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Community Websites and what makes them Sustainable: Evidence from Australia

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Abstract

Australia is leading the way in promoting the use of the Internet as a means of strengthening local communities. The Australian Domain Name Authority (auDA) has announced the release of Community Geographic Domain Names (CGDN), to be solely used by not-for-profit, self-funded local community groups. As Australian communities attempt to establish a management group and develop a website under this concept, they are faced with a range of issues. Longitudinal case study research has been conducted on three communities involved in a trial of the CGDN model, in the first research of this type. Based on data collected from the case studies and the CGDN model, a mapping of sustainability issues and a model of community website sustainability will be presented. There is limited published research into sustainability issues for community websites, with no models of community website sustainability currently available.

Keywords: community, websites, sustainability, model

Introduction

Community websites have increased in popularity as the Internet has become more widely accessible to populations, particularly in developed countries. A community website can provide a range of content and services, and often includes current local news and the ability for community members to interact online. While a community website allows only online interaction between community members, the social dynamics of such a community are often similar to those of a traditional face-to-face community (Kim 2000). Community websites also provide an environment in which all members of a community can interact without the boundaries of time and distance (Kim 2000), and meet people they would not interact with in their face-to-face interactions with the community.

The concepts of a 'community website', and the 'online community' that is created by a community website, are not easily definable and common definitions do not exist (Benassi et al. 2004). Preece noted that the only common concept throughout all definitions of an online community was people (Preece 2004). With the development of community websites, which are designed by members of a community for that

community, it is imperative that research is conducted to observe the role of social issues, such as community history, size and cohesion, faced during such website development, and use this knowledge to assist future communities undertaking this process. There is currently little published literature addressing such issues, with no major studies conducting a review of these factors across multiple communities. The few published studies describe community websites that have developed organically, without any structured observation or informed review process. This research proposes the first model of sustainability for community websites that are developed by a community for that community.

In 1997, the Australian domain name administrators introduced restrictions to prohibit the licensing of all third-level domains (3LDs) in the com.au and net.au namespaces that corresponded to Australian geographic locations (auDA 2004). While this eliminated the threat of individuals or businesses registering these valuable and culturally-significant names, it also meant that communities were unable to license domain names that represented their geographic location. In an attempt to allow legitimate use of domain names that correspond to Australian geographic locations, the .au Domain Name Authority (auDA) decided to establish a set of new second-level domains (2LDs) in 2002, to be used by geographic communities (auDA 2005a). The model is called Community Geographic Domain Names (CGDNs). A new 2LD was approved for each Australian state and territory: act.au, nsw.au, nt.au, qld.au, sa.au, tas.au, vic.au, and wa.au.

This scheme has created the first domain name space that reflects geographic locations and is specifically for use by community groups from a specific geographic location. The purpose of the 2LDs is to allow each geographic community group to have access to a domain name that was representative of their physical location. For example, the suburb of Wollongong in the state of New South Wales is represented by www.wollongong.nsw.au. A geographic community group, for the purposes of the CGDN model, is one which has been formed by individuals who live or work in the geographic location described by the domain name. This group must permit any member of the geographic location to be a member, and cannot be controlled by commercial interests or government bodies. The group, once formed, must become a legal organisation. Only not-for-profit organisations located in the geographic area corresponding to that domain name can apply for ownership. These organisations must be representative and inclusive of that community, and the CGDN must be used for the benefit of the wider community (auDA National Reference Group 2004). The restrictions imposed on groups developing community websites under the CGDN scheme aim to improve the quality of such websites and ensure community participation, by requiring groups to demonstrate their commitment and community focus prior to obtaining the domain name.

The concept of community-based and community-driven websites is becoming popular in community Information and Communication Technology (ICT) projects internationally (Day and Cupidi 2004). Since presenting the CGDN model at Eighth United Nations Conference on the Standardization of Geographical Names (United Nations: Department of Economic and Social Affairs 2002), auDA has received interest in the success and

sustainability of CGDNs from a range of countries, including Canada and South Africa. Numerous community websites exist on the Internet, however the CGDN model is novel because it has created a set of domain names solely for community use. Previously, there has been little comparative research across community projects involving information technology (Stoecker 2005), and as a result those involved have struggled to link the experiences of practical projects with generalisable academic outcomes. This research will begin to overcome such criticisms of community ICT projects by conducting case studies on three communities, with experiences compared to determine whether identified factors are common to diverse communities.

Most community portals established in Australia have received funding through government schemes (Australian Government 2003a). Networking the Nation (NTN) was a scheme to facilitate community ICT initiatives. By June 2000, 110 websites and portals had been developed under its funding, with 37% of these websites being community portals (Vrazalic and Hyland 2005). However, this program did not result in sustainable projects. In one state, 130 ICT projects were funded, with 42 of these failing to complete their planned outcomes. These 'failed' projects had been allocated a total budget of AU\$24.6million (Australian Government 2003b). Similar experiences of funding ICT initiatives have been recorded in a range of countries, including the USA and UK. These poor outcomes have prompted funding agencies to require greater accountability (GrantStation 2004; London Advice Services Alliance 2003). As a result of the high NTN failure rate, the Australian government determined that it was not viable to continue funding such projects, and determined that community information technology projects required greater planning and expert knowledge for success. Therefore, auDA and the Australian federal government require communities participating in the CGDN model to be self-funding. It is expected that communities will take greater responsibility for their community website if they are funding it, and as a result a higher success rate is expected for the projects. Communities must also demonstrate detailed planning prior to being granted access to a CGDN.

There has been much discussion about the value and benefits of community websites. This research is not concerned with assessing whether or not community websites in general are beneficial, nor is it concerned with identifying the specific benefits (if any) of a community website. Rather, this research aims to improve our understanding of what makes a particular type of community website sustainable. Therefore, this paper examines the factors that affect the sustainability of websites which have been established solely by members of a local community, for use by that community, and without the provision of any government seed funding. Our research does show, however, that the perceived benefits of the community website are related to its long-term survival and sustainability.

Requirements of community groups

Community groups that establish a community website under this scheme must ensure that the website is Community-Based and Community-Driven (CBCD) (auDA National Reference Group 2004). The requirements of the CGDN model, and the support from

auDA, provide the CGDN websites with credibility because community groups must prove their legitimacy before obtaining their CDGN. Despite the underlying differences in approach, the CGDN websites face similar challenges to other community websites that are developed independently and with external funding.

Before being given ownership of a CGDN, the community group must demonstrate that they are representative and inclusive of their community (auDA National Reference Group 2004). This requirement places a heavy burden on the group at an early stage, because it involves activities such as community consultation and publicity, both of which require funding. After the community group formally establishes a Community Website Group (CWG), which is a CGDN requirement, a range of issues including finance, content, day-to-day management, and the ability to connect with the broader community, must be addressed. Previous studies (Johanson et al. 2004; Vrazalic and Hyland 2005) have identified these issues as critical to the sustainability of community websites and their associated communities. However, many of these previous studies have been limited to a single community group, or have focused on community websites that will receive on-going external funding.

When establishing the new 3LDs (domain names at the community level), auDA sought to base its classification and description of the names on an existing geographic classification structure. A range of classification methods were considered, including postcode boundaries, and geographic regions. While popular with locals and tourists, classification by region name was not feasible due to the inconsistency of region boundaries. In many locations, a single postcode is used to cover an extremely large geographic area with a diverse population, and no single identity. As a result of such issues, these classifications were deemed inappropriate. The final auDA policy defines a geographic location eligible of having a CGDN as any location with an Australian postcode (auDA 2005b).

This research conducted case studies on three communities as they established a CWG and attempted to develop a community website. These three test cases used in this research represent three different types of geographic communities, and each community website must be self-funding. CWGs may source external funding (for example, grants and donations) (Norris 2004) but must arrange this themselves. There is no central source of funding for the community organisations and their community websites.

Despite literature identifying the need for broad studies to understand the issues affecting the success and survival of online communities and their websites (Kim 2000), there was still found to be “a lack of frameworks and models to explain how community portals are developed, used and sustained” in 2005 (Vrazalic and Hyland 2005). Through the observation of three test cases operated under the CGDN model, this paper identifies the sustainability issues faced by community groups attempting to build CBCD websites, and the relationships between these issues. These issues, and the interdependencies of identified factors, will be described in a mapping of sustainability issues and a model of sustainability.

One model that has considered the sustainability of community websites is the S3 Model of regional community portals developed by Vrazalic and Hyland (2004). This conceptual model is based on three development stages of a regional community website: Set-Up, Survival, and Self-Sustainability. The model identifies dimensions that impact on the sustainability of regional community websites at each stage. However, limitations of the S3 Model include assumptions that a community website has funds available in the first stage, and that they are part of a top-down government driven program (Vrazalic and Hyland 2004). The S3 Model also does not identify the interdependencies of the identified dimensions. The sustainability model developed from the experiences of the three CGDN test cases will identify the interdependencies of the issues identified in this research.

Test cases

auDA, in conjunction with the Australian National Reference Group established to oversee the implementation of the CGDNs, developed policies to govern the new CDGN model. To ensure that these policies were comprehensive, three communities (test cases) were involved in a pilot implementation of the model. Test case management responsibilities were assumed by the New South Wales Office of Information and Communications Technology (OICT), under the banner of the One City One Site (OCOS) project. Each test case was managed by an individual committed to developing the community website. This individual will be referred to as the test case 'champion' throughout this paper.

Communities interested in participating in the OCOS project applied to auDA. The test case communities selected were Bathurst, Ballarat, and Wollongong. Each of these communities volunteered to trial the CGDN model, and was approved by auDA. The community groups were formed between March 2004 and June 2004. As shown in Table 1 below, each of the test case communities had distinctive characteristics.

Table 1: Test case community characteristics

	Bathurst	Ballarat	Wollongong
Location	NSW, Australia	Victoria, Australia	NSW, Australia
Description	Medium-sized country town	Large country city	Large regional city
Population	30,000 residents	85,000 residents	200,000 residents
Initiation	Initiated and supported by state government body located in the community	Initiated and run by organisation answerable to local council	Initiated and supported by local university

The differences between the test case communities provided the opportunity to observe the impact of community size, type, history, and management on the success of each community. Three detailed case studies were used to provide a wealth of rich data and identify issues relevant to sustainability. With a limited number of test cases, it is not possible to derive statistically meaningful conclusions from the results. However, when this scheme is launched to the general Australian public in mid-2006, it is expected that a large number of communities will start to come online and further examples will be able to be drawn upon.

Methodology

The three test case communities were established under the OCOS program prior to releasing the new Community Geographic Domain Names (CGDNs) to Australian communities. These test cases undertook the process of forming a community group, and developing a community website. Each community was required to meet specified requirements, and undertake the establishment of their community website in a semi-structured process. This process involved the formal establishment of a CWG (as previously discussed), completion of standard reports, and the submission of medium- to long-term plans to auDA to justify the CWG's right to licence a CGDN. This allowed the experiences of each community to be compared as they faced similar tasks. However it also provided each community with the ability to determine their preferred method for achieving goals and meeting the needs of their situation.

The experiences of the three test cases were researched using a case study methodology (Myers 2005) through independent and objective observation. Case study research is interpretive research (Creswell 2003), and requires that the researcher become familiar with the participants and the environment in which they operate, before analysing "the data for themes or issues" (Creswell 2003). This allowed the issues that impacted on the success and sustainability of the community portals to be identified within their real-life context, without having to pre-define the boundaries of the research (Yin 2003).

A range of data was collected over a two-year period to provide a rich, detailed description of the test case experiences (Creswell 2003). This data included all four data types that can be collected in a qualitative study: observations, interviews, documents, and audiovisual materials (Creswell 2003). This approach of triangulating from multiple

sources, which allows data to be combined, compared and verified, was determined to be the most effective method for evaluating community projects involving information technology, such as this one (Myers 2005; O'Neil 2002).

Data collected and analysed included: documentation published by the organising body; reports completed by community members and test case champions; surveys completed by community members (every 6 months); regular meetings with champions (every fortnight); interviews with key stakeholders including champions (every month); observations of community meetings (whenever held); and regular viewing of the community websites (every month). The CGDN application process for test case communities required each CWG to complete three reports about their progress and experiences during the formation and planning phases. This included encouraging community involvement, legally forming an entity, planning for funding and technical issues, and developing a medium- to long-term vision for their community website. The three reports were submitted to OICT. A shortened version of these reports will constitute the official CGDN application process. The champions managing each test case community met via teleconference every 3 weeks to share updates on their communities and be informed about progress made by auDA. All champions were also in constant contact with the OCOS project manager, who provided feedback to auDA on the experiences of the test case communities. Interviews and surveys with members of the each CWG were conducted to gain a broad perspective on the experiences of participants. Researchers at the University of Wollongong compiled information from all these sources, and provided reports to auDA covering the experiences of the community groups, and the resulting recommendations (ETHOS 2004). This feedback was used to inform policy changes.

Common themes and related issues experienced by all three test cases were identified from the comprehensive range of data collected from the communities (refer to Section 6 Sustainability Model for further details). This information was used to better understand the issues faced, and identify relationships between the issues. In many cases, the community group participants developed feasible solutions to the issues faced. The issues that are likely to impact on the sustainability of the community website are discussed below.

Results

At the time of writing, each of three test case communities have recently received access to their respective CGDN, have been developing their websites, and have been permitted by auDA to 'soft' launch their community website on the new domain in their respective communities. A national launch will occur simultaneously with the public release of the CGDNs to all Australian communities in mid 2006. The issues and experiences identified in this section of the paper refer to the first 24 months of existence for these community groups.

Formation

Each of the three test cases experienced similar challenges during the formation stage. These issues were arranging publicity, identifying and contacting key stakeholders, organising meetings, and establishing a management committee with the necessary range of skills.

Necessary Skills for Community Groups

The test cases demonstrated a need for a local champion, or leader, to promote the concept to the community and to coordinate the CGDN application and management process. This role is particularly important in larger communities where there is an increased need for coordination. Without an individual who is strongly committed to the project, there will be a lack of communication and planning. This may also lead to a duplication of efforts and difficulty in developing the required momentum and enthusiasm to support the CGDN. The Ballarat test cases did not have an active local champion or a leader. Required actions were not taken due to the lack of management. A new leader was appointed by the organisation responsible for managing the Ballarat test case after 12 months of inaction, and the test case is now 9-12 months behind in their community engagement and website development processes. The test cases indicated that, initially, the leader must identify key stakeholders, and encourage their participation. Meetings must be organised, and the community participants guided to ensure progress is made. The test cases indicate that these tasks are critical in the early stages prior to the formation of the legal entity. Ideally, the leader should have planning skills, organisational abilities, local knowledge and a high profile in the community. Test case members believed that basic legal knowledge, community development skills, the ability to write reports and some knowledge of Internet related topics, such as website design and development, domain names and hosting, were also a significant advantage. In situations where the leader did not have these skills, it was necessary for other members of the management group to perform the relevant tasks.

To ensure that these roles can be filled by members of the management group if necessary, it is important to encourage broad membership from the local community. Active promotion of the CWG and the community website itself is essential to maximise community interest and facilitate member recruitment. The experiences of the test cases indicated that the most effective method of recruiting community members and publicising the CGDN concept was local media. Promotion can also be undertaken through personal interaction with key stakeholders, such as local councillors and executives of the local business chamber. The Bathurst test case champion arranged personal meetings with numerous stakeholders, and many of these individuals are now active participants in the CWG. Other skills required by members of the management group include business and marketing skills, accounting expertise, and negotiation skills.

Encouraging Community Involvement

Promotional activities for both the CWG and the CGDN need to be undertaken on an ongoing basis to generate community awareness and interest in the use of the community

website. Encouraging membership to the CWG increases commitment to the project, and therefore makes it more sustainable. Obtaining members was significantly more difficult for Wollongong and Ballarat than for Bathurst. Bathurst is a small town with most key stakeholders being approachable, well known and willing to participate in community activities. The Wollongong CWG experienced that community stakeholders often had conflicting priorities, and were too busy to participate. Many government and business stakeholders in the Ballarat community had been involved in a previous community website that had failed, which made them wary of becoming involved in this scheme. The social relationships and history of each community had a significant influence on participation.

Application Process

The completion of the CGDN application process caused challenges for each of the test cases, with all groups attempting to share the responsibilities. However, ultimately each application was completed by a single individual with a limited amount of input from other members. This situation reinforced the need for a highly organised leader. Alternatively, a simplified application process may have allowed and encouraged broader participation from the community, and more successfully met the CGDN model requires for broad community representation.

Resources

To be successful, access is required to a range of resources, including financial resources, meeting spaces and communication systems (ETHOS 2004). It is a significant challenge for the CWG to gain access to resources prior to developing strong community support. Potential donors of such resources include local government, community organisations and large educational institutions (Norris 2004). It is essential that resources are sourced from within the local community, so that the community maintains ownership of the website. Without these resources, the CWG is unable to undertake the CGDN application process.

The need for access to finance and resources continues after initial formation. Collaboration and partnerships with local businesses, educational institutions and community organisations provide a viable source of skills and resources, and can also enhance the credibility and visibility of the CWG, leading to an increase in membership and support. Non-profit organisations, such as Community Technology Centres (CTCs), are ideal for collaboration, as they are likely to be community-focused (NSW Department of Commerce 2005).

Defining community boundaries

While each CGDN is linked to an explicitly defined geographic location, community members often do not categorise themselves based on such formal definitions. This is true both for country locations, where surrounding areas identify with the town or city closest to them, and for larger city locations where the city name is also the name of a

suburb. CWGs are permitted to include members from outside the formally defined geographic area, provided that some members reside or work within the specified area. Each of the test cases decided to allow membership from outside the specified area, and this required the CWGs to agree on criteria for membership. All test cases required members to live or work within a certain region, which in each case was significantly larger than the officially defined area.

Developing a shared vision

When forming a management group, and selecting a management committee, it is important to ensure that all participants have a shared vision of the community website. In the early stages of formation for the Wollongong test case, community members from the local business community had great interest in the CGDN model. However, once the management group decided that the website would be strictly limited to community-related content, and would not permit a strong business presence, the members of the business community left the organisation. Without this shared vision, the group is likely to struggle with decisions causing slow progress.

After initial community support is built and the management group formed, the group must maintain a strict focus on the high-level vision, and use this to make a range of decisions. These decisions include the type of content on the website, update frequency, how the website will be financed, who will be responsible for the day-to-day running of the site and the necessary changes, and the role of the commercial sector on the website. Leadership qualities required are similar those identified in the establishment phase. Resourcing requirements are likely to vary between communities, and depend heavily on the hands-on availability of community members. Active involvement from the members gives a greater sense of ownership, leading to greater personal investment and commitment to the website's success. The three test cases demonstrated that the members of the CWG who took on dynamic and active roles in the first 12 months were more likely to retain a certain level of momentum and less likely to abandon the CWG.

Maintaining community support

Retaining members and general community support requires on-going communication with all stakeholders. The test cases demonstrated that a free online communication system was effective in exchanging messages, announcing meetings, uploading relevant files, and storing information. Communication mechanisms, such as Yahoo! Groups, ensure that all interested parties are kept informed of progress, and encourage people to maintain active membership, increasing the likelihood of success.

Communication mechanisms can also be used to facilitate community participation, collect opinions, and gather ideas. Information gathered from the community should be used to determine expectations for the community website. Conducting surveys throughout the planning and implementation process ensures that decisions made are in the best interests of the community. In this way, the website can provide the greatest value to the community.

Summary of findings

While the community website is the main purpose of the CWG, the test cases demonstrated that a strong leader is required to maintain the focus on the website. Building the website can pose significant challenges, and without skilled members and appropriate resources the process can be slow. Responsibility for the website structure and the initial content should be assigned to a small group, with all members permitted to provide feedback before production begins. Such decisions should be informed by community feedback.

Sustainability model

The analysis of the test case experiences demonstrates that there are many issues faced by community groups as they attempt to develop community websites without ongoing external funding. Each issue cannot be considered in isolation; all issues impact on other aspects of the community group and the website itself. This concept is supported by the test case experiences. For example, the Wollongong test case found it extremely difficult to obtain any funding from local organisations and through grants schemes, until a professional business plan was completed. While an early draft had been developed, it was not until new members with skills in this area joined the management group that the community group was able to produce a professional business plan that was accepted by other organisations. The relationships between these issues (business plan impacts on funding; skills impact on business plan) are shown in Figure 1. If not addressed early in the process, each of the identified issues can have a significant impact on the sustainability of the community portal, with a flow-on effect seen throughout the project.

A grounded theory approach was used to identify issues for inclusion in the Mapping of Sustainability Issues (Figure 1), which is “based upon the researchers’ interpretation and description of phenomena based on the [community participants’] subjective descriptions and interpretations of their experiences” (Akhavan et al. 2006) and the other rich data collected from and about the test cases. This type of approach means that all representations of the experiences, and of sustainability issues determined by these experiences, are based on information provided by individuals participating in the experience (Creswell 2003).

The Mapping of Sustainability Issues (Figure 1) demonstrates the significant impact that a single unresolved issue may have on the sustainability of the project by identifying the linkages between issues. The linkages shown in Figure 1 were identified by members of the test case community in surveys, interviews and meetings, and in some cases may be conditional. This mapping describes all issues identified by the test case communities, and will be used to develop a refined model of sustainability issues.

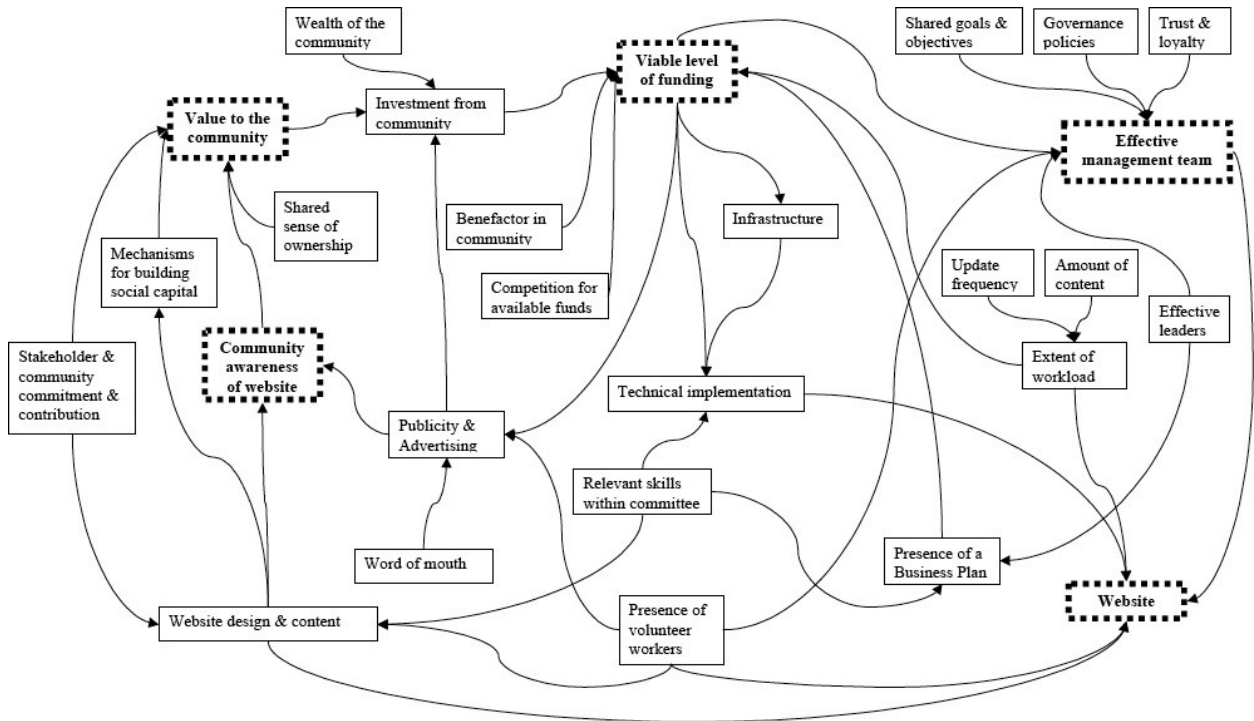


Figure 1: Mapping of Sustainability Issues

The bold boxes with dashed lines in Figure 1 represent the major factors that influence the sustainability of community websites: value to the community; community awareness of website; viable level of funding; effective management team (led by the champion); and website. These factors were selected to classify issues because they were identified as common themes by test case communities. The other boxes represent the specific issues that must be addressed by each community. These issues are more specific and manageable than the major factors, and some of these issues can be addressed independently. Each of the issues/factors identified impacts on other issues/factors, as shown by the arrows. For example, the ‘update frequency’ and ‘amount of content on a website’ will determine the ‘workload’ that must be managed by the CWG. This workload is only one of the issues that impacts on the presence and success of the ‘website’ itself. Other issues are the ‘technical implementation’, the ‘website design and content’, the ‘presence of volunteer workers’ to manage the website, and an ‘effective management team’. Some of the issues identified represent decisions made (for example, ‘website design and content’) and the impact of those decisions, while others are actions (for example, ‘technical implementation’) and resources (for example, ‘volunteer workers’). The influence of each issue is likely to vary for each community, therefore the linking arrows are not weighted.

Community groups attempting to develop a community website are often overwhelmed with the amount of commitment required in the early stages and the number of issues they are required to address, as shown in the complexity of the Sustainability Issues Model.

In an attempt to simplify the areas that must be addressed at initiation of such a project, a Sustainability Factor Model (Figure 2) has been developed. This model was derived from the Mapping of the Sustainability Issues (Figure 1) and discussions with community group members. The issues identified were classified into the five major factors seen in Figure 1 (Funding, Management, Value to the community, Website, and Awareness) and the model demonstrates the interdependencies of these factors, as well as their relationship to community website sustainability. By addressing these factors, communities will be establishing a website that has the potential for sustainability. If any of these factors are ignored, it is likely that the medium- and long-term implications will threaten the sustainability of the website.

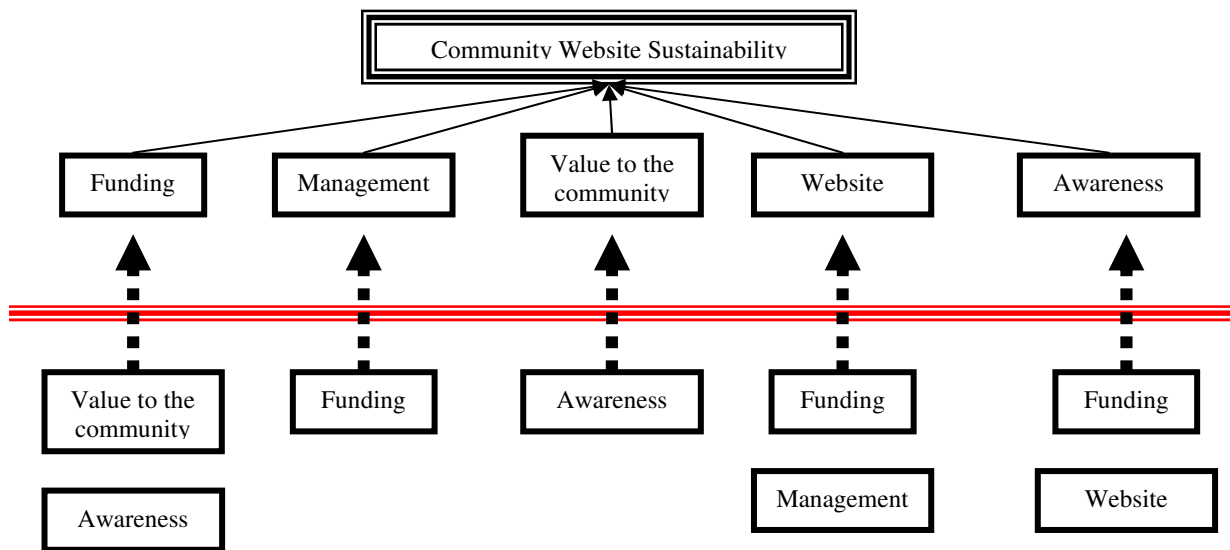


Figure 2: Sustainability Factor Model

The factors below the bold line are those that directly impact on the factor above the line, linked by a bold dashed arrow. For example, ‘Funding’ is directly influenced by ‘Value to the community’ (do the community members think they will benefit from the website and would therefore be willing to support it, either financially or in-kind?), and ‘Awareness’ (are all areas of the community, including the business community, aware of the website?). The success of the ‘Management’ is largely influenced by ‘Funding’ (can we afford to pay someone to do this?). The five factors above the bold line together largely determine the sustainability of the community website. This model does represent a hierarchical relationship between the factors; each factor (and its’ sub-factors) influences other factors, as shown in Figure 1.

Future research

The issues discussed in this paper have been identified in the first 24 months of development for the CWGs. These CWGs will soon enter a new phase, with their community websites being publicly launch on the CGDNs, and acting as role models to other communities attempting to establish a CWG and develop a community website

under this scheme. Future research will involve the ongoing observation and analysis of the three test case communities, and general observation of the experiences of other communities as they apply for and attempt to build community websites under the CGDN concept. As the community websites become more popular, it is expected that new issues which impact on the sustainability of the websites will be identified. The Sustainability Issues Model and the Sustainability Factor Model will be updated to embody these changes. By reflecting the experiences of real communities, the models will help community groups to identify priorities and anticipate outcomes.

Conclusion

This paper described the issues faced by three communities participating in the trial of the world's first domain names created solely for use by geographic communities. A Mapping of Sustainability Issues that have been identified as affecting the success and future sustainability of these community websites was presented. This complex mapping was represented more simply in the Sustainability Model, which shows the impacts of each factor identified in the Mapping on other factors. The five main factors that were identified in this study, based on a rich set of longitudinal data, are: Funding, Management; Value to the community; Website; and Awareness. These five factors together largely determine the sustainability of a community website which is run by the community for that community.

References

- Akhavan, P., Jafari, M., and Fathian, M. "Critical success factors of knowledge management systems: a multi-case analysis," *European Business Review* (18:2) 2006, pp 97-113.
- auDA "Community geographic 2LDs," (2004:March 22), March 4, 2004, 2004
<http://www.auda.org.au/domains/geographic-2LDs/>.
- auDA "Community Geographic Names," (2005:October 10), May 23, 2005, 2005a
<http://www.auda.org.au/domains/geographic-2LDs/>.
- auDA "Geographic Names," (2005:November 8), November 3, 2005, 2005b
<http://www.auda.org.au/geographics/index/>.
- auDA National Reference Group "Community Geographic Second Level Domains (2LDS) Policy Rules and Guidelines, February 2004," (2005:October 10), 2004
<http://www.auda.org.au/pdf/nrg-policy-approved.pdf>.
- Australian Government "Networking the Nation," (2004:June 17), May 6, 2003, 2003a
http://www.dcita.gov.au/Article/0,,0_1-2_3-4_106337,00.html.
- Australian Government "Networking the Nation Funding Summary - New South Wales," (2004:June 10), July 28, 2003, 2003b
http://www.dcita.gov.au/download/0,2118,4_116022,00.xls.
- Benassi, M., Di Cindio, F., and Ripamonti, L.A. "Online communities sustainability: some economic issues," Community Informatics Research Network Conference 2004, Monash University & Community Informatics Research Network, Prato, Italy, 2004, pp. 15-28.

- Creswell, J. *Research design: Qualitative, quantitative, and mixed method approaches* Sage Publications, California, 2003.
- Day, P., and Cupidi, R. "Building and Sustaining Healthy Communities: The symbiosis between community technology and community research," Community Informatics Research Network Conference 2004, Monash University & Community Informatics Research Network, Prato, Italy, 2004, pp. 79-88.
- ETHOS "Report to the Australian Domain Name Authority (auDA) on Three One City One Site (OCOS) Test Cases," University of Wollongong, Wollongong.
- GrantStation "GrantStation.com - Your Fast Track to Funding," (2004:July 8), 2004 http://www.grantstation.com/grantstation/Public/News_Views_px/types_money.asp.
- Johanson, G., Denison, T., and Otis, N. "Building sustainable learning communities in Vietnam," Community Informatics Research Network Conference 2004, Monash University & Community Informatics Research Network, Prato, Italy, 2004, pp. 285-295.
- Kim, A.J. *Community building on the web* Peachpit Press, Berkeley, 2000.
- London Advice Services Alliance "A step forward: Government funding for voluntary sector ICT," (2004:July 7), 2003 <http://www.lasa.org.uk/cgi-bin/publisher/display.cgi?1432-10103-75556+computanews>.
- Myers, M. "Qualitative Research in Information Systems," (2005:November 9), July 26, 2005, 2005 <http://www.qual.auckland.ac.nz/index.htm>.
- Norris, A. "A framework to support community portal financial sustainability," Community Informatics Research Network Conference 2004, Monash University & Community Informatics Research Network, Prato, Italy, 2004, pp. 113-124.
- NSW Department of Commerce "CTC@NSW Introduction," (2005:November 9), 2005 <http://www.oit.nsw.gov.au/content/3.4.CTCs.asp>.
- O'Neil, D. "Assessing community informatics: A review of methodological approaches for evaluating community networks and community technology centers," *Internet Research-Electronic Networking Applications & Policy* (12:1) 2002, pp 76-102.
- Preece, J. "Online Communities: Researching Sociability and Usability in Hard to Reach Populations [Opening Keynote]," OZCHI'05, Wollongong, Australia, 2004.
- Stoecker, R. "Is Community Informatics good for communities? Questions confronting an emerging field," *The Journal of Community Informatics* (1:3) 2005, pp 13-26.
- United Nations: Department of Economic and Social Affairs "Report of the Eighth United Nations Conference on the Standardization of Geographical Names (E/CONF.94/3) (Report in English)," Eighth United Nations Conference on the Standardization of Geographical Names, United Nations, Berlin, 2002.
- Vrazalic, L., and Hyland, P. "Regional community portals in Australia: Analysing the current state of play using the S³ model," Web Based Communities 2004, IADIS International Conference, Lisbon, Portugal, 2004.
- Vrazalic, L., and Hyland, P. "Measuring the maturity level of a community portal," in: *Encyclopedia of developing regional communities with information and communication technology*, S. Marshall, W. Taylor and X. Yu (eds.), Idea Group, Melbourne, 2005, pp. 481-487.
- Yin, R.K. *Case Study Research, Design and Methods*, (3rd ed. ed.) Sage Publications, Thousand Oaks, California, 2003.