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Web-Based Communities as a Tool for Extension and Outreach

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Web-Based Communities as a Tool for Extension and Outreach

Abstract

The Internet has become a common tool for facilitating business transactions, fostering communication, and aiding for-profit and non-profit companies and organizations to better compete. An additional benefit of the Internet is the ability to create sector-specific Web-based communities that can facilitate outreach and Extension efforts. Communities in general can be any group with a common interest or goal and can include a number of actions such as information sharing, real-time dialog, and transaction facilitation. In this article, we discuss a background of Web-based communities and forest-sector Web-based communities developed by Cooperative Extension faculty members at two U.S. universities.

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Introduction

Modern society is often said to lack community due to weak connections with local places (e.g., village or neighborhoods) and changing models of social interaction. By not being bound by spatial constraints, the Internet can be a tool to facilitate community development in the virtual realm (Driskell & Lyon, 2002.) According to Nielsen/NetRatings (cited in ClickZ, 2004), in July 2004, the United States had over 136 million in-home Internet users. The Internet is not only the global super-warehouse of information but is also modifying traditional models of social interaction. In the broadest terms, the Internet can be described as an online community.

However, community in the Internet environment is typically specific to interest groups, cultural genres, and commercially motivated entities or sectors. Meshing the concept of focused industry-specific Extension outreach with the infrastructure of the Internet has led to the development of Web-based communities. The authors, Forest Products Extension Specialists at Oregon State University and the Louisiana State University Agricultural Center have developed state-level forest sector Web-based communities for their respective states. In this article we describe some basic concepts about what communities are and then share some experiences regarding the Web-based communities we are creating.

On-Line Communities

A community can be described as a group of people who share social interactions and links between themselves and the other group members and who occupy the same area for some time (Bellini & Vargas, 2003.) Wellman (2001) believes that the Internet can facilitate the creation of networks and sustain community ties, thus forming meaningful and supportive relationships. On-line communities are social networks that use computer support and the Internet to communicate on a topic of interest among members (Andrews, Preece, & Turoff, 2002; Bellini & Vargas, 2003.) They are designed to facilitate interaction and collaboration among people who share common interests and needs without barriers of time and place.

On-line communities can be private or open to the public. Virtual community may be used as a synonym for on-line community. Virtual community is defined by Castelles as "a self-defined electronic network of interactive communication organized around a shared interest or purpose" (Marshall, 2000.)

Others disagree with the notion that an on-line community constitutes a real community. For example, Driskell & Lyon (2002) argue that on-line communities are not true communities because they do not include close, emotional, holistic ties of unity. Snyder (cited in Galston, 2000) argues that a community is more than people in 24 time zones discussing the latest news in a topic. Although many believe newsgroups, listservs, and chat rooms to be communities, Snyder (cited in Galston, 2000) suggests that a community is a group of people who have more in common than simply a fascination with a narrowly defined topic. Galston (2000) notes that this objection to on-line groups' community status revolves around the substance of what members of groups have in common, not the nature of the communication among them.

In any event, communities require communication among members. The Internet has radically changed the way people communicate, allowing global many-to-many communication channels compared with the telephone (primarily one-to-one) and television (few-to-many) (Schwartz, 1995.) Transmission of ideas and information in an on-line mode is rapid and available regardless of how geographically dispersed community members are (Marshall, 2000.) On-line communication can be informational, transactional, or communicational. Further, the Internet can facilitate complex technical information sharing that would otherwise be problematic to communicate using other means of communication such as telephone or fax (Cothrel & Williams, 1999a.)

On-line communities do not require spatial proximity for members. Galston (2000) cites the near prophetic argument written 30 years ago by Licklider & Taylor that "life will be happier for the on-line individual because the people with whom one interacts most strongly will be selected more by commonality of interests and goals than by accidents of proximity."

According to Schwartz (1995), an on-line community is "a group of people who have in all likelihood never met face to face, but who enjoy spending time in cyberspace with one another debating politics, discussing their hobbies, conducting business, spilling their guts, or just flirting and playing games with one another." Thus, on-line or virtual communities are social arrangements of functions and structures highly dependent on information technology and relatively independent of space and time limits (Bellini & Vargas, 2003.) As shown in Table 1, Driskell & Lyon (2002) describe on-line communities as: "spatially liberated, socially ramified, topically fused, physiologically detached with limited liability."

People can have numerous reasons for seeking an on-line community involvement, including a shared interest, a desire to interact and/or cooperate with like-minded people regardless of proximity, an opportunity to conduct discussions with experts, educational interests, entertainment, and conducting commercial transactions (Bellini & Vargas, 2003.)

Table 1.
Virtual Community Characteristics

Virtual Community Characteristics	
Spatially liberated	Place does not matter. Members need not be in close proximity.
Socially ramified	More heterogeneous in social characteristics such as race, religion, income, etc., than face-to-face communities.
Topically fused	A narrow focus on a specific topic.
Physiologically	Lacks an element of trust due to limited information and

detached	social cues about the other community members.
Limited liability	Ties keeping the community together are weak. Leaving and changing community is common.
Source: Driskell & Lyon, 2002	

On-line communities must create and maintain tangible reasons for people to join, stay, and be active in the community. It is important that an on-line community provide information-rich content on the specific issues of interest to the community members (Andrews et al., 2002).

Foundations of On-Line Communities

There are a number of constructs found in the literature that support on-line community development. We have observed that seven foundation elements of on-line communities are fairly common themes in the literature. These are 1) mission and focus, 2) content, 3) sociability, 4) roles, 5) technology and usability, 6) trust and 7) participation motivation. Following is a brief discussion of each.

Mission and Focus

An on-line community's mission and purpose need to closely parallel the needs of the targeted demographic group (Andrews et al., 2002; Bellini & Vargas, 2003; Williams, 1999a.) The first steps toward establishing an on-line community should be to identify the reasons and audience for its existence, define the mission, and develop an identity (Bellini & Vargas, 2003.)

Content

Andrews et al. (2002) emphasize the importance of providing information-rich content on the specific issues of interest to the community members. Community members want access to relevant information, discussions, and expertise. Content should be updated frequently. Bellini & Vargas (2003) list the following content tools and services that can support communities: on-line training, library and news services, analysis of community-related themes, forum and chat tools, bookmark management, advertisements, search engine, electronic commerce, auction services, and calendar for community events.

Sociability

Sociability is defined by Andrews et al. (2002) as social interaction that occurs in an on-line community. They argue that sociability creates a culture where people feel comfortable communicating and interacting with other on-line community members. On-line communities often use anonymity as a way to help members to feel comfortable contributing their ideas (Cothrel & Williams, 1999a), although Andrews et al. (2002) report that prior studies indicate that knowledge of other member identities positively influences sociability. Proponents of Internet-mediated communication as the source of new communities stress the development of "affective ties" among on-line group members (Galston, 2000).

Roles

On-line community interaction is guided by tacit and explicit policies and roles to support and mediate the social interaction (Andrews et al., 2002.) Assuming that on-line communities will rapidly evolve to be self-sustaining is a common misperception; most online communities require a significant investment of time and effort to maintain (Williams, 1999a.) Thus, on-line communities require active organizers, moderators, and contributors.

Technology and Usability

Any Web-based community should be easy to navigate and invoke on browsers and accommodate the wide breadth of bandwidths and communication infrastructures. Technology employed must be aligned with the users' needs and level of technology sophistication and willingness to use different tools. (Bellini & Vargas, 2003.) Sophisticated Web-base technologies such as tele-immersion, 3-D, and high-resolution video can simulate face-to-face communication in on-line communities. However, Preece (2001) argues that less sophisticated technologies are sufficient and that it is how the community is designed and supported that matters.

Trust

Trust in virtual communities is based on the community norms, policies, and behavior (Andrews et al., 2002.) One definition of trust that they offer in this context is "an individual's ability to feel comfortable with the Website and on-line community owner's ability to protect users' personal

safety and privacy." They further argue that trust can be established among group members who do not possess any prior knowledge of other members if they trust the sponsoring entity.

Participation Motivation

Cothrel and Williams (1999b) found that people's contribution to on-line community is related to their personal attributes like passion, desire for recognition, and sense of obligation to "give back" to the community. In order for an on-line community to be successful, sustained participation is necessary. The demographic cluster of interest must be thoroughly researched in order to identify needs, value desired, and prerequisites for participation.

Challenges in Creating and Maintaining On-Line Communities

Based on the Yankee Group estimate, American corporations have invested over \$300 million in setting up and managing on-line communities (Schwartz, 2001.) Schwartz (2001) argues that much of the money invested in on-line communities is wasted because companies have done a poor job in designing and implementing these tools. On-line communities are more unstable and have shorter life spans than face-to-face communities (Marshall, 2000.) Galston (2000) hypothesizes that when barriers to leaving and joining new on-line communities are low, exit will be the predominant response to dissatisfaction. On-line relationships are more easily replaced (by click of a mouse) than in the face-to-face world (Driskell & Lyon, 2002.) Thus, managing the volatility of membership has become one of the most challenging tasks in on-line community management (Bellini & Vargas, 2003.)

Both Schwartz (2000) and Williams (1999a) suggest that the main gaffe has been not realizing that the community is "not an end in itself"; the community function needs to be attached to a working business model, and the participation needs to give real benefit for participants. On-line communities offer opportunities to extend the interactions of face-to-face communities, but their ability to create value is easy to exaggerate (Williams, 1999a.)

A thorough understanding of the target group's characteristics is needed to build an effective and successful on-line community (Cothrel & Williams, 1999a; Andrews et al., 2002.) This includes "appropriate informational content, selecting the right on-line community technology, attracting people to the community, encouraging continued participation, and evolving the right balance of fact-finding and empathetic opportunities" (Andrews et al., 2002.)

People can sometimes be hesitant to interact on-line even though they would regularly use the Internet for e-mail and information purposes (Andrews et al., 2002.) Not all demographics are equally receptive to on-line communities. Based on the Pew Internet and American Life Project survey in 2003, only 52% of rural residents use the Internet, compared to 67% of urban and 66% of suburban residents (Bell, Pavani & Lee, 2004.) On-line communities in rapidly changing industries and environment tend to be more active in collaboration and contribution than in environments that are less subject to constant change. In stable industries, people are more likely to accumulate than disseminate information (Cothrel & Williams, 1999a.)

Web-Based Communities as Tools for Outreach and Extension

As Barta, Woods, Dauffenbach, and Wallace (2004) point out, data and information are increasingly becoming available on-line. They suggest that Extension educators recognize this fact and are taking advantage of the Internet as a vehicle for disseminating community economic development information through ORIGINS, a Web-based system developed at Oklahoma State University (OSU). Understanding the ORIGINS Website will make it easier for educators to deliver data and information to their clients. Technological advances, they point out, such as affordable wireless networking, are also making it easier for Extension Educators at OSU to take information resources to the public.

In a study of the use of information technology by county Extension agents of the Florida Cooperative Extension Service conducted by Gregg and Irani (2004), it was concluded that agents have embraced information technology and are using it on the job more than ever before. More than two-thirds of the agents reported using their computers from 16 to over 20 hours a week (including use at home). Additionally, the vast majority of agents in this study used e-mail to communicate with clientele, over three-quarters use presentation software, and just over 20% responded that they could edit or create Web pages. They suggest that a shift is occurring in the way Extension agents conduct their jobs and a potential change in the way Extension outreach is delivered. In addition to face-to-face interactions with clientele, agents may also be using information technology to facilitate routine communication and information dissemination (to their clientele).

On-line communities allow Extension faculty to better focus their educational efforts. For example, in the absence of readily available, up-to-date, and sector-specific directories, Extension faculty often spend a fair portion of their time responding to requests for buyers and/or sellers of specific raw materials or products. By investing their efforts in on-line communities, Extension faculty will be better able to fulfill their intended role of providing unbiased, research-based technical information. At the same time, Web-based communities are a means by which Extension faculty can facilitate economic development by providing a means by which private entities may establish

business connections. Further, interactive (e.g., those that allow members to log-in and update their own information) Web-based communities shift the burden of keeping track of detailed data (for perhaps thousands of individuals and companies) from Extension to the firms and individuals themselves.

Examples of Forest-Sector Web-Based Communities in Oregon and Louisiana

The Oregon Forest Industry Directory <www.orforestdirectory.com>

The Oregon Forest Industry Directory (OFID) is a collaborative effort of the Oregon State University Extension Service, Oregon Small Woodlands Association, and the Northwest Wood Products Association. There were a number of motivating factors for developing the site.

First was the change in Oregon's primary processing infrastructure due to a loss of markets for private landowners for large diameter logs. This created a strategic transition at the state-level to manufacturing wood products from small logs and an increased emphasis on the state's value-added secondary wood products sector, which includes furniture, flooring, cabinets, and other consumer products. Second, there was a lack of information on infrastructure (e.g., firms with sawing and drying capabilities) for "underutilized species" (e.g., western hardwoods). Third, there was, in general, a lack of information for Oregon wood-producing manufacturers regarding potential raw material suppliers and markets. And fourth, the state needed a tool to promote Oregon forest-sector products and foster market development.

Planning and implementation of the OFID site took place in the year before launching the Website. Steps in this stage included benchmarking or comparing similar industry-level Websites used in other states and to "borrow" best practices and features. These comparison Websites were not limited to the forest products industry. Based on benchmarking results, preliminary functional specifications for the OFID were developed and mock screen layouts were generated.

Through an iterative process of specification and layout revisions based on input from key manufacturer, association, and policymaker stakeholders, a final set of specifications and associated functionality was developed. The next step in the process was to secure funding for Website development and programming and to identify a project manager (i.e., Website administrator) to guide the process to implementation. Funding was provided primarily through state government grants, and an Oregon State University Wood Products Extension Specialist was assigned project manager responsibilities.

The project manager provided programmers on staff at Oregon State University with functional specifications and worked closely with them through Website development. Web development is being conducted by the Web services technical group at Oregon State University. Once the Website shell was completed, the project manager gathered content, which consisted of existing data from existing Oregon forest industry directories and personal communications with companies that may not have been listed in published directories.

Access to a secure demo beta version was provided for selected companies to help test the system, identify any site navigation problems, and provide input on suggested modifications to increase the utility of the Website. Concurrently, the Extension Specialist conducted workshops throughout the state on Web-based marketing to increase awareness in general about the value of using the Internet for business exchange and to solicit suggestions on site improvement. Based on beta testing, suggested changes were implemented. The OFID site went live in March 2004. Enhancements continue to be made to the Website as additional suggestions and recommendations are communicated to the Webmaster.

The OFID is not simply an electronic Web-accessible wood products manufacturer directory. In the spirit of creating a community, the Website emphasizes information dissemination and promotes networking and interaction between industry members. Community members are companies that sign up on the site with a secure username and password, which allows them to edit corporate information.

As a driver for industry development and transactions, the site's directory enables visitors to search for potential buyers or suppliers of Oregon forest products. A key element is a "request for proposal" (RFP) function that allows members to post specific products they wish to sell at any given time. For example, if a company has excess inventory of a particular item, the company can post an RFP in an attempt to reduce this inventory. RFPs can also be submitted by potential buyers that may have a unique need to purchase products.

Planned future OFID enhancements will enable community members to interact via a bulletin board or chat function and to play a more active role. For example, a recent suggestion was made to have the RFP function send an e-mail to members with the capabilities to fulfill the request. Next steps planned for the OFID are to promote the site widely and encourage firms to join and/or update their existing profiles. In its first 6 months since launching the OCID, over 2,000 searches were conducted, and 45 firms have signed up. It is expected that usage will increase dramatically following formal and concentrated efforts to promote the site.

The Louisiana Forest Products Community <www.laforestproducts.org>

The Louisiana Forest Products Community (LFPC), launched in February 2004, is an innovative Website that has the objectives of facilitating business exchange and promoting forest-sector economic development in the Louisiana. Through the LFPC, for the first time, wood products buyers anywhere in the world can search online for Louisiana manufacturers that meet their unique purchase needs.

One especially attractive motivation for developing the Website is that the LFPC allows small rural companies to have the same exposure and market opportunities as large companies. The Community is a collaborative effort of key institutions in industry, government, not-for-profit development organizations, and academia. Funding for Website development was provided by the Louisiana Department of Economic Development and the Louisiana Forest Products Development Center, part of the Louisiana State University Agricultural Center.

In contrast to the OCID, programming for the LFPC was outsourced to Transformyx, Inc., a Baton Rouge software development company. The Community resides on the company server but is maintained by the Webmaster, an Extension Specialist at the Louisiana Forest Products Development Center.

Functional specifications and Website content was provided by representatives from a consortium of the following Louisiana stakeholder organizations: Louisiana Forest Products Development Center, Louisiana Forestry Association, Louisiana Department of Agriculture and the Forestry, Louisiana Furnishing Industries Association, Coordinating and Development Corporation, Louisiana Department of Economic Development, and Louisiana Tech University. The process of Website conceptualization, planning, development and operationalization took 8 months before the LFPC was launched.

At the present time, the LFPC is segmented into five distinct sectors, 1) Primary Wood Products, 2) Secondary (value-added) Wood Products, 3) Engineered Wood Products (e.g., laminated veneer lumber, glulam beams, parallel strand lumber), 4) Equipment Manufacturers and Distributors, and 5) Logging and Harvesting. In addition, there is a section that offers business development information for existing companies that want to expand and potentially new companies that could be started in Louisiana. This section is also useful for companies that are considering relocating to the state. Contingent on additional funding, additional sectors will be added in the future including Pulp & Paper Manufacturers and Wholesalers/Distributors.

Each segment is a stand-alone sub-community. For example, each has its own request for proposal (RFP) function that facilitates targeted product buying and selling. In addition to RFPs being resident on the site for any visitor to see, they are emailed to Community members for which RFP products are most relevant. Links in each section lead Community members and visitors to additional information such as industry associations, consultants and data bases.

There are 300 company site members, and the site has been averaging 800 visits/month since its inception. The Webmaster can access a wealth of site statistics, including country of origin for site visitors, average visits/month, and visits by each industry segment. Interestingly, the percentage of visitors from Asia and Europe is increasing over time. Non-U.S. visits currently account for 8% of total visits. Site statistics graphs and tables are automatically generated, which aids in reporting and auditing. In February 2005, the first annual site audit was conducted to discern company use and business transactions facilitated by the site. It was determined that 10 transactions were conducted as a direct result of information buyers/sellers found on the LFPC Website.

Summary

Conceptually, community structures can be beneficial in facilitating common goals for members. They can also serve the common Extension roles of facilitating discussion and information dissemination as well as bringing together parties with common interests. The Internet offers a unique infrastructure for spatial communication and community development that transcends geographic constraints. The scope and desired outcomes of a Web-based community can be macro (geographic, industry-level market development, economic development) or micro (transaction, new business, enterprise level)

Web-based forest sector communities typically attempt to bring value to an industry in a specific state, region, or country. They can also be non-region specific. With a common set of objectives and set of interests, communities can help to disseminate timely information, facilitate transactions, generate sales leads, and generally weave members together in a more closely knit arrangement. Success requires member participation, which in turn, is generated through receipt of value and the establishment of trust to participate.

Although most state-level forest-sector Websites are not yet true communities, they contain many community elements. As these sites evolve, through an iterative process, users and providers will be able to make modifications that can lead to value creation for community members and valuable information for forest products industry economic development planners.

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