it in the way that it was envisaged".

Other interviewees (e.g. P8; P9; P10) indicated that they are happy to know that their online content is read, and hope (though do not necessarily expect) that it may prompt some form of response through other channels. These community councillors exhibit caution over involvement in 'public' online dialogues. To respond to a public comment with a private message is the preferred option (P10). Thus to the set of community councillors interviewed for the study, online channels are not conceived as a discussion forum, nor are they anticipated to facilitate feedback or deliberation. One of the reasons for this is the nature of the information shared such as meeting agendas or minutes, which are not intended to invite interaction (P6; P12).

Just one interviewee (P2) regarded the community councillor's online information sharing role as one that should be executed without any expectation of response. She emphasised information sharing as a form of transmission (rather than an exchange, or a means of democratic engagement, or a way to build community). To her a response is not "hugely important". Some other interviewees expressed a preference for one-to-one online communication methods such as private messages to respond to citizen engagement in information shared on behalf of the community council. This reduces the visibility of both information sharing and engagement. The hidden nature of these communications may be an indication of the low priority given to proactive engagement on the part of community councillors, characterised by one as "outreach work" (P19).

5   Discussion

The findings reported above show that information sharing is an important duty of the community councillor role. As well as disseminating the information as required by their role (for example, meeting agendas and minutes), community councillors seek out additional information that might be of interest to members of the local communities for onward distribution. Access to resources, especially in terms of skills amongst serving community councillors, have an impact on information sharing activity.

The manner of information sharing is largely practised as transmission or broadcast using a variety of channels, both online and face-to-face. The non-transactional nature of information sharing (not conducted with an expectation of exchange), and the lack of attention to themes such as reciprocity and social capital in the interviews, indicate that it would be difficult to explain the motivations of those involved in information sharing with reference to Social Exchange Theory.

A major drawback to their efforts at information sharing is that community councillors do not have adequate knowledge of those they serve, nor are they familiar with tools that could help them achieve this. They do, however, know that their audience comprises a majority of lurkers and ignorers. Attitudes towards these two groups amongst the community councillors are not uniform. To most, a lack of end-user responses is acceptable in recognition that an expectation of online dialogue is unrealistic. To others, there is a desire for fuller citizen engagement with the information that they share online.

The discussion below considers the key findings of the study to generate two perspectives. The first is an assessment of the extent to which the findings articulate with, extend, or contradict the extant knowledge on information sharing, e-

participation, and the question of lurkers. The second revisits the findings with reference to Practice Theory to characterise the nature of online information sharing amongst Scottish community councillors. The limitations of the study are then presented.

5.1 Articulation of the findings of this study with extant knowledge on information sharing and e-participation

In a number of respects the findings of this study align closely with those reported in prior work in the domain of e-participation. For example, it is evident that those who lurk in the online spaces hosted by Scottish community councils are not entirely passive. Rather these consumers of the information posted in public online fora may be prompted to take action elsewhere, for example by sending an email to a community council chair, or physically attending a community council meeting. This finding fits with 'active lurking' behaviours identified by Edelmann (2013, pp. 645-7). In addition, it has been shown that the limited engagement of citizens is seen as advantageous by community councillors who fear that high response rates to online postings would require attention and use up their meagre resources. This attitude has already been noted by other e-participation researchers (Edelmann, 2017, p. 48), with specific reference to the low number of representatives, the voluntary nature of their roles, and the limited amount of channels selected for communicating with their online audiences (Kubicek, 2016).

As well as providing confirmation of findings reported in earlier studies of information sharing online for democratic purposes, the results presented here also *extend* prior knowledge. For example, the community councillors' reluctance to enter into dialogue with citizens in publicly accessible online spaces because they seek to avoid public controversy provides a parallel to earlier findings that *citizens* do the same (Edelmann, 2017, pp. 37-41). The detail in the interview data also provides *explanation* of the low citizen engagement with online information that has been observed in the past in this context. For example, it is clear from this study that community councillors do not expect certain types of information distributed online to prompt engagement (notably community council meeting agendas and minutes). It has also been demonstrated that when they need to do so, community councillors will proactively seek engagement *offline*. In these cases they are taking advantage of the hyperlocal context of their voluntary work, where opportunities for face-to-face conversations and meetings are far more frequent than in other types of community, where wide geographic dispersal of the members determines greater reliance on online tools. At the hyperlocal level these alternatives to online engagement mean that the information sharing environment is inherently multi-channel. This study furnishes additional evidence of channel switching according to channel effectiveness in specific contexts, as previously identified by Taylor-Smith and Smith (2018).

The findings on use of platform analytics by the interviewees who took part in this study also adds to extant knowledge. In prior work it has been suggested that the digital footprints left by lurkers might serve as proxy measurements of interaction (for example, Malinen, 2015, p. 232). Here examples of formal attempts to use online tools to measure audience engagement give an indication of the (limited) extent to which this is achieved in practice.

In some respects, opinions of the interviewees presented here are at odds with findings of prior work. For example, the possibility that online platforms might serve as sites for public deliberation is an ideal cited in the some of the literature reviewed above. However, amongst the community councillors interviewed for this study there is little appetite to pursue or promote this. Indeed, the findings presented here show reluctance to use public online spaces in this way. Rather, in general, community councillors consider themselves as *broadcasters* of information online who will respond to audience reaction but do not seek it, and they show few signs of resentment at the lack of online engagement on the part of citizens. In contrast to the communities studied by Svensson (2018), for example, there is no evidence that community councillors perceive online media as deliberative spaces where citizens may feel empowered to contribute to local debate. In fact, within these communities deliberation is closed down when possible. Thus concepts such as 'ladders' of (increasing) participation (Krabina, 2016; Linders, 2012; Medaglia, 2012, p. 354) or the idea of a maturity model to increase citizen participation (Williamson, 2015) are not relevant to this cohort.

5.2 The nature of online information sharing as practised by Scottish community councillors

By focussing on the information sharing practices of community councillors – as advocated by the Practice Theory approach outlined in the literature review above – the main motivations and intentions of the community councillors are surfaced in this report of the empirical work conducted for this study.

Community councillors are seen to share information primarily because this is a *duty* of the hyperlocal elected representative role. At the very least, community councillors understand their obligation to ensure that matters 'for the record' reach citizens. Some also feel duty-bound to share content that they believe will interest their local communities, even if it is not crucial to community council business. This leads them to engage in a form of *information seeking by proxy*, achieved by anticipating (rightly or wrongly) the information needs of the citizens that they serve, and ensuring that relevant information is readily available for the time that the need for it is recognised. In online environments, the community council members who are most skilled in the use of technologies for information sharing are the main information intermediaries. Their practice forms part of the regular interactions managed by the community councils.

This overview of the information sharing practices of community councillors, derived from the analysis of empirical data, fits with the Savolainen's 2008 work, especially in respect of the motivations of (1) information seeking by proxy (elaborated from McKenzie (2003)), (2) duty and (3) ritual. In addition, the activities related to information seeking by proxy might also be conceived as a form of information sharing that leads to community building, as described by Savolainen in his more recent work (2017).

It may also be argued that sitting alongside seeking by proxy, there is evidence of information *sharing* by proxy as a practice of Scottish community councillors. They achieve this when they seek out and identify new information of relevance to their communities, yet deliberately refrain from sharing it when they are certain that it has already been disseminated by another intermediary. This recalls the concepts of

ritual and exchange in Savolainen's 2017 work. It also hints at a form of generalised exchange (as outlined above with reference to Social Exchange Theory), albeit that there is insufficient evidence from this study that the community councillors would recognise it as such.

The nature of information sharing by Scottish community councillors, as established in this study is summarised in Figure 2.

Figure 2: The nature of information sharing by community councillors

```
                    ┌─────────────────────┐
                    │       START         │
                    │ New information     │
                    │ comes to the        │
                    │ attention of the    │
                    │ community councillor │
                    └─────────────────────┘
                              │
                              ▼
        ┌─────────────────────┐   Y   ┌─────────────────────┐
        │ Is it my duty to    │──────▶│ SHARE               │
        │ share this          │       │ Nature of sharing is│
        │ information (e.g. for│       │ transmission        │
        │ the record)?        │       │ (Savolainen, 2017)  │
        └─────────────────────┘       │ primarily motivated │
                    │ N               │ by duty             │
                    ▼                 └─────────────────────┘
┌──────────────────┐   N   ┌─────────────────────┐
│ DO NOT SHARE     │◀──────│ Is it worthwhile for│
│ No benefit to    │       │ this information to │
│ representative   │       │ be made available   │
│ or community     │       │ to the citizens of  │
└──────────────────┘       │ this community?     │
                           └─────────────────────┘
                                     │ Y
                                     ▼
┌──────────────────┐   Y   ┌─────────────┐   N   ┌─────────────────────┐
│ DO NOT SHARE     │◀──────│ Seek        │──────▶│ SHARE               │
│ There is no need │       │ information:│       │ Nature of sharing   │
│ to share this    │       │ Is it       │       │ may be considered   │
│ information      │       │ already     │       │ information seeking │
│ because another  │       │ available   │       │ by proxy (McKenzie, │
│ party has already│       │ elsewhere?  │       │ 2003; Savolainen,   │
│ shared it, i.e.  │       └─────────────┘       │ 2008) primarily     │
│ information      │                             │ motivated by        │
│ sharing by proxy │                             │ anticipation of the │
└──────────────────┘                             │ future information  │
                                                 │ needs of citizens   │
                                                 └─────────────────────┘
```

A further use of proxies is evident in some of the findings related to the means by which community councillors imagine their audiences. In cases where community councillors consider their own experiences and information needs as ordinary citizens, for example, they could be considered as treating themselves as proxies for the consumers of the online information that they post. Similarly, their 'imagined' audience could be based on community council meeting attendees. However, the use of community councillors (interested in hyperlocal democracy) and visibly active citizens (often with their own specific agendas) as proxies for online lurkers and ignorers is flawed. This is because these two sets of actors are unrepresentative of citizen populations.

5.3 Limitations of the study

While the analysis of interview data collected for this study has added to the understandings of information sharing and e-participation, there are a number of limitations to this study.

The main limitations are concerned with sample selection. Those who offered their opinions on the topics discussed in this paper were self-selecting individuals interested in the themes of the research as active information-sharing practitioners, and all came from the 25% of Scottish community councils that have maintained online presences. It is thus not possible to argue that their views on the study themes are representative of Scottish community councillors as a whole. In addition, only perspectives of community councillors were sought for the study. A more rounded account would have resulted from an approach that included discussions with citizens, the target audience of the community councillors' information sharing efforts.

A further limitation is that the investigation of the question of lurking was a secondary objective of a study that was primarily focused on information literacy (see Hall et al, 2018a). A focussed piece of work with lurking as its main theme would have generated additional data and a fuller analysis.

6 Conclusion

With reference to Practice Theory, this work has offered novel insight into information sharing and engagement in hyperlocal democratic settings, addressing gaps identified in the extant literature (e.g. Cooke, 2014). Unlike much of e-participation research of this nature, these themes have been considered in a context where a continuum of engagement is required, rather than with reference to a one-off initiative. In addition, the site for data collection has allowed for an investigation of online information sharing beyond the traditional setting of a community of practice where there is an expectation of reciprocity (for example, to meet objectives associated with knowledge management such as organisational learning). In doing so, it has brought into question the extent to which Social Exchange Theory can be invoked to explain information sharing across a full range of online environments.

Here it is demonstrated that community representatives are pragmatic, resource-limited practitioners, working as volunteers within geographically-bound locations. Their priorities when information sharing using a limited variety of channels are focused on their duty to inform citizens of issues of importance to the local community, rather than on democratic engagement. They are aware that their efforts are hampered by a lack of familiarity with the end-users of the online information that they share, and poor knowledge of tools that could help them address this. They also recognise that the online communities that that they serve largely comprise lurkers and ignorers. However, their opinions of lurking and ignoring vary: to some these are important issues to be addressed; others are resigned to accept the status quo. The findings indicate that community representatives would benefit from training on tools for online information sharing (even if only to reduce the burden, and dependence on, the individual who already offer these skills), and how to use analytics and demographic data to know more about their audiences.

This analysis represents a new contribution on the role of proxies in online information sharing environments where there is low engagement. First, practical examples of information seeking by proxy, as introduced by McKenzie (2003) and elaborated by Savolainen (2008), are provided. In addition, other information sharing related 'proxied' activities on the part of community representatives have been identified:

1. To profile the membership of communities served – in this case with reference to expectations of community council offerings of community councillors themselves and attendees at community council meetings
2. To evidence 'silent' engagement - here through the examination of digital footprints
3. To information share – in this instance through confirming that relevant material identified has already been put into the public domain by other intermediaries

This adds to growing literature on the use of proxies online (such as Newlands, Lutz and Hoffman, 2018).

The research in this area could be extended in a number of ways. First, from an e-participation perspective it must be emphasised that this analysis does not consider why so few citizens engage in hyperlocal democracy online, nor question whether or not levels of low participation are important, and – if so – the means of addressing this. It would also be valuable to conduct a study similar to the one reported here at other levels of democratic representation. It is anticipated that such future work would generate a better understanding of the influence of geographic proximity on information sharing efforts, and possibly explain further opinion on the need (or not) for online engagement, as expressed by the interviewees who took part in this study. Finally, there is potential to develop the new notion of information *sharing* by proxy, particularly with reference to generalised forms of exchange.

Acknowledgements

References

Buunk, I., Smith, C.F. & Hall, H. (2018). Tacit knowledge sharing in online environments: locating 'Ba' within a platform for public sector professionals. *Journal of Librarianship and Information Science.* https://doi.org/10.1177/0961000618769982

Carey, J.W. (1989). *Communication as culture. Essays on media and society.* Boston, MA: Unwin.

Chen, Y. & Hew, K.F. (2015). Knowledge sharing in virtual distributed environments: main motivators, discrepancies of findings and suggestions for future research. *International Journal of Information and Education Technology, 5*(6), 466-571. https://doi.org/10.7763/IJIET.2015.V5.551

Cooke, N. A. (2014). Connecting: adding an affective domain to the information intents theory. *Library and Information Science Research*, *36*(3–4), 185–191. http://doi.org/10.1016/j.lisr.2014.07.002

Cranefield, J., Yoong, P., & Huff, S. L. (2015). Invisible leading and following in a knowledge transfer ecosystem. *Journal of the Association for Information Systems*, *16*(4), 213–247.

Cruickshank, P., Edelmann, N., & Smith, C. F. (2010). Signing an e-petition as a transition from lurking to participation. In J. Chappellet, O. Glassey, M. Janssen, A. Macintosh, J. Scholl, E. Tambouris, & M. Wimmer (Eds.), *Electronic Government and Electronic Participation* (pp. 275–282). Linz, Austria: Linz, Austria: Trauner Verlag. Available at http://ebooks.iospress.nl/volumearticle/40799

Cullen, R., & Sommer, L. (2011). Participatory democracy and the value of online community networks: an exploration of online and offline communities engaged in civil society and political activity. *Government Information Quarterly*, *28*(2), 148–154. http://doi.org/10.1016/j.giq.2010.04.008

Edelmann, N. (2013). Reviewing the definitions of "lurkers" and some implications for online research. *Cyberpsychology, Behavior, and Social Networking*, *16*(9), 645–649. http://doi.org/10.1089/cyber.2012.0362

Edelmann, N. (2017). *Online lurking: Definitions, Implications, and effects on E-Participation*. Talinn, Estonia (Tallinn University of Technology, Ph.D. dissertation). http://doi.org/10.13140/RG.2.2.21750.70725

Edelmann, N., Parycek, P., & Schossbock, J. (2011). The unibrennt movement: a successful case of mobilising lurkers in a public sphere. *International Journal of Electronic Governance*, *4*(1/2), 43. http://doi.org/10.1504/IJEG.2011.041707

Ellison, N., & Hardey, M. (2014). Social media and local government: citizenship, consumption and democracy. *Local Government Studies*, *40*(February 2015), 21–40. http://doi.org/10.1080/03003930.2013.799066

Evans, C. (2018). In Lewis, J. (Ed.) (Ed.), *Analysing semi-structured interviews using*

thematic analysis: Exploring voluntary civic participation among adults. 55 City Road, United Kingdom: SAGE Publications, Ltd. doi: 10.4135/9781526439284

Fedotova, O., Teixeira, L. & Alvelos, H. (2012). E-participation in Portugal: evaluation of government electronic platforms. *Procedia Technology 5*, 152-161.

Hall, H. (2003). Borrowed theory: applying exchange theories in information science research. *Library and Information Science Research*, 25(3), 287-306. https://doi.org/10.1016/S0740-8188(03)00031-8

Hall, H., Cruickshank, P., & Ryan, B. (2018a). Practices of community representatives in exploiting information channels for citizen democratic engagement. *Journal of Librarianship and Information Science*, http://doi.org/10.1177/0961000618769966

Hall, H., Cruickshank, P., & Ryan, B. M. (2018b). Exploring information literacy through the lens of activity theory. In *European Conference on Information Literacy* (Vol. 810, pp. 803–812). St Malo: Springer. http://doi.org/10.1007/978-3-319-74334-9_81

Hall, H., & Graham, D. (2004). Creation and recreation: motivating collaboration to generate knowledge capital in online communities. *International Journal of Information Management*, *24*(3), 235-246. https://doi.org/10.1016/j.ijinfomgt.2004.02.004

Hall, H., Widén, G., & Paterson, L. (2010). Not what you know, nor who you know, but who you know already: examining online information sharing behaviours in a blogging environment through the lens of social exchange theory. *Libri*, *60*(2). http://doi.org/10.1515/libr.2010.011

Hung, S.-Y., Lai, H.-M., and Chou, Y.-C. (2015). Knowledge-sharing intention in professional virtual communities: A comparison between posters and lurkers. *Journal of the Association for Information Science and Technology 66*(12), 2494-2510 https://doi.org/10.1002/asi.23339

Krabina, B. (2016). The e-participation ladder – advancing from unawareness to impact participation. In P. Parycek & N. Edelmann (Eds.), *CeDEM16 Proceedings of the International Conference for E-Democracy and Open Government* (p. 75). Krems, Austria: Edition Donau-Universität Krems.

Kubicek, H. (2016). What difference does the "e" make? comparing communication channels in public consultation and collaboration processes. In G. Aichholzer, H. Kubicek, & L. Torres (Eds.), *Evaluating e-Participation* (pp. 307–331). Cham: Springer International Publishing. http://doi.org/10.1007/978-3-319-25403-6_15

Linders, D. (2012). From e-government to we-government: defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly*, *29*(4), 446–454. http://doi.org/10.1016/j.giq.2012.06.003

Malinen, S. (2015). Understanding user participation in online communities: A systematic literature review of empirical studies. *Computers in Human Behavior*, *46*(2015), 228–238. http://doi.org/10.1016/j.chb.2015.01.004

Matthews, P. (2012, August 24). The longue durée of community engagement: New applications of critical theory in planning research. *Planning Theory*. http://doi.org/10.1177/1473095212455212

Medaglia, R. (2012). e-participation research: moving characterization forward (2006–2011). *Government Information Quarterly*, *29*(3), 346–360. http://doi.org/10.1016/j.giq.2012.02.010

McKenzie, P. (2003), "A model of information practices in accounts of everyday-life information seeking". Journal of Documentation, 59(1), 19-40. https://doi.org/10.1108/00220410310457993

Newlands, G., Lutz, C. & Hoffman, C.P. (2018). Sharing by proxy: invisble users in the sharing economy. *First Monday, 23*(11). https://firstmonday.org/ojs/index.php/fm/article/view/8159/7604

Norton, P. (2007). Four models of political representation: British MPs and the use of ICT. *The Journal of Legislative Studies*, *13*(3), 354–369. http://doi.org/10.1080/13572330701500771

Panagiotopoulos, P., Bowen, F., & Brooker, P. (2017). The value of social media data: integrating crowd capabilities in evidence-based policy. *Government Information Quarterly*, *34*(4), 601–612. http://doi.org/10.1016/j.giq.2017.10.009

Pilerot, O. (2012). LIS research on information sharing activities – people, places, or information. *Journal of Documentation*, *68*(4), 559–581. http://doi.org/10.1108/00220411211239110

Pilerot, O. (2013). A practice theoretical exploration of information sharing and trust in a dispersed community of design scholars. *Information Research*, 18(4) paper 595. Retrieved from www.informationr.net/ir/18-4/paper595.html (Archived by WebCite® at http://www.webcitation.org/6M8gawYnD)

Preece, J., & Schneiderman, B. (2009). The reader-to-leader framework: motivating technology-mediated social participation. *AIS Transactions on Human-Computer Interaction*, *1*(1), 13–32. http://doi.org/10.5121/ijfcst.2014.4403

Ryan, B. M., & Cruickshank, P. (2014). *Scottish community councils online: the 2014 survey*. Edinburgh: Edinburgh Napier University. http://doi.org/10.14297/enr.2016.000002

Saglie, J., & Vabo, S. I. (2009). Size and e-democracy: online participation in Norwegian local politics. *Scandinavian Political Studies*, *32*(4), 382–401. http://doi.org/10.1111/j.1467-9477.2009.00235.x

Savolainen, R. (2008). *Everyday information practices: a social phenomenological approach*. Lanham, MD: Scarecrow Press.

Savolainen, R. (2017). Information sharing and knowledge sharing as communicative activities. *Information Research*, *22*(3), 767. Available at http://www.informationr.net/ir/22-3/paper767.html

Seo, H. S., & Raunio, T. (2017). Reaching out to the people? Assessing the relationship between parliament and citizens in Finland. *The Journal of Legislative Studies*, *23*(4), 614–634. http://doi.org/10.1080/13572334.2017.1396694

SIMD (2016). Scottish Index of Multiple Deprivation. Available at https://simd.scot/2016/#/simd2016/BTTTFTT/9/-4.0000/55.9000/ (accessed 1st August 2019).

Svensson, J. (2018). Lurkers and the fantasy of persuasion in an online cultural public sphere. In J. Schwanholz, T. Graham, & P. T. Stoll (Eds.), *Managing Democracy in the Digital Age* (pp. 223–241). https://doi.org/10.1007/978-3-319-61708-4_12

Takahashi, M., Fujimoto, M., & Yamasaki, N. (2007). *Active lurking: enhancing the value of in-house online communities through the related practices around the online communities* (No. 4646-07). *CCI Working paper*. Cambridge MA. http://dx.doi.org/10.2139/ssrn.1041261

Taylor-Smith, E., & Smith, C. F. (2018). Investigating the online and offline contexts of day-to-day democracy as participation spaces. *Information, Communication & Society*, 1–18. http://doi.org/10.1080/1369118X.2018.1469656

Wang, J., Zhang, R., Hao, J-H., Chen, X. (2019). Motivation factors of knowledge collaboration in virtual communities of practice: a perspective from system dynamics. *Journal of Knowledge Management, 23*(3), 466-488. https://doi.org/10.1108/JKM-02-2018-0061

Williamson, A. (2015). Embedding Digital Advantage: A five-stage maturity model for digital communities. *The Journal Of Community Informatics*, *11*(2). Available at http://www.ci-journal.net/index.php/ciej/article/view/1214

Wilson, T. D. (2010). Information sharing: an exploration of the literature and some propositions. *Information Research*, *15*(4). Available at http://www.informationr.net/ir/15-4/paper440.html

Yan, Z., Wang, T., Chen, Y. & Zhang, H. (2016). Knowledge sharing in online health communities: a social exchange theory perspective. *Information and Management, 53*(5), 643-653. https://doi.org/10.1016/j.im.2016.02.001

Information literacy as a joint competence shaped by everyday life and workplace roles amongst Scottish community councillors

Peter Cruickshank[1], Hazel Hall, Bruce Ryan
Centre for Social Informatics, Edinburgh Napier University

Abstract

Introduction: This paper addresses the information practices of hyperlocal democratic representatives, and their acquisition and application of information literacy skills.

Method: 1034 Scottish community councillors completed an online questionnaire on the information-related activities they undertake as part of their voluntary roles, and the development of supporting competencies. The questions related to: information needs for community council work; preparation and onward dissemination of information gathered; factors that influence community councillors' abilities to conduct their information-related duties.

Analysis: Data were summarised for quantitative analysis using Microsoft Excel. Free text responses were analysed in respect of the themes from the quantitative analysis and literature.

Results: Everyday life and workplace roles are perceived as the primary shapers of information literacy as a predominantly joint competence.

Conclusion: The focus of information literacy development has traditionally been the contribution of formal education, yet this study reveals that prior employment, community and family roles are perceived as more important to the acquisition of relevant skills amongst this group. This widens the debate as to the extent to which information literacy is specific to particular contexts. This adds to arguments that information literacy may be viewed as a collective accomplishment dependant on a socially constructed set of practices.

Keywords

---

[1] Corresponding author: p.cruickshank@napier.ac.uk

Manuscript of paper accepted for ISIC 2020 in Pretoria, September 2020

1. Introduction

Presented in this paper is a study of the information behaviour and practices of a group of hyperlocal democratic representatives, and their acquisition of the information literacy skills that underpin their work. The influence of various roles in the development of information literacy, and the collaborative characteristics of information activities on which this depends, are examined.

The analysis presented extends prior research on the information practices of unpaid Scottish community councillors, and on the perceptions of members of this community in respect of the value of information skills, needs for information literacy training and the role of the public library in supporting community council work (Hall, Cruickshank & Ryan, 2018, 2019; Cruickshank & Hall, 2020). This new work responds to calls for greater attention to be paid to information literacy research in settings other than educational institutions and libraries (e.g. Martzoukou & Sayyad Abdi, 2017). Hence, in this paper 'information literacy' is conceptualised as a suite of competencies "connected to searching for, critically evaluating and using information effectively to solve everyday problems" (Martzoukou & Sayyid Abdi, 2017, p.634).

The report of the empirical study is framed by a literature review that summarises relevant prior work on: information literacy in civic/political contexts; workplace information literacy (in acknowledgement of the quasi-work environment in which volunteer community councillors operate); contextual factors and 'life roles' deemed important to the acquisition of information literacy; and information literacy as an individual or joint competence. Then follows an account of research design and implementation. The research findings derive from the analysis of survey data collected from 1034 Scottish community councillors. Everyday life and workplace roles (rather than formal education) are revealed as the primary shapers of information literacy as a joint competence amongst Scottish community councillors. The detail presented is significant for an understanding of the development of information literacy within quasi-work communities, and its enactment as collaborative practice. This work adds to a neglected area of research in the area, i.e. information literacy amongst unpaid democratic representatives.

2. Literature review

The findings from the research discussed in this paper contributes to extant knowledge on information literacy in civic and political contexts. It draws on the analysis of data collected from Scottish community councillors who work, albeit on a voluntary basis, at the lowest 'hyperlocal' tier of democracy in Scotland. To date, investigations of this nature have been rare amongst a plethora of research outputs predominantly concerned educational environments, as has been noted by many researchers in the field (for example, Hollis, 2018, p. 79; Martzoukou & Sayyad Abdi, 2017, p. 635).

Prior studies of broad thematic relevance to the work reported here have considered the collaborative nature of information literacy in government (Kauhanen-Simanainen, 2005, 2007); the participation (or not) of citizens in political processes (for example, Smith, 2016); the use of Facebook by election candidates (Bronstein, Ahorony & Bar-Ilan, 2018); digital media deployment of European Union parliamentarians (Theiner, Schwanholz & Busch,

2018). Other studies, while not focused on information literacy per se, have drawn attention to such skills in broader investigations of information behaviour and use in civic and political contexts (for example, Killick, Hall, Duff & Deakin, 2016, p. 393). There is, however, an apparent dearth of studies on themes of specific relevance to the themes of this paper (Hall et al., 2018, 2019).

While it should be acknowledged that Scottish community councillors are *unpaid* democratic representatives, the activities that they perform may be considered a form of voluntary *work*. As such, the literature on workplace information literacy provides a preface for the empirical study discussed below. As is the case of studies of information literacy in civic and political contexts, the body of research on workplace information literacy is also small and under-researched (Lockerbie & Williams, 2019). In 2014, for example, Williams, Cooper and Wavell identified only 41 papers on this theme. However, it is growing (Forster, 2019, p. 349), and there are further calls for its expansion (Ahmad & Widen, 2018, p. 2). In a recent literature review, the types of professional groups investigated in studies of workplace information literacy have been identified to include a range of employees such as scientists, engineers and health professionals (Martzoukou & Sayyad Abdi, 2017, p. 638). A strong message from this body of work is that information literacy is contextual, and that workplace information literacy is therefore situated and enacted in practice (Forster, 2017; Goldstein & Whitworth, 2017; Lloyd, 2013, p. 223; Lloyd, 2017, p. 101). Information literacy practice is thus social, embodied and temporally and geographically related (Lloyd, 2017, p. 101; Olsson, 2014, p. 84; Webber & Johnston, 2017, p. 158). This implies a shift in focus from the individual to the social (workplace) context, with an emphasis on situated, rather than generic, skills.

Within this extant body of literature on workplace information literacy, it has been established that contextual factors contribute to its acquisition. These factors include prior education, self-efficacy, previously acquired knowledge and experience, and other social factors. In their literature review, Martzoukou & Sayyad Abdi (2017) emphasise in particular the importance of different roles in underpinning information literacy development (Table II, p. 655). These roles may be professional (p. 638), in healthcare (p. 649) and in informal care (p 651), and social such as citizenship (p. 643), and motherhood (p. 651). The term 'life roles' is used to refer to these roles collectively. Of direct relevance to the empirical work reported here, are suggestions in prior work that the information literacy skills needed for community engagement may be shaped by family roles and relationships, location (rural or urban), and factors associated with the digital divide. It is thus implied that opportunities for citizens to develop their information literacy are not equal (p. 644).

Regardless of their levels and means of their acquisition, however, there is mixed evidence on the extent to which information literacy skills gained in one work environment are transferable to another. In some cases, it is argued that the situated nature of information literacy means that many workers are not able to apply elsewhere information literacy skills developed in one specific context. In contrast, there are documented cases where the social context provides skills and support for applying knowledge and skills across boundaries (Forster, 2015, p. 63, citing Bruce and Hughes, 2010). In particular, in the small body of published research that concerns 'everyday life' information literacy and 'ordinary' people, attention is drawn to the importance of applying information literacy skills from one life context to another. For example, it has been argued that skills acquired in the workplace

might be transferable to a hobby, citizenship or community activity, and to other social roles in informal social settings where the evaluation and methodological use of information sources is required (Martzoukou and Sayyad Abdi, 2017).

Having considered prior work on information literacy of relevance to the specific context of the study reported in this paper (i.e. on civic and community quasi-workplaces, and the transferability of relevant skills from one context to others), it is worth highlighting the distinction between the treatment of information literacy as a competence of the individual, and of the group.

Since information literacy research has its origins in education and librarianship (as noted, for example, by Crawford and Irving, 2009 p. 30; Forster, 2017; Lloyd, 2017 p. 92; Martzoukou and Sayyad Abdi, 2017 p. 635), it has traditionally been conceptualised as a component of the learning process (Behrens, 1994 p. 317; Ferguson, 2012 p. 26; Hollis, 2018 p. 84). This is often with reference to a defined target, such as the submission of a paper, piece of coursework, or project report. The implication here is that information literacy is a personal attribute, developed in individuals who work independently (Forster, 2015, p. 63). This is reflected in the representation of competencies in 'educational' models of information literacy (such as SCONUL, 2011), and narratives around the term (see, for example, CILIP, 2018).

To a lesser degree, information literacy has also been considered as an attribute of the workplace in that is owned collectively, and applied jointly (Lloyd, 2013). Here information literacy is viewed as socially constructed and situated within collective and/or collaborative dimensions (for example, Collard, Smedt, Fastrez, Ligurgo & Philippette, 2016, p. 82; Crawford & Irving, 2009, p. 30; Felstead & Unwin, 2016, p. 20; Hall et al., 2018; Lloyd, 2004, p. 218; 2017 p. 92). As Collard et al. (2016, p.82) explain:

> *We consider information literacy to be social in at least three ways: (1) it relies on social relationships and organization as resources for its expression and development, (2) it shapes social relationships and social organization, and (3) it is (at least in part) a collective accomplishment.*

That everyday information literacy is also seen as an inherently collaborative cross-group construct, where skills are acquired and applied from multiple sources (Martzoukou & Sayyad Abdi, 2017, p. 642), strengthens the argument for considering information literacy more readily as an attribute of the group (albeit acknowledging that group information literacy depends on that of individuals). The way in which this joint activity is structured, however, remains under-researched, albeit that Hall et al. (2018) have shown that Activity Theory can usefully be applied to unpick this phenomenon.

The analysis of prior research on information literacy conducted for the study as summarised here surfaced a number of opportunities to contribute to the domain in an investigation into the information practices of Scottish community councillors. This contribution comprises two main strands on: (1) the development of information literacy skills based on experience of life roles (as defined above); and (2) the levels at which information literacy is operationalised.

3. Methods

Two main research questions are addressed in this paper:

1. What is the relative importance of life roles that shape the information literacy of Scottish community councillors?
2. To what extent is information literacy operationalised as an individual/joint competence in the quasi-work environment of a community council?

The empirical work was conducted using the survey method. Following ethical approval and piloting, an online questionnaire comprised 26 questions was advertised through channels used by the Scottish community councillor population. It was made available to this community (only) for completion over a period of four weeks in March/April 2017.

Four questions in the questionnaire were analysed to address the two research questions noted above:

- In your community council, who decides the aims and methods for gathering information about local issues? In your community council, who finds, edits and presents information about local issues? (Question 3)

- In your community council, who decides that the community council has found enough information about local issues? (Question 4)

- How much have any of these (present or past) roles helped you learn how to process information relevant to your community council work? (Question 5)

- If any other life-roles or factors helped you learn how to find, process/edit and share information relevant to your community council work, please tell us what they are and how helpful they have been. (Question 17)

Each question was framed around (a) the information-related roles of community council members (i.e. assigned responsibilities for identifying information needs, determining the means of meeting these information needs, accessing the information sought, and its dissemination) and (b) life roles (as defined above) that prepare community councillors for information work in hyperlocal democracy.

The groupings of life role presented to the respondents in the questionnaire were derived from the findings of another project to which Scottish community councillors had previously contributed (Hall et al, 2018). Equally, close reference to competencies as articulated in information literacy models available at the time (e.g. SCONUL, 2011) helped to guide the design of questions related to skills, and to organise data for analysis.

The response format for each of the questions allowed for the submission of both (scalar) quantitative and (free text) qualitative data. In addition, data on respondent demographics were collected in order to gain an understanding of the general profile of respondents, for example in terms of age, gender, highest level of education, ethnicity and employment status.

Particular care was taken over wording of actual questions to avoid the use of 'technical' terms that may be meaningful in academia, but not elsewhere. For example, it was anticipated

Manuscript of paper accepted for ISIC 2020 in Pretoria, September 2020

that community councillors would not be conversant with the broad term 'information literacy', nor familiar with the terminology of established information literacy models, such as the pillars of the SCONUL model (2011): Identify, Scope, Plan, Gather, Manage, Present and Evaluate. Therefore, during the piloting of the questionnaire respondent understanding of proposed wording for individual questions was checked. For example, it was found that the phrase 'learn how to process information' elicited reflections from participants on information literacy skills development (in line with the working definition of information literacy presented above) so this wording was adopted in the final version of the questionnaire as a proxy for 'develop information literacy skills'. It is acknowledged that 'simplifying' the vocabulary of the questionnaire in this way for a lay audience reduced its level of sophistication, and leaves it open to criticism. Similarly, caution is required when drawing conclusions from self-reported scalar responses to questions of opinion. This is because it is impossible in this case to be certain that all study respondents understood the scales in the same way, and there was no opportunity to provide for them to provide nuanced responses to the questions posed. The option of supplying additional free text comments was offered as a means of reducing these limitations.

Figure 1 below gives an overview of the stages in research design and data collection, including a pilot phase during which the questionnaire was developed and tested.
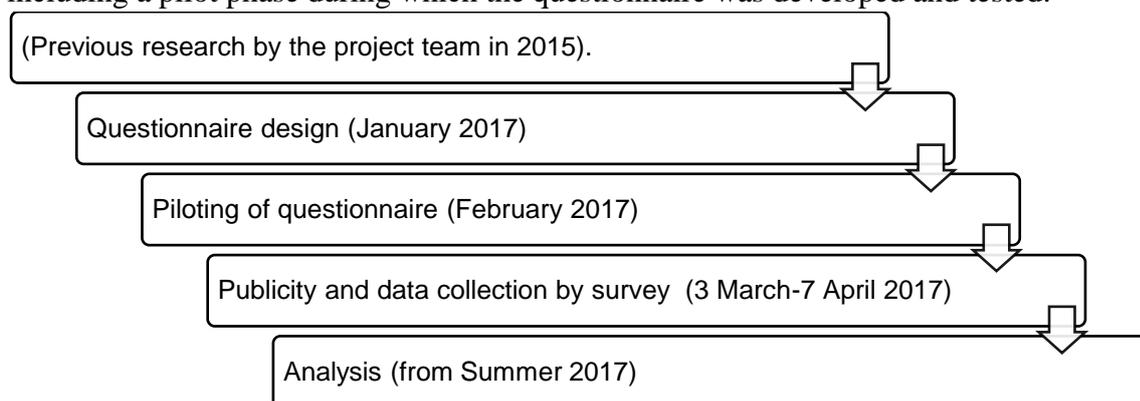
Figure 1: Overview of the data collection process

In total, 1034 community councillors responded to the call to complete the questionnaire. Given the estimate of 12,000 community councillors in Scotland (Hall et al., 2019), this represents around 8% of the total population. Some respondents abandoned the questionnaire part-way through completion, or did not answer all the questions. Whether or not this was due to its length is uncertain. Whatever the reason, the number of usable responses for data analysis is lower than 1034. The details of the questionnaire themes, data sought and levels of response are summarised in Table 1.

Theme	Specific data sought on:	Free text responses	Scalar responses
Information needs analysis, and strategy for meeting information needs (Q3)	Who within the community council: • determines the information to be gathered • decides the means of gathering this information	223	963
Information seeking, reformatting, and dissemination (Q4)	Who within the community council: • finds this information • edits this information • presents this information		
Information saturation (Q5)	Who within the community council: • decides that enough information has been gathered	712	
Factors that have an impact on the ability of individuals to conduct community council information work (Q17)	• community council roles • life roles • other factors	144	876

Table 1: Questionnaire themes, data sought and levels of response

In addition to the responses summarised in the table above, 866 participants provided demographic data.

The quantitative data were summarised for analysis using Microsoft Excel. Following this, the free text responses, which were brought together in a single file according to question, were reviewed manually. This exercise took into account themes from the literature review, and provided further insight to the quantitative analysis for the account of the findings that follows below.

4. Findings and discussion

4.1 Demographics of respondents

The demographic data were first evaluated to establish the representativeness of the responses. This analysis, summarised in Table 2 below, revealed the questionnaire respondents as predominantly white, well-educated, male and over-55 years of age. The largest 'employment' group was 'retired'. These findings were not entirely unexpected: they fit with both observed compositions of community council membership and findings of prior research in the domain (Hall et al., 2018).

Gender	57% male, 43% female
Age	69% over 55, 27% aged 36-55, 4% under 35
Employment	48% retired, 38% employed, 14% other
Education	56% university/professional
Ethnicity	95% white
Origin	76% Scotland, 18% England, 6% other

Table 2: Demographics of respondents

However, it should be noted that those who completed the questionnaire were motivated to do so because they had an interest in the study and the time to participate in it. Thus, the findings reported below are likely to be more representative of the opinion of engaged community councillors with time to participate in the study, rather than of members of the community councillor population in general.

4.2 Life roles that shape the information literacy of Scottish community councillors

876 respondents answered the question on the value of different life roles (as conceived above) that shape the development of information literacy. For ease of questionnaire completion, a six-point Likert scale (0-5) was offered so that the respondents could give a rating for the seven life roles listed in Table 3 in response to Question 5. The table summarises the data in ranked order, with the majority responses highlighted.

Source: Q17 *n*=876.	'very helpful' or 'helpful' (5,4)	'not helpful at all' or 'not relevant' (0,1)	Neutral responses (2,3)	Total
workplace roles*	**71%**	16%	23%	100%
being a friend or neighbour	**52%**	18%	30%	100%
family roles**	**42%**	32%	26%	100%
social clubs[†]	32%	**47%**	31%	100%
work context[††]	29%	**54%**	27%	100%
being a student	23%	**58%**	19%	100%
being a child/ at school	13%	**69%**	28%	100%

[*] being an employee, manager
[**] being a parent, grandparent
[†] being a member of a sports or social/recreational organisation
[††] being in a trade union or professional body

Table 3: Relative value of life roles to the development of information literacy

The figures in the table show a distinction between the extent to which different life roles are perceived by community councillors to have contributed to the development of their information literacy skills. The indication here is that they believe that paid employment is perceived to offer most value, and formal education the least.

In their textual responses, 52 out of 876 respondents were specific about the nature of paid employment that had supported their acquisition of information literacy skills. For example, almost half (20) mentioned work roles in academia, education and/or training. Experience at director or managerial level was also cited often (15 respondents), as was work with, or for, religious bodies (9 respondents).

As well as formal work roles, the analysis of textual responses revealed that unpaid voluntary work is deemed important. This includes, for example, service for the Scout and Guide movements, and a range of other unpaid work activities such as citizens' advice, church, and emergency response roles.

Figure 2 shows that in respect of the three top roles identified in Table 3, almost one third of respondents (278 out of 876, 32%) rated all three highly. In total 715 (82%) identified one or other of these roles to be helpful.

*Manuscript of paper accepted for ISIC 2020 in Pretoria, September 2020*
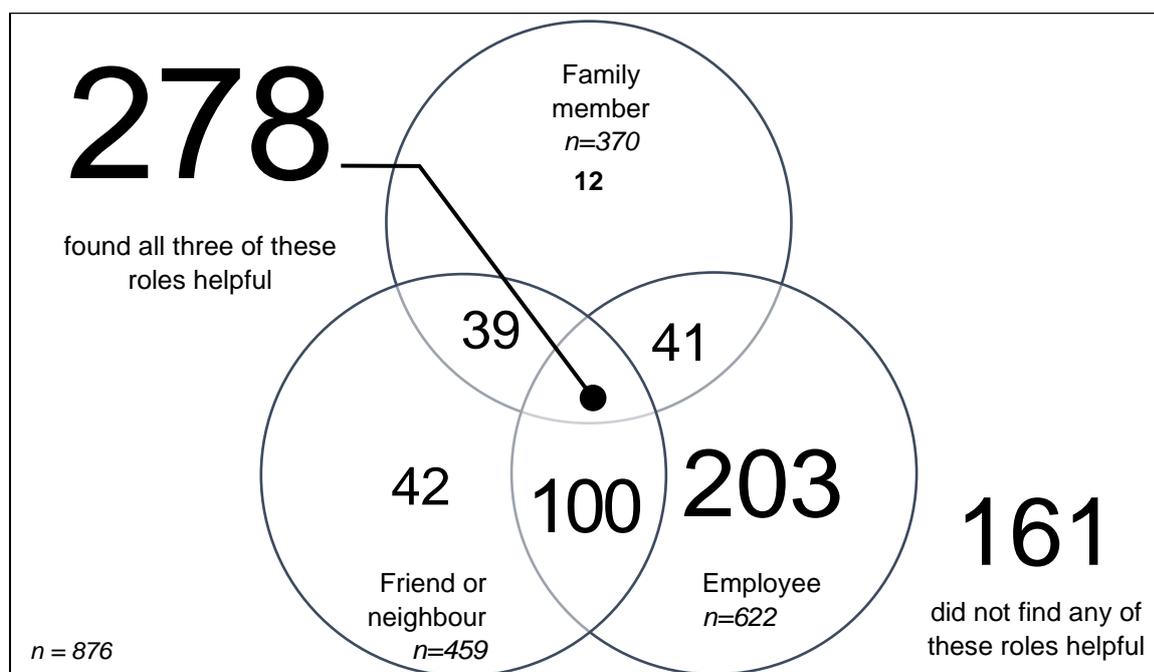
Figure 2: Value of the top three life roles to the development of information literacy

Social context is, of course, an important factor in the development of information literacy skills. However, is clear that some social contexts are perceived by these study participants as more important than others. For example, such as social clubs, or professional or trade union involvement) do not feature in Figure 2.

From these findings it can be seen that it is a combination of experiences from across life (some of which are more important than others) that underpins the development of information literacy amongst this cohort of volunteer community representatives. A comment from respondent 590 serves as illustration of the wide variety of experiences that could contribute to the development of competences in information literacy:

> *All [the roles listed] have played a part in my life, and made me who I am - I do not subdivide experience like this. Having said that I was a teacher for 37 years ... I am also heavily involved in church ... I am a trustee of five different charities, music (3 choirs, in one of which I have held office), philately (4 different societies) ... and in my time written countless minutes as well as still looking after 9 non-personal Bank accounts! I have gained experience from all of these and on top of that I did my teacher training [abroad] and taught there, living there for over three years. I have been married for over 40 years, have a daughter and a grand-daughter, so these all contribute!*

Informal, everyday and lifelong activities in combination are important to information literacy development in the older population represented in this study. Even the well-educated individuals surveyed emphasised contexts that are more immediate over their past education as the main source of the skills required to carry out their information-related community councillor roles. These findings lend support to the view that workers (in this case older adults contributing in a voluntary capacity) are able to apply information literacy developed in one specific context to another, as proposed in a number of the studies identified by Martzoukou and Sayyad Abdi (2017) in their literature review cited above.

Manuscript of paper accepted for ISIC 2020 in Pretoria, September 2020

4.3 Information literacy operationalised as an individual/joint competence in a quasi-work environment

The analysis of questionnaire data on the allocation and execution of information activities within community councils points to the extent to which information literacy skills might be operationalised as an individual or joint competence in this quasi-work environment. Extracted from the quantitative data set, and presented in Table 4, are figures for information activities that are considered by community councillors to be completed individually themselves, jointly with others, and by other people. The activities correspond with those articulated in commonly cited 'educational' models of information literacy such the SCONUL pillars (2011), and the CILIP information literacy themes (2018). For ease of reference, the appropriate SCONUL pillars have been included in the table.

Activity		Likert scale. Activity completed… 5 = …independently 4 = …mostly independently 3 = …jointly 2 = …mostly by another person 1 = …by another person					Total
Question	**Pillar**	**5**	**4**	**3**	**2**	**1**	**Σ**
In your community council, who decides the aims and methods for gathering information about local issues?							
deciding the aims (what to do)	Scoping	21	59	**815 (85%)**	35	33	**963**
deciding the methods (how to do it)	Planning	22	91	**786 (82%)**	33	31	**963**
In your community council, who finds, edits and presents information about local issues?							
finding information	Gather	50	138	**646 (67%)**	82	47	**963**
finding local residents' opinions	Gather	15	96	**740 (77%)**	73	39	**963**
editing information	Managing	61	173	**470 (49%)**	179	80	**963**
presenting information	Presenting	83	156	**516 (54%)**	138	70	**963**
In your community council, who decides that the community council has found enough information about local issues?	Evaluating[*]	14	56	**730 (84%)**	40	26	**866[**]**

[*] To establish that enough relevant information has been gathered.

[**]This question had an 'unknown' option, which was selected by 97 respondents

Table 4: Responsibility for the execution of information activities in community councils

The data in the highlighted column indicate that all activities bar one (editing information) are largely considered as collaborative endeavours in the community councils by the majority of questionnaire respondents.

Some study participants provided textual responses to the questions on the execution of information activities within community councils. From an analysis of these qualitative data, it is possible to assess further the extent of collaboration around information activities within community councils, and the levels of formality in such work. While the 'headline' figures from the analysis of the quantitative data are emphatic, the analysis of the qualitative data

reveals that the implementation of this 'joint' activity is not straightforward: it depends on a range of information practices, as shown below.

Informal collaborative information work largely focuses on information sharing in face-to-face encounters. This happens, for example, in the street in small communities ('Being a small community you meet fellow community councillors in the village' Respondent 1096), or through the deployment of digital media ('We interact via website, Facebook and Twitter… and are trialling Slack to make communication more efficient' Respondent 1059). The respondents also mentioned collaborating over email frequently in their questionnaire returns. For example, Respondent 1265 noted:

> *We are fortunate that every member of our community council has access to email, so we do a lot of work 'together' by circulating emails and responding to them.*

Amongst the more formal approaches to joint information activities, some community councils have established special interest groups. For example, Respondent 79 referred in the questionnaire return to 'a subcommittee that look into planning matters'. In others, information gathering tasks are delegated to individual community councillors who then report back to the community council, as explained by Respondent 167:

> *We each have an area of responsibility. Information gathering and dissemination in that particular area is the individual's responsibility. Any correspondence will come jointly from the community council.*

In such cases, information work that has been completed by individuals with assigned areas of responsibility is 'packaged' for onwards dissemination in a way that gives the impression of joint work, even though this is not strictly the case.

Office bearers play a greater role than their colleagues in preparing the information for onward dissemination, as explained by Respondent 497:

> *All members of the community council generally provide information obtained from their own contacts. Office-bearers generally co-ordinate activities relating to editing and presentation.*

Conducting information work jointly in this way is valued because it allows for consent and consensus to be reached in groups. Respondent 1308, for example, highlighted that consensus is crucial to the community councillor role: 'I can only operate by consent'.

In some community councils there may be a dependence on small number of active members (other than, or as well as, office bearers). This is illustrated in the comment below made by Respondent 975:

> *A number of our councillors are very passive and will just consume information, but a smaller number are more active, and we work collaboratively.*

Similarly Respondent 443 admitted:

We have a small number of very active members who are working across sub-committees under Planning, Business, Environment and Youth to ensure that the community's needs are communicated and responded to.

These findings on the collective endeavour of community councillors fit well with dominant messages from prior research on workplace information literacy, as reported above: that it is enacted in practice, and relates to the social environment in which information activities take place. They also articulate with arguments from the everyday information literacy literature which propose that information literacy should be primarily considered an attribute of groups, rather than of individuals (although in practice, it is both since group information literacy depends on skills of individuals brought together). On the basis of the analysis presented here, it can be argued that information activities conducted within community councils are collaborative, depend on social relationships and organisation, and lead to collective accomplishment.

5. Conclusion

The completion of this study has allowed for the investigation of the social context of the application of information literacy skills in a domain that has previously been unexplored in detail: the execution of quasi-work duties of elected representatives at the hyperlocal level of democracy. It offers a novel contribution on the source of competencies in information literacy to underpin collaborative information activities. The findings throw light on two research questions:

1. What is the relative importance of life roles that shape the information literacy of Scottish community councillors?
2. To what extent is information literacy operationalised an individual/joint competence in the quasi-work environment of a community council?

Figure 3 below summarises the main findings from this study in respect of Research Question 1. The life roles that appear to support the development of information literacy most readily amongst Scottish community councillors are those of employer/employee, family member, and friend or neighbour. The figure also highlights that the application of information literacy skills in joint activities with other hyperlocal representatives is important to the effective execution of the community representative role.

That roles related to employment, community and family, i.e. the workplace and everyday life, emerged as the most important in this study is significant. This is because, to date, the contribution of formal education is traditionally the main focus of research on the development of information literacy skills (for example, Sample, 2020). This evidence of the ready application of information literacy skills acquired in one environment to another is also noteworthy because this widens the debate as to the extent to which information literacy skills are specific to particular contexts.
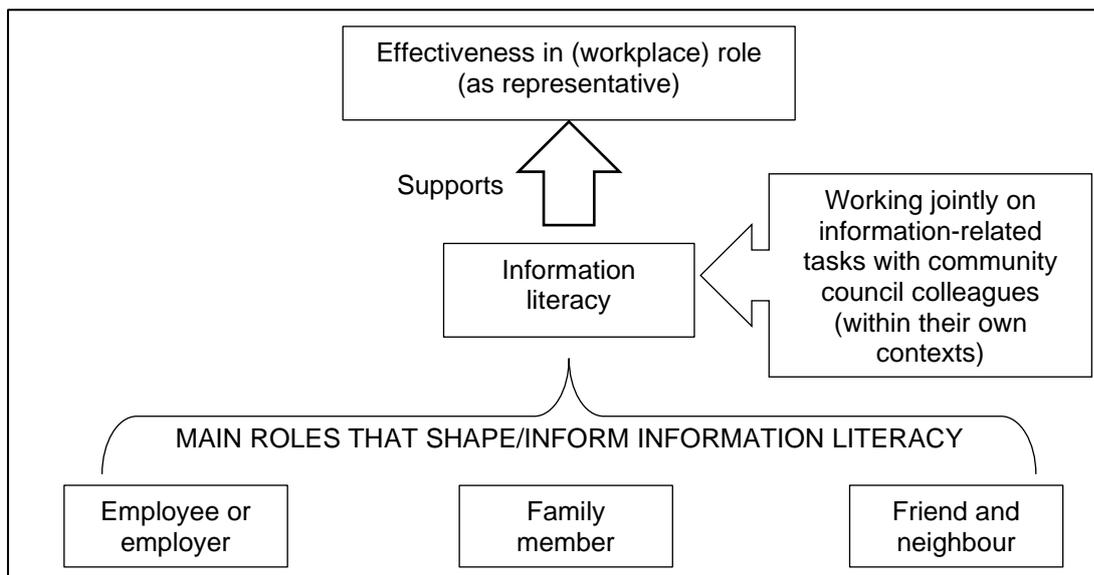
Figure 3: Factors underpinning community councillors' effectiveness

Respondent profile, however, should be taken into account when considering the significance of these findings. It is possible that early life roles have an impact on the development of information literacy that is later mediated through post-educational experiences and/or lifelong learning. Most participants in this study were over 55 years old, therefore somewhat removed in time from their experiences of formal education and, as a result, may have underestimated the influence of their formative years in their questionnaire responses. Even so, it is important to bear in mind that this population is, in the main, highly educated and might be expected to be more conscious of, and value, education. While representing a limitation to this study, these issues illustrate the challenge of attempting objective measurement of perceptions across information literacy research that is undertaken in non-educational settings (Cruickshank & Hall, 2020). To address this, a similar study could be executed with attention paid to specific cohorts by age, ideally with reference to technological and societal changes that may have had an impact on the shaping of the information literacy of participants over their lifetime. At the same time, it would be worthwhile to extend the work beyond simply identifying the important life roles to exploring the reasons (a) why some appear to matter more than others, and (b) how individuals make these assessments of relative value.

In addressing Research Question 2, the analysis of the questionnaire data established that information activities in this community are carried out as a joint enterprise. When considering Research Question 2 directly, it has been demonstrated that information literacy in this context is also operationalised jointly amongst Scottish community councillors as they complete their duties. While this is not surprising in a study of information practices within a collective body, this finding adds to discussions of information literacy and collective accomplishments (Collard et al., 2016), and socially constructed sets of practices (Forster, 2017). It also points to areas for further investigation. A more extensive study could, for example, explore in detail the nature and structure of this 'joint' work: the levels of formality in the allocation of roles; means by which decisions on the adequacy of information gathered are made (consensus or individual decision); and hierarchical structures in information work that are undertaken by volunteer community representatives. The practice of repackaging outputs of individual information work as that of the collective also merits particular attention. This work also raises other broader, yet related, questions for scrutiny in future

Manuscript of paper accepted for ISIC 2020 in Pretoria, September 2020

research. For example, it would be worthwhile to consider the extent to which known facets of workplace information literacy and its application apply in other environments where the 'work' is voluntary.

References

Ahmad, F. & Widén, G. (2018). Information literacy at workplace: the organizational leadership perspective In Proceedings of ISIC, The Information Behaviour Conference, Krakow, Poland, 9-11 October: Part 1. Information Research, 23(4), paper isic1817. Retrieved from http://www.informationr.net/ir/23-4/isic2018/isic1817.html (Archived by WebCite® at http://www.webcitation.org/74FAovLgA)

Behrens, S. J. (1994). A Conceptual Analysis and Historical Overview of Information Literacy. *College & Research Libraries*, *55*(4), 309–322.

Bronstein, J., Aharony, N., & Bar-Ilan, J. (2018). Politicians' use of Facebook during elections. *Aslib Journal of Information Management, 70*(5), 551-572.

CILIP. (2018). *CILIP Definition of Information Literacy 2018*. Retrieved 2 April 2020 from https://www.cilip.org.uk/news/421972/What-is-information-literacy.htm

Collard, A.-S., Smedt, T. De, Fastrez, P., Ligurgo, V., & Philippette, T. (2016). How is information literacy related to social competences in the workplace? In S. Kurbanoğlu, J. Boustany, S. Špiranec, E. Grassian, D. Mizrachi, L. Roy, & T. Çakmak (Eds.), *Communications in Computer and Information Science* (Vol. 676, pp. 79–88). Prague: Springer.

Crawford, J., & Irving, C. (2009). Information literacy in the workplace: A qualitative exploratory study. *Journal of Librarianship and Information Science*, *41*(1), 29–38.

Cruickshank, P. & Hall, H. (2020 in press). Talking to imagined citizens? Information sharing practices and proxies for e-participation in hyperlocal democratic settings. *Information Research*.

Felstead, A., & Unwin, L. (2016). *Learning outside the formal system - what learning happens in the workplace , and how is it recognised ?* London: Government Office for Science. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/590493/skills-lifelong-learning-workplace.pdf

Ferguson, S. (2012). Are public libraries developers of social capital? A review of their contribution and attempts to demonstrate it. *Australian Library Journal*, *61*(1), 22–33.

Ford, N. (2015). *Introduction to information behaviour*. London, UK: Facet.

Forster, M. (2015). Refining the definition of information literacy: the experience of contextual knowledge creation. *Journal of Information Literacy*, *9*(1), 62-73.

Forster, M. (2017). Information Literacy and the Workplace: new concepts, new perspectives? In M. Forster (Ed.), *Information Literacy in the Workplace* (pp. 1–9). London: Facet Publishing.

Forster, M. (2019). "Ethnographic" thematic phenomenography: A methodological adaptation for the study of information literacy in an ontologically complex workplace. Journal of Documentation, 75(2), 349-365.

Goldstein, S., & Whitworth, A. (2017). Determining the value of information literacy for employers. In M. Forster (Ed.), *Information Literacy in the Workplace* (pp. 67–84). London: Facet Publishing.

Hall, H., Cruickshank, P. & Ryan, B. (2018). Exploring information literacy through the lens of Activity Theory. In: S. Kurbanoğlu, J. Boustany, S. Špiranec, E. Grassian, D. Mizrachi & L. Roy (Eds.) *Proceedings of the 5th European Conference on Information Literacy (ECIL2017)* (pp. 803-812). New York: Springer.

Hall, H., Cruickshank, P. & Ryan, B. (2019). Practices of community representatives in exploiting information channels for citizen democratic engagement. *Journal of Librarianship and Information Science, 51*(4), 950-961.

Hollis, H. (2018). Information literacy as a measurable construct. *Journal of Information Literacy*, *12*(2), 76-88.

Kauhanen-Simanainen, A. (2005). Collaborative Information Literacy by Government. *The IFLA Journal*, *31*(2), 183–187.

Kauhanen-Simanainen, A. (2007). *Corporate literacy : discovering the senses of the organisation*. Oxford: Chandos Publishing.

Killick, L., Hall, H., Duff, A., & Deakin, M. (2016). The census as an information source in public policy-making. *Journal of Information Science*, *42*(3), 386–395.

Lloyd, A. (2004). Working (in)formation: conceptualizing information literacy in the workplace. In P.A. Danaher, C. Macpherson, F. Nouwens & D. Orr (Eds,) *Proceedings of 3rd International Lifelong Learning Conference* (pp. 218–224). Rockhampton, Qld: Central Queensland University Press. Retrieved from http://acquire.cqu.edu.au:8080/vital/access/manager/Repository/cqu:1415

Lloyd, A. (2013). Building Information Resilient Workers: The Critical Ground of Workplace Information Literacy. What Have We Learnt? In S. Kurbanoğlu, E. Grassian, D. Mizrachi, R. Catts, & S. Špiranec (Eds.), *Worldwide Commonalities and Challenges in Information Literacy Research and Practice* (pp. 219–228). Cham: Springer.

Lloyd, A. (2017). Information literacy and literacies of information: a mid-range theory and model. *Journal of Information Literacy*, *11*(1), 91-105.

Lockerbie, H. & Williams, D. (2019). Seven pillars and five minds: small business workplace information literacy. *Journal of Documentation*, *75*(5), 977-994.

Martzoukou, K., & Sayyad Abdi, E. (2017). Towards an everyday life information literacy mind-set: a review of literature. *Journal of Documentation*, *73*(4), 634–665.

Olsson, M. R. (2014). Information practices in contemporary cosmopolitan civil society. *Cosmopolitan Civil Societies Journal*, *6*(2) 79-93.

Sample, A. (in press). Historical development of definitions of information literacy: a literature review of selected sources. *Journal of Academic Librarianship*.

SCONUL. (2011). *The SCONUL seven pillars of information literacy: core model for higher education*. Retrieved from http://www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf

Smith, L. (2016). Information literacy as a tool to support political participation. *Library and Information Research*, *40*(123), 14–23.

Theiner, P., Schwanholz, J., & Busch, A. (2018). Parliaments 2.0? Digital Media Use by National Parliaments in the EU. In J. Schwanholz, T. Graham, & P.-T. Stoll (Eds.), *Managing Democracy in the Digital Age* (pp. 77–95). Cham: Springer.

Webber, S., & Johnston, B. (2017). Information literacy: conceptions, context and the formation of a discipline. *Journal of Information Literacy*, *11*(1), 156-183.

Williams, D., Cooper, K., & Wavell, C. (2014). *Information Literacy in the Workplace: an annotated bibliography*. Aberdeen: Robert Gordon University. Retrieved from

https://www.informall.org.uk/wp-content/uploads/2015/11/Workplace-IL-annotated-bibliography.pdf

Manuscript of paper accepted for ISIC 2020 in Pretoria, September 2020