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## Connecting communities

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### Abstract

The use of ICT by groups has received much attention, and if the hyperbole is to be believed, almost every group is on-line, using IT to keep in contact with members, other groups and to influence stakeholders. Sixty-two community groups were investigated to ascertain how they made use of technology, the barriers they faced in using it and also how decision makers used technology. Barriers included lack of access to expertise, small budgets, poor knowledge of social media and privacy issues.

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### 1. Introduction

The extent to which different types (virtual, collocated and distributed) of goal oriented communities use and adapt digital technology to support their activities is largely unknown, especially with the rapid adoption of social and mobile computing. For example, digital technology may be used to create and maintain communities of likeminded people, to support face to face activities, to generate information and to inform others of group and individual activities. Clearly, communities must use the level of technology most appropriate for their membership, which offers appropriate levels of functionality to support goal achievement. It is argued that knowledge of the way in which communities use technology, to connect to each other, achieve goals and influence others is critical to their longevity, success and capacity to effect change. This issue will be of increasing importance as community groups are given greater power with the rise of localism. Knowledge of emerging trends is also important for technology and service providers.

This research addressed the needs of just one group of communities, those which are working to achieve a common goal, rather than ad-hoc social communities. In targeting this sector, it was hoped to bring maximum benefit to connected communities by understanding and disseminating what works well for them, identifying current barriers and assessing requirements for future systems.

### 2. State of the Art Review

#### 2.1. Characterizing on-line groups

The starting point for the research was an investigation of the characteristics of goal-oriented groups. [1] considered group attributes, supporting software, relationship to physical communities and their boundedness. They explained how attributes may include things such as a shared goal or interest that provides the reason for being a part of the community or social conventions, language, or protocols [2]. Supporting software could be list-servers,

bulletin boards or newsgroups. Their relationship to a physical community could be either those that are based on physical communities, those that are somewhat based on physical communities, and those that are not related to any physical communities [3]. Finally, the attribute of ‘boundedness’ describes how many social relationships remain within the defined population of a group or community [4]. Technology is just *one* of the characteristics of a community which supports the activities/goals of the group. [5] placed more emphasis on the technological aspects of online communities, distinguishing between discussion, task- and goal-oriented communities, virtual worlds and hybrid communities.

Other researchers (e.g. [6 and 7] have highlighted the importance of value for on-line communities, such as whether the community is business sponsored, socially constructed or volunteer oriented. So for example, the business sponsored community is established for the benefit of an enterprise organization, e.g. customer feedback or branding, and the value is in terms of revenue or information. In contrast, the socially constructed community is established for the benefit of a group and the value is their personal motivation. The technological considerations arise from the services that need to be offered in order to support the return of the value proposition, for example either through discussion forums, chat or question and answer sessions etc.

[8] proposes five key attributes or characteristics of communities as being purpose, place, platform, population and profit model. This typology provides a way to consider relationships between the purpose (goal), place (level of digital technology use) and platform (specific technologies used).

In contrast to [6], [9] proposed that *participation* is at the heart of online communities. Participation, they argue, involves both the digital content of the community (e.g. text, audio, video, files artifacts etc), and the people with whom types of participation (e.g. observing, conversing, sharing etc) takes place. They further argue that participation is also influenced and regulated by factors such as policy, privacy, trust, member roles and motivation. According to this model, the technological basis of an online community is the community service and external tools; which features are used by members for participating to the community. Additionally, the level of participation can be based on the amount of trust that an individual has about the group and its members. The issue of trust is raised by [10], where they suggest Coleman’s social theory [11] to explain how trust is both at the ‘macro’ (i.e. by the corporate actor who designed the site) level and the ‘micro’ level (i.e. the micro-groups formed by the users). A social-networking site is described by Coleman as a ‘*constructed social organization*’, where trust of the system by the users, and of the users by the system produces a mutually contributing system.

## 2.2 Technologies used by groups

In relation to studies of how groups use technologies, [12] noted that due to the ever-changing nature and development of technology, applications in and of themselves, are ‘poor foundations for the study of digital activism’. In other words, they are no more important than many other relevant factors. Secondly, she noted, the ‘end devices’ used to connect to a network are also constantly changing and therefore ‘other factors such as the economic, social and political dimensions need to be addressed’. Therefore, the constant changes of hardware and the applications that run on them means that any recommendations that stem from studying them will be limited.

Potential technologies that can be used by groups include text-based technologies such as web sites, SMS, email, twitter, blogs. There are also more integrated systems [13] which allow observation of data and documents, *administrative functions* for new members, and *communication coordination and tracking* for notifying of any changes and *action*, where multilayered presentations can be created and shown to invited councillors, for example. The notion of asking decision makers to join group networks and view/monitor group outputs is very interesting in that it is a group deliverable in and of itself.

So for community groups, the attributes and costs of any chosen technology for both their internal and external communication can affect the level of ‘grounding’ or common understanding that occurs. Likewise, the limitation of any filtration system used to send communication will raise the costs involved. Indeed, intricate vocal communication with all of its stresses, nuances and aspects cannot be truly replicated by either text or voicemail. Limiting the choice of communication medium to that which is available may limit what can be communicated in the first place. People cannot collaborate if they cannot communicate effectively. Grounding is essential to communication as once a message has been formulated, assurance is required that it has been received and understood as intended, else there is little assurance that the discourse is proceeding in an orderly way. Communication is a coordinated effort, and grounding is means of keeping that co-ordination on track.

### **3. Research aims**

Given the increasing ubiquity of technology, the rise in different forms of groups and collaborative working and the importance placed on community endeavors, there is a need to ensure that groups can work as effectively as possible. With this in mind, the research firstly aimed to discover the experiences of groups using IT, and secondly to provide a set of recommendations which could help them make more informed decisions about this.

### **4. Methods**

A qualitative, mixed method approach was used comprising an on-line survey, semi structured face-to-face and telephone interviews and discovery (real life and virtual) workshops. Although it was hoped to use just an on-line survey, it proved difficult to locate groups from local community databases as many sites were out of date. Participants were group members and recipients of the information produced by groups, such as policy makers and other groups. The results are therefore based on an analysis of 38 responses to the on-line survey from a wide variety of community and voluntary groups, interviews with 8 community groups and 4 decision makers.

### **5. Results**

#### *5.1 On line survey*

15 out of the 38 communities agreed that digital technologies had played a role in the formation of the group and was vital for information sharing, acquisition and communication. At the time of the research Facebook was used to promote the profile of groups and recruit new members, but groups were already migrating to other platforms. Social networking applications such as LinkedIn, Flickr, and YouTube were also cited. Twitter and Facebook were used to communicate with other groups and to coordinate activities. The internet played a very important role in helping raise awareness of the groups and most groups were interested in experimenting with social media.

The most popular digital technologies groups had used in order to support their aims were Email (95%), websites (80%), Facebook (55%), Blogs (35%) and technologies to create paper-based artefacts (71%). Technologies such as Twitter (21%), YouTube (13%), Google groups (11%) and television (3%) were lightly used, as were technologies Wordpress, SurveyMonkey, sms-casting and radio. Reasons for the selection of technology included speed, convenience, cost, knowledge of a particular technology by the group leader, trial and error, and simplicity. Major problems nearly all the groups had faced were access to insufficient expertise (80%), cost considerations (70%), and a steep learning curve (59%). Other issues included lack of time, changing of staff roles, confidence and the need to rely on outside IT professionals.

#### *5.2 Community groups*

Eight community groups were interviewed to establish which technologies they were using and how successful their chosen technologies were in giving the group 'a voice'. The groups were not-for-profits, and included a Civic Society, an umbrella organisation for homelessness, a local women's organisation, a local authority organisation working with young adults with special needs, a charity supporting female sex workers, a news website focused on women, a membership organisation for community groups and an online residents' association. The objectives of the groups ranged from having a direct influence on government policy to empowering and supporting local people within the community. Two of the groups were established 30 years ago, prior to the advent of computer based technology, three groups came in to being through technology, and two of the groups operated at a virtual level.

Although all the groups used email, one group mentioned that this only reached 40% of its membership and had been persuaded by members to revert to paper-based newsletters. All of the groups had a website, which was seen as essential for its repository and monitoring features. Most groups also used Facebook, and Twitter was adopted enthusiastically as it was seen as easy to use and could reach beyond local boundaries. Although Ning and GoogleDocs were mentioned, one group working with young people had stopped training in the former because they had lost free and independent access.

Typically, the groups used whatever technology they could that would get their message across and can be characterized as 'drifting' into social networking, being slow adopters due to unfamiliarity with the protocols. The selection of which technology was adopted was usually based on the knowledge and expertise of the leader. Only

one group bought in outside expertise, and their experience was not positive. This meant that the groups mostly operated without technical support, as it was too expensive. Other important barriers to the use of technology included the readiness (or not) of the audience (e.g. whether or not they were computer literate, able to follow instructions or had access to computers), the need to avoid overextending the activities of the group, and the lack of free or inexpensive information, technology and expertise.

### 5.3 Decision makers

Four decision makers were interviewed, including a local MP, the communications leader of a local authority and two managers leading a local authority project aiding voluntary sector organisations. They used a variety of technologies to consult with the public, including email, Facebook, Twitter, bespoke software and Second Life. For most of the decision-makers, the use of technology was driven by the audience. This meant that the technologies routinely used tended to be the free, commonly known communication methods chosen by small teams who ‘decide what social media tools they want to use’. The importance of local expertise and positive encouragement of a Chief Executive that supported collaboration and public consultation were stressed. There was some concern expressed by one decision-maker that the use of technologies in his experience was not based on evidence of increased participation, but rather because it tended to be lower cost and less resource-demanding. Also, the decision-makers stressed that technology mediated communication should provide just another opportunity for dialogue, rather than being sole communication method.

The use of digital communication methods was felt to be a positive move in that it encouraged more participation from the public and all of the decision-makers treated the information in the same way ‘as comments that would be given through traditional representations’. For one decision-maker, a particular consultation event was hugely successful and crossed local boundaries:

*People spent about two-and-a-half hours logged in. Twenty-eight per cent were over 50. And we had 74,000 page views from nearly 1,000 total log-ins. While they mostly came from [local city] we had people across 105 cities*

Another positive consequence of the increased contact was the increased breadth of information that was available to the decision-makers and this had the potential to affect subsequent decision-making. Although age was felt to be a factor in whether or not a member of the public would communicate digitally, there was also a comment relating to the lack of access to IT and socio-economic issues:

*There is a recognition that that [the digital divide] isn't the issue, the issue is the socio-economic issues that are deeper than whether people have access that affect participation and those issues were recognized by the people who I interviewed and the internet was not seen as an answer to those issues.*

These socio-economic issues also involved a lack of general literacy, rather than just IT literacy:

*So one [planner] said while actually going out in the communities to talk to people about participation in projects he was quite shocked at people – he was encountering people who couldn't write down a comment, not couldn't write down an email but just couldn't write down a comment, and didn't know how to formulate a comment*

One decision-maker also raised an issue of accountability in that the public's access to technology had made his office much more accountable due to the increased knowledge that was available and also the facility for monitoring. Other issues raised related to time, both in relation to servicing the use of the digital technologies and the response times required the need to develop protocols to deal with inappropriate or offensive comments.

## 6. Conclusion and Recommendations

The research has clearly indicated that voluntary and community groups are not well supported in their use of ICT, with a dearth of freely available information, affordable software and consultation services. This means that communities rely on their own expertise and waste valuable resources developing inappropriate ICT solutions. Although they characterize themselves as slow adopters, they are quickly and effectively using social media.

Unfortunately, groups operating in this sector are often working with the most disadvantaged in society. In such cases socio economic considerations have to take prime importance. Those who use information provided by groups (e.g. from public consultations) value the information and the capability to reach out to more people. However, there are some reservations – local authorities are following the crowd in the use of technology (as opposed to commissioning the most appropriate technology), reassurances are needed about the quality of the information, and protocols need to be developed which will allow for faster response times.

Barriers to the use of technology are seen as relating to: the capacity and capability of the group and its membership or wider constituency, and (where appropriate) the capability and capacity of the policy makers to process the information provided. To address the barriers we have found a set of recommendations and a fact sheet have been produced to guide new communities in their selection of the most appropriate technology. These include to the need to think strategically, use technologies effectively, get good advice and technical support, even if it has to be paid for, set clear goals, use open source programmes, get training and adopt technologies at a steady pace.

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