

**Strengthening Social Capital through Computer-mediated Community
Participation**



Building an exclusive online professional and social networking community for The
National Association for Multi-ethnicity in Communications' Executive Leadership
Development Program members

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Introduction

With the help of the Internet, people are able to maintain active contact with sizable social networks, even though many of the people in those networks do not live nearby. The Internet has the capacity to help maintain and cultivate social as well as professional networks that many people find beneficial. At their most basic usage, online networks help people stay in contact. At the broad end of the Internet social network spectrum, people use the Web to find support and information as they face important decisions.

Individuals who are already connected through offline ties have a higher likelihood to create online ties and then use these connections to create social and professional opportunities for themselves and for their contacts. (Mergel 10) Professional and trade organizations like The National Association for Multi-ethnicity in Communications (NAMIC) can experience benefits such as increased member loyalty and membership retention by providing Internet tools that allow members to use their organizational ties to interact. Web 2.0 technology components, which include discussion boards, blogs, RSS (Really Simple Syndication) feeds, event calendaring and group e-mailing, comprise the community tools that allow people to take advantage of existing ties, form new ties and use these connections to affect their social and professional status. This document is a proposal to build an online community for a subset of the NAMIC membership population by using Web 2.0 components on NAMIC's web site.

This document begins with an introduction to NAMIC and the project site description, and a discussion of the audiences and goals for the project. Next, the current

problem that the project addresses is explained, followed by an overview of the proposed solution, benefits for the main audiences, consultant qualifications, and the project timeline, which outlines the milestones and deadlines.

The literature review, which follows, discusses related research that supports the project goals. The theory section attempts to explain the theoretical underpinnings of the project, and the methodology section, which is supported by the literature review section, details the research that will be performed that will help define the project direction and lay the groundwork for continuing project evaluation. Lastly, the conclusion section outlines next steps required to move the project forward.

NAMIC is a 501(c)(6) trade association that educates, advocates and empowers for multi-ethnic diversity in the telecommunications industry. NAMIC was founded in 1980 and currently has a staff of ten that creates and implements national programs for its more than 1,500 members in 17 national chapters. NAMIC's Executive Leadership Development Program (ELDP), in association with UCLA Anderson School of Management, was launched in Fall 2001 as a result of a NAMIC research study that found that people of color are severely underrepresented in the cable industry's executive suites. ELDP provides education and mentor programs designed to help members develop their potential to gain access to the industry's executive level positions.

The ELDP targets upper-middle managers who have a minimum of two years experience at the director level and above from the telecommunications industry, and who are seeking senior-level positions. Their superiors who believe that their performance and potential puts them on track for future executive-level responsibilities must nominate members. Only a select few applicants each year are granted entrance to

and graduate from the ELDP, which develops a pipeline of leaders of color who will be well prepared to take the next steps up the executive ladder.

The core values of the ELDP curriculum are areas that are critical to sustained success in the telecommunications industry: marketing and financial analysis; corporate strategy; organizational behavior; managing innovation; operations management; achieving optimal results from diverse teams; communication strategies in a multi-cultural context; change management; and entrepreneurship. Additionally, participants spend time in guided examination of individual leadership styles, strengths and "blind spots," emotional intelligence, and the unique experiences that executives of color have with power—acquiring it; using it wisely; comprehending in all its cultural and organizational complexity. (NAMIC.com)

Project Site / Project Description

Consultants created the NAMIC web site, NAMIC.com, and NAMIC administrative staff updates site content items as needed. The site is a largely informational site that prospective members, current members and donors can get information about past and present NAMIC events and initiatives. While the site does have a job bank component supplied through a third-party provider, NAMIC.com generally lacked any substantial interactivity. Because NAMIC does not have an internal IT department, they periodically solicit consultants to support various technology initiatives.

James Jones, Senior Director of NAMIC Education Programs and ELDP programs director, required a membership-only virtual community area on NAMIC.com

that is exclusive to the ELDP alumni, and offers access to group e-mailing, discussion boards, event calendars, and blog creation tools. EDLP exclusivity of the virtual community on NAMIC.com is expected to support and reinforce the unique ties of the ELDP members as well as sustain the energy and enthusiasm that the alumni experienced during their coursework.

Of major importance to NAMIC is that the proposed online community imparts to the user at all levels of functionality and look-and-feel the NAMIC.com experience. Therefore, the virtual community was implemented with NAMIC's high-level requirement that the pages display a seamless visual design into the current NAMIC.com web site.

In my role as a technical and design consultant for NAMIC, I removed the technological barriers to virtual community participation and networking by implementing a community and networking solution for the ELDP on NAMIC.com. In addition to managing all aspects of the project that include budget and scheduling, I surveyed the ELDP, created and tested the design of the online community, selected the technologies used, and performed the technical integration.

Audience

The primary audience of the virtual community is the ELDP alumni. ELDP alumni will now have a place on NAMIC.com to network and to share information and ideas with other members. As a repository for social and professional data on the ELDP, the online community will hold the thoughts, ideas and challenges of members as it shows their progress since ELDP graduation. Additionally, through the loyalty that the

virtual community nurtures, the community will provide an additional outlet for alumni donations for the program.

The secondary audience of the virtual community is the ELDP program director who creates and oversees programs for the ELDP. The program director's main goal in creating a virtual community for the ELDP is to provide services to members that support, encourage and sustain group participation and organizational loyalty. The tertiary audience for the online community is the NAMIC president. The president requires substantive programs for members that also may translate into member giving, as well as programs that encourage future large funder donations. The Walter Kaitz foundation, the major donor for the ELDP, is a fourth-level audience of the virtual community in that the foundation has an interest in seeing its donor dollars spent in ways that reap benefits both for the ELDP membership base as well as for NAMIC.

Situation / Current Problem

Presently, the ELDP is NAMIC's best-funded and most prestigious program. According to a September 2007 NAMIC study conducted by the Oliver Wyman Group, ELDP participants reported the highest program satisfaction of all program participants surveyed. The Wyman survey results also showed that 72% of NAMIC's members joined the organization in search of networking opportunities. In feedback comments from the survey, 23% of respondents stated that they desired more networking opportunities, and 21% desired better communication with other members across the country. (Wyman 14)

At each level of professional organizations, that now include the C-suites, using Web 20.0 technologies has become a part of the way that people network professionally

as well as personally, with the boundary often blurring between the two on professional networking Web sites. Web 2.0 components are advantageous tools that bolster the professional's ability to prosper and remain in place at the top of the corporate food chain. The Internet's current crop of community tools is about inclusion where people gather insights from others and allow for unprecedented interactivity that harnesses the wisdom of many. Now that the virtual community is in place on NAMIC.com, ELDP members have an outlet for networking and community interaction.

Solution / Strategy

The solution provided herein is to utilize Web 2.0 technologies to develop a membership-only virtual community for the ELDP alumni on NAMIC.com, with a two-fold strategy. The first phase was the research and design of the community, and the second phase was implementation and integration of the Web 2.0 technologies onto NAMIC.com. The research informed the design and structure of the online community as well as laid the foundation for the configuration in the implementation phase.

Phase One is the survey findings report, the research and selection of Web 2.0 technologies, and the layout, navigation and architecture design of the online community. The survey report provides an assessment of the ELDP membership's Internet habits as well as provides a basis for evaluating the alumni's ability to engage the online community to utilize the latent social ties of the ELDP that may result in increased social and professional opportunities. Since we have data from the Wyman Survey that indicate ELDP alumni's desire for increased networking opportunities, the survey investigates the alumni's overall Internet habits, online community activities and preferences, as well as

behaviors in and expectations from online community involvement. See Appendix A for the survey questions.

During the period of survey response collection, Web 2.0 solutions that integrate into NAMIC Web server infrastructure were researched. Specifically, integration solutions for discussion board, event calendaring and blog creations tools was investigated, targeted and recommendations were made for purchase. To support NAMIC's desire for seamless visual and navigational transitions between NAMIC.com and the ELDP online community, technologies were assessed and then designed to support functionality as well as look-and-feel that encapsulate the NAMIC.com experience for the end user. The design uses the NAMIC branding and style guides to instill visual continuity from NAMIC's main web site to and throughout the community area. To ensure a user-centered community experience, ELDP members participated in usability testing of the online community.

The deliverables for Phase Two, implementation, includes front-end programming of the layouts and style sheets, back-end programming that includes the configuration and integration of the Web 2.0 technologies, and all miscellaneous code development. Technical integration of the online community applications utilizes NAMIC.com's existing Microsoft .NET environment and Microsoft SQL database infrastructure.

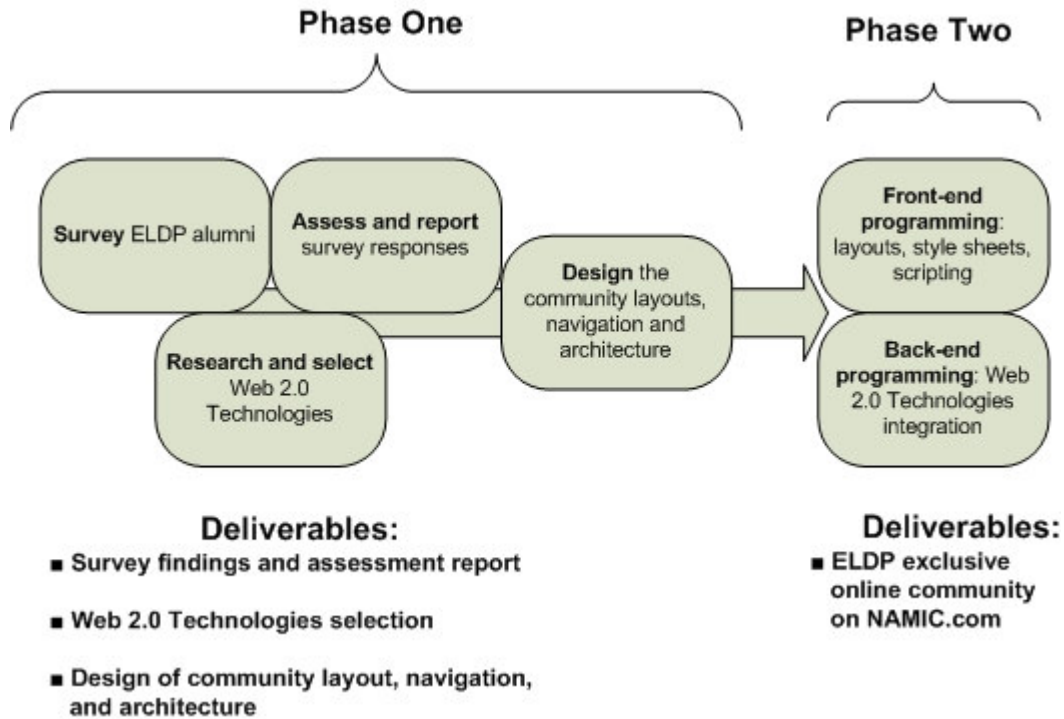


Fig. 1. Strategy for ELDP online community on NAMIC.com

Qualifications

A combined twenty-five-plus years in the design and web programming fields that is supported by the core competencies of the New Jersey Institute of Technology Master's program in technical communication lay the solid creative and technical foundation that will build the online community. The expertise used in building the community is sharpened through years of project managing and developing media assets for print and electronic media, in both the corporate and non-profit sectors. The client list includes non-profits such as Urban Youth Alliance International and Harvest Fields, as well as corporations such as Earl Graves Publishing, McGraw-Hill and The Economist.

Benefits

There is benefit from the online community for both NAMIC and the ELDP membership. NAMIC can use the community as an example to its funders of the kind of

progressive programs implemented to service its members. As well, NAMIC can use the success of the ELDP online community to solicit funding for community areas for its other program areas. As ELDP members discuss topics of interest in the online community, NAMIC can discover how its members genuinely feel about the content, direction and scope of programs, as well as what kinds of programs and activities members would like NAMIC to sponsor in the future. Unlike responses to a NAMIC survey or questionnaire, the community discussions will be unsolicited and unalloyed comments from members, from which NAMIC can glean valuable information.

The online community can also serve as a tool to increase NAMIC membership loyalty and member retention. As ELDP members network professionally and socially, build stronger ties online and possibly convert those online ties to offline ties, membership loyalty to NAMIC as the facilitating organization will undoubtedly increase.

The online community allows NAMIC to be seen as a technically relevant organization to both its funders and its members. As NAMIC is an organization that caters to the needs of those in the fast-moving telecommunications industry, NAMIC needs to be seen as an organization that is capable of providing communications tools on or above par with the industry.

Of major benefit for the ELDP membership is that they now have a place to network. Members can create new professional and social contacts with other ELDP alumni or strengthen their existing ties. The community is a place to transfer and sustain the momentum and enthusiasm of the ELDP classes, and use the energy to inform discussion. The content of the community is member-driven and therefore totally focused on member needs. In discussion areas, members post questions and receive answers to a

range of topics to help resolve career and industry-related issues. The blog area allows members to create diaries of their career journey to share their stories and document their progress. Members can also publicize event information on event calendars and send group e-mailings to the entire ELDP database as needed.

Timeline

Table 1
Project Timeline

<i>Phase One</i>	
Create and deploy survey to ELDP alumni database	January – February
Research and select Web 2.0 applications	February
Evaluate and assess survey responses, and report survey findings	March
Design layouts, navigation and architecture of online community	March – April
Usability Testing	April
<i>Phase Two</i>	
Front-end programming	April - May
Back-end programming	May
Launch ELDP online community	May

Budget

The Walter Kaitz Foundation is the major donor of the EDLP. NAMIC requested and received from the Foundation \$5,000 for the first year to support the online community. The estimated costs were based on third-party Web 2.0 integration solutions that include initial setup, configuration and yearly recurring maintenance and support fees. Maintenance and support costs of the Web 2.0 technologies selected for final implementation are within the allotted budget.

Literature Review

Online communities are a new phenomenon relative to the research that has been performed in social network theory. The computer-mediated communication (CMC) field of study offers contrasting and differing views on the effects of CMC on community and social networks. Of the many studies that have examined CMC, there has not been many that address the substance of online community that can affect social networks.

Moreover, even today there is not a consensus of agreement on the effect that online communities have on social networks. Early studies forwarded that any level of Internet usage negatively affected social networks. Subsequent studies indicated that CMC exhibited neither a positive nor negative affect on social networks. (Quan-Haase and Wellman 19) However, due to the recent proliferation of social networking sites and the incorporation of community functionality into many existing sites' architectures, there is now a small body of work that examines CMC and its direct and positive impact on social networks. These studies examine the substance of computer-mediated communication that potentially strengthens social capital as well as both online and offline social ties.

There are residuals that emerge from the dynamics of formal or social group interactions that can be used to facilitate future social exchanges, and these residuals are known as social capital. Individuals and communities draw on these residuals to achieve ends that could not otherwise be accomplished by "relying on physical, financial, and human capital alone." (Best and Kreuger 395) The type of activity that users engage in online positively correlates with social capital; users who participate in chat, bulletin and discussion boards expand their social network and strengthen social ties. In "Online

Interactions and Social Capital,” Best and Kreuger investigated usage and time patterns on the Internet as well as time spent in online and offline social activities, and found that contacts made in online communities increase social capital. Their study results suggest that online communities “foster connections critical to expanding networks and producing residuals such as generalized trust.” (Best and Kreuger 404-406)

Best and Kreuger conclude that the trust that participants develop is a result of:

- their involvement with a group of like-minded individuals with whom they share information and opinions
- the closed social structure of the group that helps to facilitate the establishment of social norms
- the expansion of social networks and potential to increase social ties that would otherwise be unavailable (Best and Kreuger 397)

Similar to Best and Kreuger, Shanyang Zhao’s investigation of social contacts also pays particular attention to the different types of online community activity that users engage in and their resultant net effect on social capital, as well as the overall benefit to the social network that each type of activity imparts. Zhao examined the results of the 2000 General Social Survey, which questioned respondents on Internet usage and time patterns as well as the levels of interpersonal contact through traditional means of communication. (Zhao 850)

Zhao’s study reports that nonsocial Internet use is negatively related to the number of social ties, and social use of the Internet is positively related to interpersonal connectivity. The amount of time that a user spends online was also found to be related to social ties differently in that the relationship is positive if online time is spent on interpersonal contact, but the relationship is negative if spent on solitary activities. (Zhao 858-859)

While Zhao cautions that increased social ties should not be inferred, he does assert that the type of activity performed online determined the likelihood of whether the online contacts became offline contacts; social users of the Internet who engaged in chat, bulletin or discussion boards were not only more likely to have a larger social network than non-social users of the Internet, but were also more likely to convert online contacts into offline contacts. (Zhao 859)

Discussion groups are a place where participants socialize and in so doing, create communities of practice, wherein members regularly share experience and expertise. Discussion participants are a self-directed autonomous group that are “seen in the business world as important means for generating value and motivating contribution.” Within the groups, each participant enacts a distinct role in the discussion that may be in the form of “local experts, answer people, conversationalists, fans, discussion artists, flame warriors, and trolls.” (Welser et al.)

Welser et al. coded the content of thousands of discussion board messages to identify three social roles defined in terms of behaviors: answer related behaviors included seeking clarification, giving advice, offering support, and sanctioning norm violators; question asking related behavior was defined as explicit requests for information; discussion related behaviors included all other exchanges such as playful banter, story-telling, bragging, confrontation, announcement and promotion of events, products, or services. In their role, the answer people propel the discussion and generally keep the progress in the group as they provide “prompt, accurate, and thorough help ... to potential strangers without direct compensation or expectation of reciprocity and, often, without thanks.” (Welser et al.) The size of an online discussion group is difficult to

characterize because many readers never post messages, and others are transient. To capture those contributors who exhibited answer person behavior, Welser et al. used as a measurement consistent contributors to conversations. Inclusion in the answer person category required that contributors have replied to at least one message in a given month. (Welser et al.) Across the three discussion groups and 5,700 message postings, Welser et al. found that 18% of users were catalogued with answer person behavior.

However, altruism is not necessarily the motivator that drives the answer person to contribute. Status seeking is a social passion that drives certain discussion participants to invest time and effort in “giving the gift of their experience to others without direct benefit to themselves.” The social passion is a source of continuing participation in discussion groups and helps to sustain the longevity of the group. The motivation to contribute content online is strongly associated with building online identity and status seeking. As well, reciprocity is significantly correlated with both identity building and status seeking. Status is embedded in the answer person’s communication of information and, intentionally or unintentionally, the answer person manipulates the exchange to establish a particular identity that makes a bid for status:

...because status seeking online cannot be done by display or by asserting rank, it takes a different form of identity enactment: The gift comes with a message about the gift giver, a message that contains the identity that the giver wants to establish as a way of communicating status. (Lampel and Bhalla 444-450)

CMC that takes place in the context of an organizational structure provides additional motivators for users to contribute. Users who have a particular interest in contributing to the organization’s success and also to solving problems of others in the organization report a high degree of organizational motivation in their role as answer

person. There may be no direct personal benefit for the answer person in supplying information, but the motivations may be grounded in organizational citizenship. In Constant et al's study of information exchange through organizational weak ties, the strength of the answer people's social ties to whom they gave answers was low. The measurements for the answer people's motivations displayed that reciprocity and altruism was highly correlated with organizational motivation. Answer people enjoyed helping others because they expected others to do the same for them and as well, they felt it important to be a "good company citizen." (Constant et al. 129) That the social ties were weak ties in Constant et al.'s CMC network study is notable in that the computer network was used to draw on weak ties to link people "across distance and time and hierarchical level and organizational subunit," yet the network proved useful to the degree that it put people in touch with those offering superior resources. (Constant et al. 130)

Blogs are personal journals on the Internet that are displayed in reverse chronological sequence, and facilitate interactive computer mediated communication through text, images, and audio/video objects. (Huang et al. 473) The term weblog was first applied to online personal journals in 1997 and blogging as an online activity has been increasing exponentially since mid-1999, fueled by the release of the first free blogging software and also encouraged by reports from the mainstream media of the grassroots power of blogs as alternative news sources. (Herring et al. 143) Specialized search engines and meta-directories like blogpulse.com or technorati.com have tracked between 50 and 85 million blogs as of June 2007, although the exact number of blogs is impossible to state at any given point in time due to the highly dynamic and decentralized character of blogs. (Schmidt)

Blogs written in the context of an organizational structure also contribute to the social ties within blog communities. While there is still some debate over the interactivity aspect of blogs, blog conversational practices and blog networks have been documented. For example, blog rolls that list links to the blog author's favorite blogs, RSS blog feeds that aggregate blog content, and weblog conversations in the form of comment posts or replies to the original blog posting, not only indicate community but also provide a level of interactivity to the blog experience. (Efimova et al. 5) An individual blog, however, is not likely to represent a community; blog communities emerge from connections between blogs and their authors, as opposed to a single shared space, as in discussion boards. (Efimova et al. 2)

In "Blogging Motivations and Behaviors: A Model," Huang et al. researched bloggers and their reasons for starting and maintaining blogs (n=311). Huang et al.'s literature review reported that more than half of bloggers are under the age of 30, 84 percent of bloggers keep blogs that are largely of the personal journal type as a hobby or pastime, and most bloggers are both heavy users of the Internet and highly engaged with tech-based social interaction. The findings in Huang et al.'s research study were consistent with past studies, revealing that most bloggers actually use blogs for individualistic expression and communication, and have a mean age of 23. (Huang et al. 473)

Based on previous literature, Huang et al. began their study with five blogging motivators in their model. The five motivators were: to document life experiences, to provide commentary and opinions, to express deeply felt emotions, to articulate ideas through writing, and to form and maintain community forums. However, for a blogger,

“these motivations may not be mutually exclusive and may play out simultaneously.” (Huang et al. 474) Huang et al.’s study findings bore out that, “to express deeply felt emotions,” and “to articulate ideas through writing” were intertwined in the process of self-expression through blogging. Additionally, Huang et al. discovered that information seeking had been neglected in previous literature and studies as a motivator. Blog site features such as comment fields, blog rolls, also known as RSS feeds of external blog links, and general external hyperlinks, indicate information seeking in blogging. These features help bloggers to gather the information they need in a convenient way and information searching is thus another motivation that drives them to create and manage their blogs. (Huang et al. 475) The presence or absence in blogging software or blog services of specific features that encourage information seeking is determined in part by the blog software used by the blog author and also partly by the blogger’s familiarity with negotiating and displaying desired aspects of the software’s feature set. (Scheidt et al. 156)

Because online communities are continuously evolving, the user interface design should be adaptable to the evolving needs of the community and flexible to accommodate growth and change. “Involving participants in software design helps to ensure their social and political needs are taken into account” (Preece 617) Jenny Preece refers to the process of involving the user in the design process as participatory community-centered development (PCCD), which is composed of designing usability and supporting sociability.

Designing usability includes a community needs assessment and user task analysis requires, which involves understanding the community’s social needs,

individuals communication task needs and any technical constraints that must be considered. (Preece 618) In designing usability, the basic requirements are that the software should have a consistent look and feel throughout the community area. Also, users should be in control of what the software does, not controlled by it, and the way the software responds should be predictable. In short, the interface should be: “effective to use, efficient to use, sage to use, have good utility, be easy to learn, and easy to remember how to use.” (Preece 623)

Information display should be intuitive for users; information should be easy to find and performing tasks with information-oriented goals should be done with few or no errors. As well, users should be satisfied with and like the information design and how it is structured. Navigation is a key usability issue for online communities because of the large amount of information exchange. Of particular importance is the time users take to navigate through the community and its associated information resources, and the ease that particular information can be found or a part of the community can be reached. (Preece 624)

Supporting sociability is concerned with planning and developing social policies and supporting social interaction, and involves developing a conceptual model of the community space and then either building or selecting software with suitable usability, and planning the sociability support that will be needed. The needs of the individual as well as the needs of the community must be taken in to consideration. To support sociability, community members should be involved in the formation and development of policies and procedures that govern community interaction. The guidelines must be

strong enough to guide community behavior but flexible enough to change as the community evolves. (Preece 625)

Theory

Social network analysis theorists address interaction patterns of computer-mediated social networks through concepts that include network structure, social ties, social capital, and homophily.

A social network is a social structure between actors, mostly individuals or organizations. The social structure of social networks displays little or no formality in delineating positions and rules and in allocating authority to participants; the occupants, positions, resources, and rules and procedures are fluid. The actors arrive at mutually agreed upon norms for participation and interaction, which defines participants' roles. A network may evolve naturally or may be socially constructed for a shared focus or interest around a resource. (Lin 38)

Mergel and Langenberg's topology of social networks defines two major network types: physically existing networks and virtual/online networks. The virtual/online network is composed of informative networks and collaborative networks. Although there is no consensus on the distinction between these two networks, Mergel and Langenberg's proposal for the distinction rests on prior theory that separates e-mail networks from general discussion networks. (Mergel and Langenberg 6)

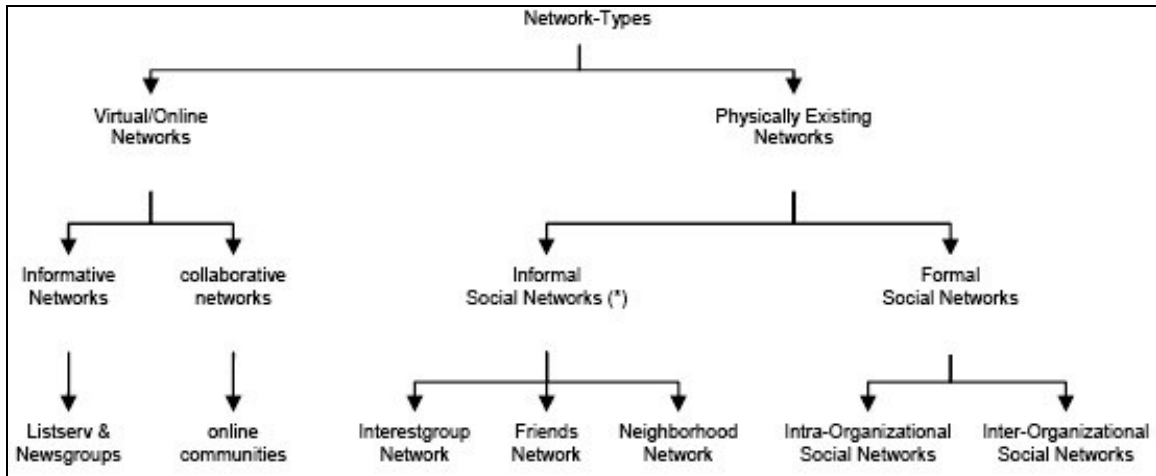


Fig. 2. Topology of social networks from Ines Mergel and Thomas Langenberg, “What makes online ties sustainable? A Research Design Proposal to Analyze Online Social Networks.” PNG Working paper No. PNG06-002. (Cambridge. 2006) 5.

Informative networks are those that refer to information sharing and knowledge transfer networks. Network members visit the platform regularly and extract the information that is most valuable for them, and although discussion and interaction takes place among network members, the major concern of the individual is to extract valuable insights, information, or knowledge. Members of this kind of online community are most likely to have strong ties and a functioning social network in the real world. Stronger offline social networks indicate that the same or similar people will be found in an online social network, and the Internet therefore serves to increase information and social ties on both a personal and professional level. Collaborative virtual/online networks are networks wherein shared interests drive online relationship development, and there is a high degree of interactivity among participants. The main goal of participants in collaborative networks is to contact and interact with new acquaintances with the potential for offline relationship development. (Mergel and Langenberg 7-8)

Contemporary social network analysis theory builds on earlier social network theories that address the impact of the behavior of individuals on the social networks, in

which they are imbedded, or the ways that behavior is shaped and constrained by one's network, as well as the ways that individuals can manipulate their networks to achieve specific goals. (Granovetter 1973) Social network analysts look beyond the specific attributes of individuals to consider relations and exchanges among social actors. Analysts ask about exchanges that create and sustain work and social relationships. (Garton et al)

Each type of social network is composed of relations, ties and roles. Relations are characterized by content, direction and strength. The content of a relation refers to the resource that is exchanged, such as different kinds of information about administrative, personal, work-related or social matters. The strength of relations differ with respect to communication frequency between pairs; pairs may communicate several times a day or several times a week; they may exchange large amounts of information or trivial amounts. The direction of a relation refers to who maintains the relationship. For example, one person may give social support to a second person. Undirected relationships occur when two members maintain the relationship and there is no specific direction to it. An undirected relationship, however, may be unbalanced in that one actor may claim a close friendship and the other a weaker friendship, or communication may be initiated more frequently by one actor than the other. (Garton et al)

A tie connects a pair of actors by one or more relations, and varies in content, direction and strength. Pairs may maintain a tie based on one relation only, or based on many relations. Tie strength, referred to as weak or strong, varies in context. Weak ties are generally infrequently maintained, non-intimate connections that share no joint tasks or friendship relations. Strong ties include combinations of intimacy, self-disclosure,

provision of reciprocal services, frequent contact, and kinship, as might exist between close friends or colleagues.

While pairs who maintain strong ties are more likely to share their resources, what they have to share is generally limited by the resources entering their networks. Weak tie pairs are less likely to share resources, but they provide access to more diverse types of resources because each person operates in different social networks and has access to different resources. (Garton et al.)

Granovetter's seminal work in 1973 on the concept of tie strength addresses what he saw as a "fundamental weakness of current sociological theory ... to relate micro-level interactions to macro-level patterns in any convincing way." Specifically, how interaction in small groups aggregates to form large-scale patterns through the circular process of small-scale interaction becoming translated into large-scale patterns, and these, in turn, feeding back into small groups. (Granovetter 1360)

Granovetter defined the strength of a social network tie as:

a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie. Each of these is somewhat independent of the other, though the set is obviously highly intracorrelated. (Granovetter 1361)

The hypothesis of Granovetter's strength of weak ties is that weaker ties tend to form bridges that link individuals to other social circles for information not likely to be available in their own circles, and such information should be useful to the individuals. (Lin, Social Networks 469) Prior theory on tie strength attributed value of strong ties over weak ties; Granovetter theorized that since weak ties promote access to different and new information, they are socially valuable as well.

A set of relations or ties comprises a social network that is either ego-centered or whole. The ego-centered network type centers around relations reported by a focal individual. Their specific relations with ego define members of the network. The whole network type is based on population boundaries such as a formal organization, department, club or kinship group. The ties that all members of a population maintain with all other group members define a whole network type. (Garton et al.)

Roles are identified by members' behavior that suggests the presence of a particular network role. Members enact their roles according to the resources that each member brings to the group. Regularities in the patterns of relations across networks or across behaviors within a network allow the empirical identification of network roles. The role is not identified by a title and cannot be found on organization charts. (Garton et al.)

Social capital theory focuses on the actions taken by actors, who are either group members or a collective group, for the purpose of either maintaining or gaining valued resources. The collectivity, or the community, promotes its self-interest by conferring relatively higher statuses on individual actors who possess more valued resources. The resources are valued goods that may be tangible or intangible, and are generally considered to be societal status symbols. All actors take actions to promote self-interests for survival and preservation by maintaining and gaining valued resources if such opportunities are available. When the existing valued resources are secured, only then do actors seek to gain additional valued resources. (Lin, Social Networks 31-55)

For James Coleman, social capital is defined by its function. It is a variety of entities, with two elements in common: “they all consist of some aspect of social structure, and they facilitate certain actions of actors...with in the structure. Like all forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible.” (Coleman S98)

The concept of social capital applied by Quan-Haase and Wellman is:

1. Social contact: Interpersonal communication patterns, including visits, encounters, phone calls, and social events.
2. Civic engagement: The degree to which people become involved in their community, both actively and passively, including such political and organizational activities as political rallies, book, and sports clubs. (Quan-Haase 1)

Homophily is the principle that a contact between similar people occurs at a higher rate than it does among dissimilar people. Homophily is also known as the like-me hypothesis, and forwards that social interactions tend to take place among individuals with similar age, lifestyles and socioeconomic characteristics. It requires greater effort for

actors to find and engage others of dissimilar resources. (Lin, Social Capital 39) The implication of homophily in social networks is that distance, in terms of social characteristics, translates into network distance, and represents the number of relationships that a piece of information needs to travel to connect two individuals, and as a result, represents weaker ties. (McPherson et al. 416)

Among actors, the types and the amounts of resources are positively related to similarity of social positions. Actors with dissimilar resources may interact provided that their resources are of equivalent values. However, given the empirical evidence supporting the prestige principle, which states that people prefer to associate with others of somewhat higher social status, weaker ties provide access to heterogeneous resources and increased social capital. (Lin, Social Capital 68) The motivation for a higher status actor to engage a lower status actor is contingent upon the “relative utility or payoff to each in each transaction,” i.e., the benefits in social capital for each actor. (Lin, Social Capital 145)

Research Design

Methodology

An online survey is the instrument used to establish a quantitative basis for assessing the effectiveness of an ELDP online community to strengthen social capital. Additionally, answers that respondents provide to survey questions determined the structure and content of the online community. The sample size of the survey was the entire ELDP database of past and present participants. The entire database was used because the historically low response rate for Internet surveys makes it advantageous to deploy the survey to as large a sample size as is possible.

Variables

There are four independent predictor (x) variables that will determine the dependent (y1) variable. The dependent variable is an ELDP online community that strengthens social capital. The four major types of independent variables are Internet activity (x1), community behavior (x2), motivators for computer-mediated community participation (x3), and participatory community-centered development (x4).

Internet activity variables

No distinction was made between work-related Internet activities and non-work related because of the potential for increased social capital when participating in informative networks as well as collaborative networks.

Overall Time spent online. The overall time spent online was used as a baseline measurement against the time spent on individual Internet activities.

Time spent online in social activities. The time spent online in social activities is positively related to social capital

Time spent online in non-social activities. The time spent online in non-social activities is inversely related to social capital

Types of computer-mediated community activities engaged. Online community activities are positively related to social capital. Roles vary by the specific community activity of e-mail, chat, discussion board, bulletin board or blog.

Online community behavior.

Online community behavior. Each participant enacts a behavioral role in communities of bulletin, chat and discussion boards that helps to determine the direction

of discussion. The roles are enacted through the behaviors of answer person behaviors, question behaviors, and discussion behaviors.

Motivators for computer mediated community participation variables

Organizational motivation. CMC that takes place in the context of an organizational structure provides additional motivators for users to contribute. Organizational motivation measures participants' interest in contributing to the organization's success and also to solving problems of others.

Information Seeking. Information management features help bloggers to gather the information they need in a convenient way and information searching is a motivation that drives bloggers to create and manage their blogs.

Participatory Community-centered Development

Designing Usability / Supporting sociability. Designing usability and supporting sociability involves the user in the community design and policy and procedure development processes to ensure that the community experience is user-centered.

Validity

Construct Validity

The construct that is being measured is the effectiveness of the ELDP online community to strengthen social capital. The instrument being used to measure the construct are the variables that will reveal the extent that ELDP members will engage the latent ties of the ELDP in the online virtual community to result in increased social capital. Each of the variables measures an aspect of the tendency to utilize computer-mediated community to affect social capital.

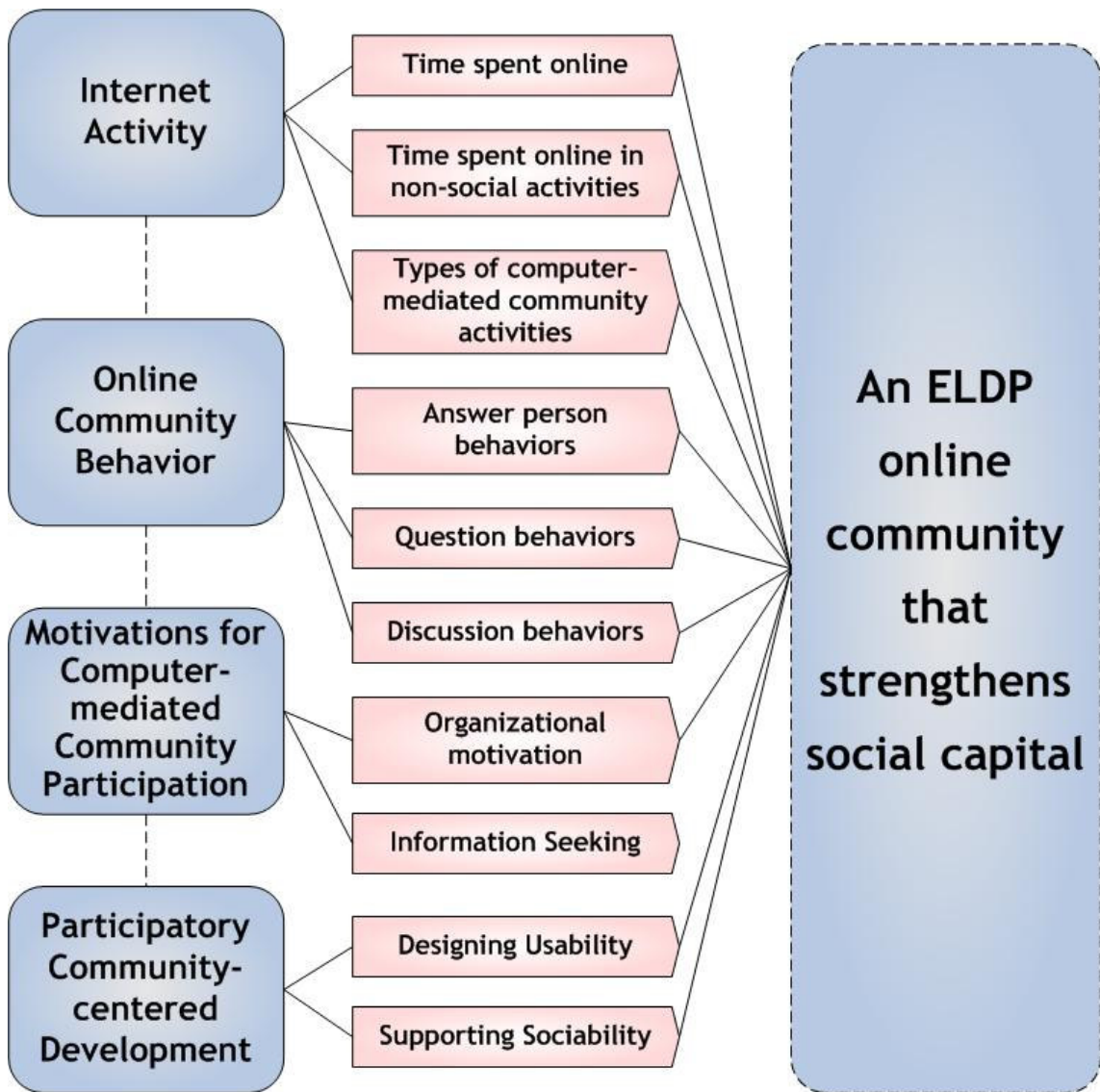


Fig. 3. Model: An ELDP online community that strengthens social capital

Content Validity

The instrument to be used is an online survey to be deployed to the entire ELDP alumni database. The questions in the survey provide appropriate content for measuring the construct.

Table 2
ELDP Alumni Online Community Survey Questions

<i>Variable</i>	<i>Question</i>	<i>Literature Review</i>	<i>Question Type</i>
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Internet Activity Variables			
Overall time spent online	How much time do you spend online?	The overall time spent online will be used as a baseline measure	Multiple choice
Time spent online in non-social activities	How much time do you spend online engaged in non-social activities?	Time spent online in non-social activities is inversely related to social capital	Multiple choice
Types of computer-mediated community activities engaged in	How much time do you spend online engaged in social activities (e-mail, chat, discussion board, social networking site)?	Time spent online in social activities is positively related to increased social capital	Multiple choice
	What types of community activities do you participate in online (check all that apply) E-mail, chat, discussion board, blog, social networking	Time spent online in social activities is positively related to increased social capital	Multiple choice
	If you had more time to spend online, in what types of community activities would you participate? (check all that apply) E-mail, discussion board, blog, social networking		Multiple choice
	How often do you read blogs?		Multiple choice
Do you currently author a blog or have you authored one in the past?	Yes / No		
Online Community Behavior Variables			
Answer behaviors	In discussion or bulletin boards, I often provide answers to other's requests for information	Answer people propel the discussion and generally keep the progress in the group	Likert, 5 scale
Question behaviors	In discussion or bulletin boards I often post questions	Question asking related behavior is defined as explicit requests for information	Likert, 5 scale
Discussion behaviors	In discussion or bulletin boards, I often contribute to discussion threads	Discussion related behaviors include exchanges such as playful banter, story-telling, bragging, confrontation, announcement and promotion of events, products, or services	Likert, 5 scale
Motivators for CMC Participation Variables			
Organizational motivation	It is important to me to help other NAMIC members resolve problems	Affinity strength for the ELDP as an organization	Likert, 5 scale
Information seeking	With what blogging software are you familiar?	The presence or absence in blogging software or blog services of specific features that encourage information seeking is determined in	Multiple choice

		part by the blog software	
Participatory Community-centered Development Variables			
Designing Usability	Would you be willing to participate in usability testing for an ELDP online community website?	Designing usability and supporting sociability involves the user in the community design and policy and procedure	Yes / No
Supporting sociability	Would you like to help establish policies and procedures for an ELDP online community	processes to ensure that the community experience is user-centered	Yes / No

Reliability

The survey questions that investigate ELDP member's Internet usage patterns and habits, their behavior patterns in computer-mediated community, and their motivations for computer-mediated community participation are based on the literature review of previous studies and theory discussion herein, and the question set provides a reliable basis to evaluate the construct.

Survey Findings

Analysis

The survey was distributed to the ELDP in two separate deployments. The 2008 ELDP class convened in Los Angeles in February and each student filled out and submitted a paper version of the survey. At the same time, the survey was deployed on the Internet to the remainder of the ELDP alumni base. The survey was online and collecting responses from February 25 through March 18. There were 32 surveys returned from the 2008 ELDP class and 16 responses received from the Internet survey deployment. The 48 responses represent 23% of the total 210 ELDP members. The survey results were quantitatively analyzed for measures of central tendency and correlation.

Time Spent online: The time that respondents spend online is the total time spent online during the course of a week, at work and at home. No distinction was made between work-related Internet activities and non-work related activities because of the potential for increased social capital when participating in informative networks as well as in collaborative networks. All respondents use the Internet during the course of an average week, with each respondent logging in at least 6 hours per week. 26% of respondents spend less than 10 hours but more than 6 hours per week online, while 37% spend more than 20 hours a week online. The remaining 37% spend between 11 and 20 hours per week online.

Non-social activities: 50% spend between 11 and 15 hours per week online engaged in non-social activities and 23% of respondents spend 20 hours or more per week engaged in non-social activities. 20% spend 5 hours or less per week engaged in non-social activities. The remaining 6% spend between 16 and 20 hours per week engaged in non-social activities.

Social Activities: 77% of respondents spend 10 hours or less each week socializing online. Of the 23% that spend more than 11 hours per week socializing online, 17% spend more than 16 hours per week online engaged in social activities. The remaining 6% spend between 11 and 15 hours engaged in social activities.

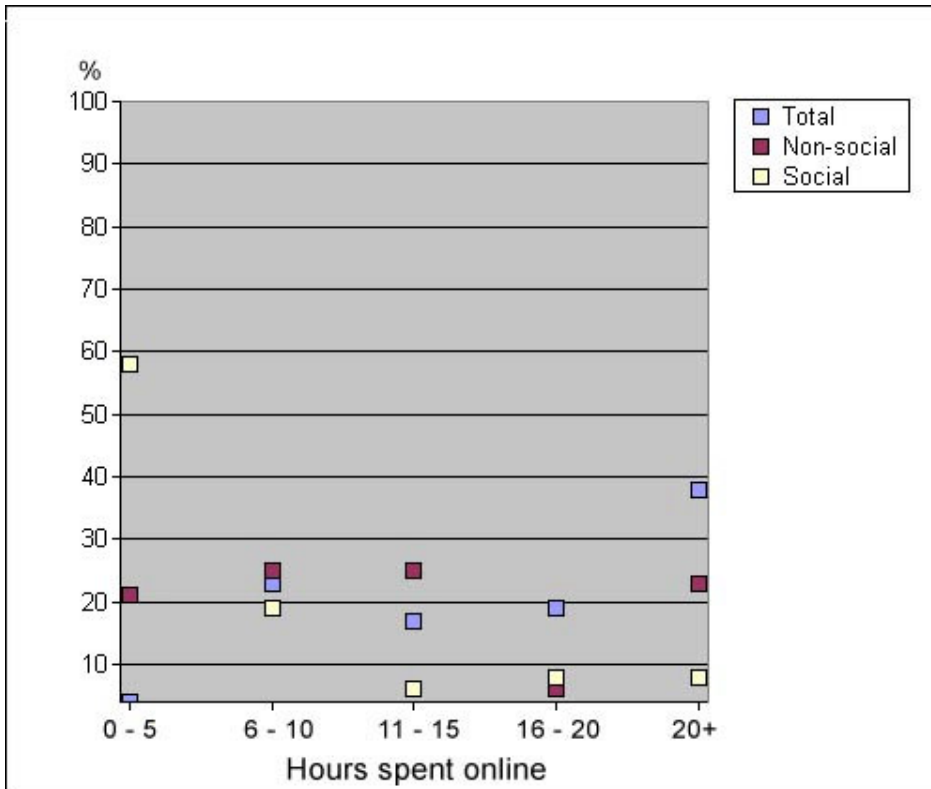


Fig. 4. Comparison of the amount of hours per week ELDP members spend in total time engaged in all activities, time engaged in non-social activities, and time engaged in social activities

In comparing the time spent online engaged in social activities to the time spent online engaged in non-social activities, time spent online engaged in social activities for respondents is lower than time spent online engaged in social activities. That the percentage of respondents who spend more than 20 hours per week online engaged in non-social activities is higher than the percentage who spend more than 20 hours per week engaged in social activities was expected since the time recorded does include time spent online at work. As a result, the overall time spent online strongly positively covariates with the time spent engaged in non-social activities ($r^2 = .76$, $p < .05$). There is also a moderately strong correlation between the overall amount of time spent online and time spent engaged in social activities ($r^2 = .62$, $p < .05$). As well, there is a moderate correlation between the amount of time spent on social activities with amount of time

spent on non-social activities ($r=.50, p < .05$). Both the .62 correlation between time spent in social activities and the overall time spent online, and the .50 correlation between time spent on social and non-social activities supports ELDP members' ability to increase social capital while engaged in both collaborative and informative networks.

Types of community activities engaged online: The types of community activities that respondents engage in were recorded as email, discussion board, social networking and blogs. Most respondents use email as their primary community social activity, at 98%, followed by some form of social networking at 48%, and participation in discussion boards at 27%. Respondents' participation in blogs is 17%. That email is the primary community activity and at a significant level is not surprising given that email is a component of both collaborative and informative networks, which take into account participation at work and in leisure time.

Types of community activities respondents would like to engage online: For the types of community activities respondents would engage if they had more time, only 35% say they would like to continue with email as their primary community tool. 54% would like to engage in social networking, and 46% would use discussion boards more often. 42% report that they would like to participate in blogs. The number of respondents who would continue to use email as their primary community activity if they had more time for other community activities (35%), represents a 65% reduction in from the number of respondents who presently use email as their primary community activity (98%). If respondents had more time they would engage in all offered aspects of community, and they would engage them at relatively similar rates. Results show a range of 19 between

percentages for the types of community activities ELDP members desire to engage, compared with a range of 50 for community activities that respondents currently engage.

Blogs: Most respondents rarely or never read blogs; 38% of respondents report that they read blogs once in a while and 29% never read blogs. Of the respondents who do read blogs, 17% of read blogs several times a week. 8% read blogs several times a day, and also 8% read blogs several times a month.

7% of respondents either currently author a blog or have authored one in the past. The rate of 7% for ELDP respondents who currently author or have authored a blog does represent a small percentage of the ELDP membership; however, placed in perspective, this percentage does favorably compare to the overall percentage of people who participate in blogs on the Internet. The 7% ELDP response rate for current or past blog authoring is not out of line with the rate of 8% of all Internet users who keep a blog. (Huang et al. 473)

Motivation:

Information Seeking: 33% of respondents are familiar with blogging software. Of this 33%, 38% are familiar with more than one type of blogging application.

Online Behaviors: 31% of all respondents engage in answer person behavior by providing answers to others' requests for information; 23% agreed, and 8% strongly agreed. 31% of all respondents agreed or strongly agreed that they often post questions on discussion or bulletin boards, while 41% agreed or strongly agreed that they often contribute to discussions.

Organizational Motivation: 88% of respondents agree or strongly agree that it is important to them to help other NAMIC members resolve problems. For all respondents who contribute to discussions by exhibiting answer, question or discussion related

behaviors, their contribution to discussions displays a strong correlation with the motivation to help NAMIC members resolve problems ($r^2 = 1.0$, $p < .05$).

Discussion

The .62 correlation between social activities and time spent online is positively related to interpersonal connectivity. The positive correlation predicts that ELDP members may increase social capital through their interaction in online community, and also, they can use their online social networks to help convert online ties to offline ties. That the online ties may be converted to offline ties is particularly relevant for ELDP members because of the strength of the ELDP latent tie status. Tie conversion from online to offline status has implications for software applications selection in that selected applications will include functionality that provides for social networking—a community activity that 54% of ELDP desire to participate. ELDP online community social networking will be in the form of an event calendaring application. The calendar application will be a conduit for tie conversion by presenting opportunities for offline meetings in which users post offline industry and non-industry related events.

Of the five time periods surveyed in questions one through three, the time period wherein the percentage for total time spent online (23%), time spent online in social (19%) and time spent online in non-social (25%) activities show little variation is the 6 – 10 hours per week time period, which displays a range of 6. The range of 6 predicts that the 23% of ELDP members who spend between 6 – 10 hours per week online will spend an almost equal amount of this time divided between social and non-social activities. The implications are that not only does this 23% of ELDP members display a markedly high

ability to increase social capital but also they will provide a solid base for content contribution to the ELDP online community.

The percentage of ELDP members who exhibit answer person behavior is strong at 31%, and surpasses the 18% answer person-related behaviors exhibited by contributors in Wesler et al.'s study of community behaviors. This higher than average percentage for answer person behavior exhibited by the ELDP predicts that there will be ample contributors to discussion and blog postings, thereby propelling and continuing conversation threads throughout the ELDP online community.

Email capability will be a component of all selected applications because email is currently and will likely remain the primary way that ELDP members engage community. Members can receive email notifications and reminders for community events and postings, and thereby participate in community on their wireless and handheld devices. Additionally, since NAMIC affiliation drives members' desire to help other ELDP alumni resolve problems, organizational affiliation can support online community involvement, thereby helping members to expand on their desire to branch out into more varied forms of community participation beyond email as their primary community tool.

33% of ELDP are familiar with blogging software and 7% have used blog software to author a blog. Therefore, the blog application that is selected for implementation must not only contain the basic functionality that users have come to expect in a blog application, but also the blog application must meet the unique requirements of the ELDP members. Specifically, because of ELDP members' engagement of email as their primary community activity, the blog application must include an email component that deploys alerts to members when new blog items are

posted. And also, since ELDP members do not have much time to spend on community activities, the blog application must allow users to contribute on their mobile and handheld devices.

The amount of time that ELDP members spend engaged in online social activities (77% of ELDP spend 10 hours or less per week) provides implications for usability testing in that the testing must stress clarity of information architecture and speed of information access issues. Also, for all applications selected for implementation, user features for information access and retrieval must be constructed as clear and accessible components of information architecture.

Usability Testing

The type of usability testing performed is observation with protocol analysis. In a protocol analysis, the person being observed is asked to verbalize what they are thinking as they perform the process. The observer can offer no suggestions regarding the process, but prompts the user to verbalize if he or she falls silent. Protocol analysis allows the observer to gain an insight into the person's thoughts, and gain more detail about the process. (Myre)

Purpose

The purpose of the usability testing for the ELDP online community is to ensure that the navigation structure and sequence for accessing documents is not disorienting for users, and that users can find links and information with ease. "The most commonly acknowledged problem in using hypertext is navigation, or more specifically, user disorientation, contributing to users being hopelessly lost in hyperspace. The problem of disorientation seems to be getting worse as the Web grows larger and becomes more

popular.” (Brush) Disorientation occurs when users lose their way in their navigation through a hypertext system, are unable to formulate appropriate actions for the screen they are viewing within hypertext systems, or are unable to find information that they know is somewhere in the system. Overusing hypertext links, or poorly organizing hypertext links, presents the user with too many confusing choices. Web designs with poor hypertext linkage structures inhibit usability by requiring a user to traverse too many links for needed information. Users can become disoriented and lost while navigating web sites because of the ability to traverse in a nonlinear sequence through hyperlinked information. (Brush) Clearly visible, aptly positioned and well organized links are particularly important for the ELDP members because the average member does not have much time to spend on the Internet in social contexts and therefore needs to find links and information quickly. The ELDP online community usability testing will result in recommendations to ensure a navigation structure wherein ELDP members can quickly orient themselves and are able to grasp quickly the organization of the document in which they are currently positioned in relation to the initial point at which they accessed the community.

Environment

The ELDP membership is geographically dispersed and represents a prime candidate for remote usability testing using synchronous communications. Studies show that there is virtually no difference in usability test results between usability tests performed in local laboratory settings and tests performed using synchronous communications. Bernheim Brush et al. performed a study of remote and synchronous testing of 20 users, 12 synchronous and 8 remote. The remote testing used computer

screen-sharing software called Glance, and testers communicated with the participants in phone conversation during the testing. The results of the study revealed that the median number of issues found in the laboratory and the remote conditions are very similar, both overall and broken down by categories. There also was no significant difference between the median severities of issues found by participants in the two conditions. 75% of participants thought that their comfort level talking to the facilitator was about equal in both conditions, and 71% felt that it was equally easy to remember to think aloud in both conditions. (Bernheim Brush et al. 1180) Most participants felt that the remote condition was more convenient, and none preferred local testing over remote testing. (Bernheim Brush et al.1181)

In a comparison of methods that included laboratory and remote synchronous conditions using 24 subjects, Andreasen et al.'s study results also concluded that the majority of participants felt that the remote setting was more convenient and preferred remote testing to participating in a laboratory test. No participants stated that they preferred laboratory testing. More importantly, there was no significant difference in the number of usability problems identified between the remote synchronous testing and the laboratory testing. (Andreasen et al.1410)

The technical requirements for the ELDP synchronous usability testing, for both the test host and test volunteers, was a high speed Internet connection with Internet Explorer 7+ browser, and a telephone. WebEx's Meet Me Now, a web-based meeting conference application, was used to facilitate the connection, and Meet Me Now also supplied a teleconferencing number for the meeting host and attendees to communicate during the session. The Meet Me Now software operates over HTTP and HTTPS, which

means that firewalls do not need any special configuration to allow the software to operate.

In the ELDP usability testing sessions, the host and attendee do not see each other because no web camera is used for the session. Users can dial into the conference number either before they setup the software on their computers or after the software setup is complete. When the attendee logs into the Meet Me Now session, the host passes control of the meeting to the attendee, and the attendee clicks a button to share his computer screen. The host is then able to view all actions that the attendee makes on screen. During the session the host takes notes on the attendee's actions and statements. When the attendee falls silent or inactive, the host prompts the attendee to verbalize what he is thinking.

The meeting software setup procedure for participants is:

- At the start time of the usability session, click on the link in the meeting invitation email to access the meeting
- Users are presented with a page with a "Join a Meeting" form and a link to click to join the meeting
- The next page presents a form that requests users to enter a name and email address, and then click submit
- After users click submit, the Meet Me Now system checks users' computers to determine if either Active X or Java components should be downloaded, and then displays a dialog box for the user to agree to the software download. The software download takes an average of two minutes to complete and displays a progress bar to show status

- When the software download completes, the Meet Me Now software alerts the user and then opens the Meet Me Now interface window on screen. The interface displays a list of persons in attendance at the meeting, buttons to share your computer, as well as other buttons to communicate with other meeting attendees.
- The host advises the attendee to close all sensitive documents and then click the button to start sharing his computer screen

Subjects

The usability test volunteers were members of the ELDP. The survey deployed to the ELDP requested email addresses for those interested in volunteering for testing, and 15 members responded with interest. An email was deployed to the 15 respondents wherein they were asked to select a testing session time, anytime between March 17 and April 4, at the top of each hour, between the hours of 11:00 am and 10 pm, EST. The email also outlined time and technical requirements of the testing session. See Appendix B for the Usability Volunteer Request email. The 15 emails that were deployed resulted in six replies received from committed volunteers. Microsoft Outlook meeting invitations containing the Meet Me Now URL to access for the test sessions, and the telephone number for teleconferencing, were then individually sent to volunteers to confirm each session.

The usability test prototype pages used the layout and navigation structure of NAMIC's newly redesigned Web site. NAMIC employed a web design firm to redesign the site and expects to launch the new site in late April. None of the volunteers have seen the redesigned NAMIC.com; all however, have visited and were familiar with the older NAMIC.com site layout. In terms of user experience, five of the six volunteers were

familiar with bulletin board interfaces. None of the volunteers had used a Web-based event calendar software similar to the one used in the usability test.

Tasks

Users were asked to perform two separate tasks using the community tools that respondents stated they would most like to use—social networking (54%) and discussion board (46%). The first task was to logon to the ELDP Community and fill out a form for an event in the event calendar. The second task was to post to the discussion board. After the initial communications software setup, users were given a URL to enter into their browser window's location field to access the usability test site.

Observation

Task I. Logon to the Community and Post an Event

1. Find the link to the ELDP Online Community

A. User A easily located the link to the online community

B. User B easily located the link to the online community

C. User C clicked the "Professional Development" link and then scrolled the page, searching for the link: "I'm used to going to Professional Development to get to the ELDP pages."

D. User D easily located the link to the online community

E. User E initially did not see the link, and scrolled up and down the page searching for the link, and then finally located the link: "I was looking for a button that said online community."

F. User F easily located the link to the online community

2: Logon to the ELDP Online Community

All users followed without difficulty the directions centered on the page that instructed them to enter their email address into the text box, and then click submit

3. Locate the link to the event calendar

A. User A easily located the link to the event calendar

B. User B easily located the link to the event calendar

C. User C found the link to the event calendar after searching through the navigation at the top of the page: "I didn't see it because it kind of blends in with all the others."

D. User D easily located the link to the event calendar.

E. User E found the link to the event calendar, but with studied determination, she read each link out loud as she moused-over each, until she located the Event Calendar link.

F. User F easily located the link to the event calendar

4. Login to the event calendar

All users found without difficulty the centrally located login link for the event calendar.

The user name and password to gain access to the calendar displayed above the textbox fields. (Users will be pre-registered for the calendar application.) Users then entered in the user name and password, and clicked submit.

Users A, B, and E were taken directly to the event posting form. Users C, D, and F were taken to a page that informed them that their browser needed to be configured to receive cookies for the site.

Users C, D, and F read through the instructions on the page to set browser cookie preferences. Users A and F were familiar with how to set cookies. User C had to read each instruction line and perform the steps in sequence.

5. Post an event to the event calendar

Users were asked to enter appropriate information into the various fields of the calendar to create an event posting, and then click the “Save” button. Clicking the “Save” button returns a Javascript alert that informs the user that the information was saved, but does not navigate users away from the page. The event calendar page displays a tabbed-interface form with labeled fields. Users were asked to enter in as much or as little information as they felt necessary to create their event.

The screenshot shows a web form for posting an event. At the top, there are six tabs: General, Description, Recurrence, Resources, Exceptions, and Attachments. The 'General' tab is selected. Below the tabs, the form fields are as follows:

- Calendar:** A dropdown menu showing 'Main Calendar'.
- Title:** A single-line text input field.
- Approved:** A checked checkbox.
- Event Type:** A dropdown menu showing 'Class'.
- Privacy:** A dropdown menu showing 'None'.
- Contact Name:** A single-line text input field.
- Contact Info:** A single-line text input field.
- Addl. Info URL:** A single-line text input field.
- Starting Date:** A date input field.
- Start Time:** A time input field.
- End Date:** A date input field.
- End Time:** A time input field.

At the bottom of the form, there are two buttons: 'Save' and 'Return Home'.

Fig. 5. The calendar application's event posting form

- A. User A easily filled out the information in the first tab; however, he was confused by the “Privacy” field and did not know which selection to choose, so he “left it in the default position.” User A clicked through the remaining tabs to view the fields displayed in them but chose not to enter any information in the fields because he felt he “had nothing else to add.”
- B. User B easily filled out the information in the first tab except for the “Privacy” field because he “did not know what privacy meant here.” Upon completing the first tabbed form, user B clicked the “Save” button. When prompted for why he did not fill out any of the other tabs, user B said that he “did not notice any other tabs.”
- C. User C easily filled out the information in the first tab except for the “Privacy” field because she “didn’t know what it was for.” User B clicked through the remaining tabs and added descriptive text in the form field for the “Description” tab. She stated that she was finished, and then clicked the “Save” button.
- D. User D easily filled out the information in the first tab except for the “Privacy” field because she “didn’t know what it meant in this context.” User C clicked the “Description” tab and added descriptive text for the event. User C then click through the remaining tabs and read the field choices but chose not to enter any information because “I didn’t need to use any of the other options.” User C then clicked the “Save” button.
- E. User E easily filled out the information in the first tab except for the “Privacy” field because she “didn’t know what to choose for it, so I didn’t change it.” User C then clicked on the “Description” tab and entered descriptive text in the form field. User C clicked through the remaining tabs and read the form fields but chose not to select any options because they didn’t “apply.” When prompted to explain in more detail how they didn’t “apply,” User C said that she “didn’t find them relevant” for what she was posting. User C then clicked the “Save” button.
- F. User F easily filled out the information in the first tab, and chose the “Included (Show as Busy)” option for the “Privacy” field. When prompted, User F stated that she made the selection because she thought about her Microsoft Outlook calendar and what privacy meant in that application, and assumed that it meant the same thing here. User F then clicked the “Save” button and did not access any of the tabbed information. When prompted, User F stated that she did not recognize that there were more options to choose, and that the gray color made the tabs easy to overlook.

6. View the newly posted event on the calendar

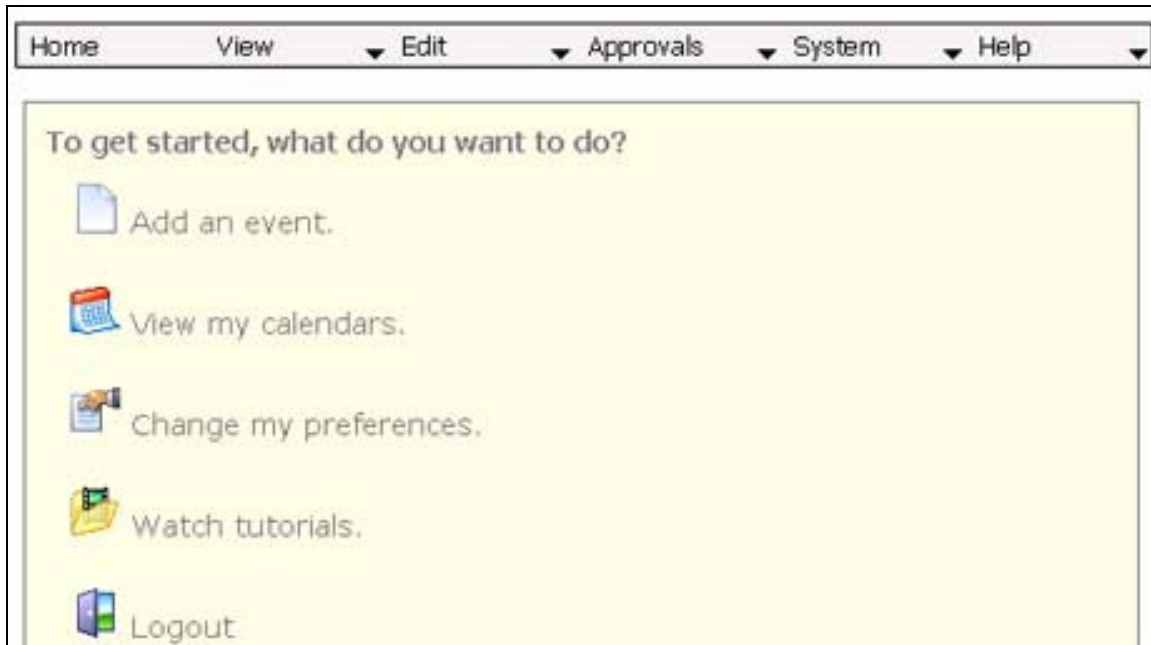


Fig. 6. Users were presented with a list of items to choose from to view the newly created event posting

- A. User A clicked the "Return Home" button on the event posting form, and then clicked the "View my calendars" text link next to the calendar icon on the event posting home page.
- B. User B clicked the "Return Home" button on the event posting form, and then clicked the "View my calendars" text link next to the calendar icon on the event posting home page.
- C. User C moused-over the horizontal navigation links located above the tabbed boxes in the event posting form. On mouseover, the links return dropdown menu items. User C scrolled through each menu item and each dropdown link and finally settled on the "View" menu item. User C then clicked "Calendars" in the "View" dropdown menu.
- D. User D clicked the "Return Home" button on the event posting form, and then clicked the "View my calendars" text link next to the calendar icon on the event posting home page.
- E. User E clicked the "Return Home" button and then clicked on the "View" item in the horizontal navigation links located above the tabbed boxes in the event posting form. User C scrolled through the menu item list and then chose "Calendar."
- F. User F went directly to the "View" link in the horizontal navigation and selected "Calendar."

Task II. Post to the Discussion Board

1. Locate the link for the Discussion Board
All users found without difficulty the link for the discussion board.
2. Gain access to the board

The discussion board contains five forums. Users were instructed to select any forum and then try to gain access to post to the forum.

- A. User A selected a forum but was as unsure of what link would grant him access to post, so he scrolled the page looking for clues. User A finally selected the login link: “I don’t see any other way of getting in there, so I’ll go to the Login link.” User A then selected the “Register” link. User A entered a user name, password, and email address on the register page and submitted the form. User A then clicked on the “Back to Message Board” link.
- B. User B selected a forum, but was unsure of how to proceed: “Do I need to register? I’ll register and see if that lets me in.” User B then entered a user name, password and email address in the form on the registration page and submitted the form. User B then clicked on the “Back to Message Board” link.
- C. User C selected a forum and was unsure of how to proceed to gain access for posting: “What do I do here? I think I’ll click login. Shouldn’t it tell me if I have to login?” User C selected the login link.” User C then selected the “Register” link, and entered a user name, password, and email address on the registration page, then submitted the form. User C then clicked on the “Back to Message Board” link.
- D. User D selected a forum topic to browse but was unsure of how to gain access to post: “I’m going to click login because I think that’s what I’m supposed to do.” User D then entered her email address into the username field, and then paused. When prompted, she stated that she “didn’t have a password to fill in.” When asked what she thought her next step should be, she stated, “I probably need to register since I don’t have a password.” User D then clicked the “Register” link. User D filled in the user name, password and email address fields on the registration page and submitted the form, and then clicked on the “Back to Message Board” link.
- E. User E selected a forum topic and was unsure of how to gain access to post. User E verbalized, “I guess I need to register.” User E then clicked the register button and filled in the user name, password, and email address fields on the registration page, submitted the form, and then clicked the “Back to Message Board” link.
- F. User F selected a forum topic, and then selected “New Posts.” At this point, User F was unsure of how to gain access to post. User F clicked the back button on the browser and verbalized, “I cannot tell how to create a message. I’m assuming I’m already logged in, but the link says login, so I’m not sure.” User F then clicked the login button, and then clicked the register button. User F then filled in the user name, password, and email address fields on the registration page, submitted the form, and then clicked the “Back to Message Board” link.

3. Add a post to the board

Users were instructed to either start a new topic or add to an ongoing discussion.

Forum	Posts	Threads	Last Post
Welcome to Your Discussion Board	2	2	Alumni Giving 03/25/08 by kathyjohnson
Resources	0	0	No posts
Career	2	1	Ad Sales event 03/18/08 by wwarrior
Networking	0	0	No posts
ELDP Suggestion Box	0	0	No posts

Fig. 7. The discussion board forum selection interface

A, B, C, E, F: Users A, B, C, E and F selected a forum to add a post. The Users then:

- Clicked on the “New Topic” link located in the center of the page.
- Filled in the topic title field
- Filled in the text area field with the message text
- Clicked the submit button

D. User D selected the forum to add a post. User D then:

- Clicked on the “message subject title” text link in the list of message posts.
- Read the post in the forum
- Clicked on the “Reply” button in the center of the page
- Filled in the topic title field
- Filled in the text area field with the message text
- Clicked the submit button

Open-ended responses from users: Both Users A and F stated that the tabbed forms on the event calendar should be changed to a different color to make them stand out more. All tabs, including the user-selected tab, were a similar shade of gray, which User A stated, “made them seem like all one large box instead of several different boxes.”

Users unanimously agreed that there should be some kind of indication on the bulletin board page that lets users know that it is necessary to create a login to post to the board. It is not that they found the login process difficult; actually users stated that they found it rather easy and intuitive; however, they all found it frustrating that there was no clear indication that it was necessary to complete a registration form in order to post to the board.

Five out of the six users wanted to see more color in the navigation structure to differentiate the current page from visited and other page links. Users stated that finding the links to the bulletin board and event calendar was not difficult, but color separation would make the links placement obvious and take less time to locate specific sections.

Recommendations

The recommendations from the usability testing that all selected software applications must meet are:

- Login features must be clearly labeled and easily accessible
- The login process must be intuitive and contain the least amount of required field sets
- Navigation information architecture must provide clearly defined descriptive text
- The applications must provide a high level of customization for link navigation placement and layout positioning and style
- Users must be able to access links that provide answers intuitively and quickly, and help sections must be highly accessible, well documented and easy to navigate and access information.

Software Applications Selection

There are numerous open source and free tools to create and manage blogs, calendars and discussion boards; however, the authoring companies that offer the free or general public license software usually do not have technical support as an option for their applications. Additionally, the NAMIC.com web site is hosted in a shared hosting server environment. Shared hosting servers are limited by the kinds of software that the site owners can load onto their systems; the proposed software must match the current configuration options of the web site's server. Software that is installed on the server also require a staff or contract technician for installation and maintenance. For these reasons, only externally hosted third party applications were considered as options for the ELDP Online Community software.

The following presents research and reviews of and recommendations for discussion board, event calendaring and blog applications for the ELDP Online Community based on usability test results, survey findings, as well as administrative technical requirements.

To recap, survey findings report that 77% of ELDP spend 10 hours or less per week engaged in social activities and therefore ease of use is of major importance. Email capability must be a component of all selected applications because email is currently the primary way that ELDP members engage community.

The usability test results recommend that the login process must be intuitive and contain the least amount of required field sets that are clearly labeled and easily accessible. The navigation information architecture must provide clearly defined descriptive text, and also, must provide a high level of customization for link navigation

placement as well as overall layout positioning and style. Additionally, the links to help sections must be optimally positioned and the help content must provide answers intuitively and quickly.

There are additional technical and administrative specifications required for each application that are outlined below, followed by an analysis and discussion of competing applications, with recommendations for purchase of the applications that contain the largest set of required specifications.

The additional technical requirements for all software selected for the online community are that they have a high customization level, domain-mapping ability, ease of technical integration, and offer user and administration technical support.

High level of Customization. Customization level is important because the software must offer the ability to manipulate every layout element to achieve a look of total visual integration into NAMIC.com. The applications must be seamlessly integrated so that the user experience is identical in architecture, navigation and layout between host and hosted sites.

Domain Mapping. Domain mapping imparts branding integration into the applications by allowing the NAMIC.com name to be used in all URLs associated with the hosted software. The mapped domain allows the user to feel as if he never leaves NAMIC.com.

Ease of technical integration: Applications integration, which includes installation as well as quality assurance testing, must be accomplished within the implementation time period. As a result, the chosen applications must possess a low level of technical integration complexity.

Technical Support. Since NAMIC does not have an internal IT department, it is necessary that the chosen application provide an ongoing technical support option. The contract for the chosen applications must include software maintenance and upgrades as well as offer support for any technical questions that NAMIC staff may have during normal use of the applications. The online help sections of each application must be easily accessible from all top-level pages in the application. The information architecture of the help sections must be arranged so that users can quickly and easily find answers to targeted questions.

The applications must not only meet the technical requirements, but also applications must have a low annual price per user that is within budget. In addition to the technical requirements outlined above, each application has its own set of unique evaluation criteria, which are outlined in the discussion section below.

Discussion Board Applications

Users expect a standard type of interactivity and usability from discussion boards that generally do not vary among board applications. Boards are arranged in topic categories in a hierarchical layout structure that is fairly intuitive and user-friendly. At its most basic level, user interaction primarily consists of reading posts and threads, and entering a username and password in order to post a message.

Table 3. Feature set of the reviewed discussion board applications

Application	Price	Customization Level	Domain Mapping	User Support Type	Admin. Features Level	Security Level
Proboards	\$85/yr	High	No	Forum, Email	Medium	High
Website Toolbox	\$60/year	High	Yes	Online User Manual	High	High
Boardhost	\$60/year	High	No	FAQ, Knowledge-base	Low	High

Network54	\$100/yr	Low	No	FAQ, Forum- based support	Medium	Low
Ready Bulletin Board	\$29/yr	Medium	No	FAQ, Forum, Knowledge- base	High	Medium

User Features. Beyond the basic user interaction features, the competitive feature set requirement for the selected discussion board include:

- *HTML posting:* Messages can be posted in HTML format
- *Personalization:* Users can choose representative avatars, apply signatures to their postings, and create profiles to display personal data on message posting
- *Email messaging:* Users can choose to be notified in their emails when new messages are posted
- *Message preview:* Users can preview messages before posting them live
- *File uploading/attaching:* Users can upload and attach files to their messages
- *Inserting graphics into messages:* Users can place graphic files in their message postings

Support. In terms of user support, discussion boards usually have a FAQ and knowledgebase section, with a few boards that offer online user guides or user manuals.

Installation. For all hosted applications reviewed, technical installation was a similarly straightforward and uncomplicated HTML solution.

Security. The reviewed board applications distinguished themselves by their level of security options offered and administration features. Board security consists of features that protect the board against undesirable posts. Competitive security feature requirements for the selected discussion board include:

- *Profanity filter.* Messages are scanned for profanity by the system before being posted to the board
- *Password protection:* Users cannot post without entering a valid password
- *IP Banning:* Board administrators can ban IP Addresses known to deploy unwanted posted
- *User name banning:* Administrators can ban users from posting by their login name
- *Email Banning:* Administrators can ban users from posting by their email address
- *Spam Filter:* The system filters messages for spam prior to posting
- *Invalid login attempt tracking:* The system keeps a record of the number of failed login attempts, which can signal a possible problematic IP Address, user name or email address

Administration. The discussion board administrator installs the board HTML code and also configures the board's administration feature set through a Web-based administration panel. The feature set controls user-posting options as well as board operation. Administration feature set requirements for the selected discussion board include:

- *Set Member Registration Requirements:* The board administrator chooses the fields on the registration form that users fill out the first time they post to the board
- *Edit/Delete Posts:* The administrator can edit or delete messages posted to the board
- *Edit/Delete Members:* The administrator can edit or delete user profiles

- *Lock Threads, Forums, Topics*: The administrator can close discussions to prevent further posts
- *Archive Messages*: Older messages can be removed from the general posting area and stored in a designated place
- *Activity Statistics/ Tracking*: The administrator can access reports that display user traffic patterns and activity

In terms of security, neither Network54 nor Ready Bulletin Board supplied spam filters. The discussion boards that were accessed from Network54 and Ready Bulletin Board's client lists contained obvious spam posts. Also, both Network54 and Ready Bulletin Board had low customization levels that limited layout and design options, and neither of these boards offered any of the advanced personalization features (avatars, signatures, profiles) that users have come to expect from a discussion board. In terms of administration, neither Boardhost nor Network54 allowed administrators to edit or delete members.

The three boards in the same price range and with high customization levels, Proboards, WebsiteToolbox and Boardhost, also offer all of the required competitive security features. WebsiteToolbox was the clear choice for discussion board because it is the only board to offer domain mapping.

Events Calendar Applications

Event calendaring offers the ELDP the opportunity to list both professional and relevant personal events, and send out email notifications, invitations and reminders to registered alumni. The events calendars reviewed all contained the required user and

administrative features. Calendars differed largely on their support options and in their prices.

Table 4. Feature set of the reviewed calendar applications

Application	Price	Customization Level	Domain Mapping	Help Section	Email Reminders / notifications.	Events RSS feeds
CalendarWiz	\$249/yr	High	Yes	Extensive	Yes	No
MH Software	\$99/year	High	Yes	Extensive/ Intuitive	Yes	Yes
MyHosted Calendar	\$99/year	High	No	Poor	Yes	Yes
Trumba	\$1,200/yr	High	N/A*	Extensive / Intuitive	Yes	No
GreatHill	\$180/yr	Low	No	Poor	Yes	No

* Domain mapping is not required for Trumba because it uses Ajax

User Features. The reviewed calendar applications offered similar usability options. For example the steps for users to add new items to the calendar were similar from calendar to calendar, with each having a web form interface with similarly named fields for the user to enter in event information. The required user feature set for the selected calendar application is:

- *Calendar Views:* Calendar displays multiple event views consisting of monthly, weekly, and daily
- *Calendar Listings:* Calendar event lists in order by date
- *Search:* Calendar search the by keywords, dates or event types
- *Email Notifications and Reminders:* Users can specify to receive email reminders for upcoming events, and also to receive notifications when new events are posted
- *RSS feeds:* Calendar event data is aggregated and displayed on other web pages
- *Contact List:* Users can add names to the contact list

Administration. All calendar applications, with the exception of Trumba, had similar integration processes that consisted of placing standard HTML tags on a Web page. Trumba is a collection of Ajax applications wherein Javascript modules display calendar components on your Web page. A general familiarity with Javascript is required; however the installation process involves few steps for the Javascript tag placement. All of the other reviewed calendar applications provided a similar standard HTML placement and display of the hosted calendar. Additional administration feature set required for the calendars are:

- *Manage Users:* A list of user names and passwords can be uploaded into the calendar to pre-register users
- *Email Settings:* Administrators can configure mail settings for email notifications and reminders
- *Submission Filters:* Administrators can apply filters that scan postings to ensure compliance with calendar standards

Support. User support options are particularly important for the selected calendaring application. Calendar applications present the user with many form field options in order to add new event listings. While the Web interface to update and post event listings is similar across most events calendars, many users may not be familiar with the interface. Therefore, an extensive yet intuitive online help section is a requirement for the selected calendar applications. The support offerings of the reviewed calendar applications are:

- *Trumba*: Trumba's "Help Center" is highly intuitive and the information is arranged hierarchically, with general questions hyperlinking to more specific questions and content.
- *MyHostedCalendar*: Support was limited to a bulletin board that contained few posts
- *GreatHill*: No online manual for the hosted version of the calendar software; however there is a well-documented online manual for the server install version. Additional support options are a FAQ page and an email contact form, and phone technical support is available during normal business hours
- *CalendarWiz*: An extensive searchable knowledgebase, and also an email support form for users and administrators
- *MH Software*: An extensive yet intuitive help section that provides multiple ways for users to access information through a pull down menu interface that displays:
 - *View Contents*: View the help topics in a table of contents listing. The TOC page has access to an Index topics listing and also a Search function.
 - *Tutorial*: Select from tutorials on targeted subjects
 - *FAQs*: Read a from a list of frequently asked questions
 - *Video*: View flash video of step-by-step instructions on how to perform each aspect of calendar event posting and administration

CalendarWiz has a 100-user restriction level, which may become problematic over time. Trumba's customization level was also high in that each Javascript module placed on page could be manipulated for position, size and color. That Trumba did not offer an RSS feed to display calendar postings is not the reason it was not selected as the

final calendar choice; Trumba's price of \$1,200/yr is outside of budget. Neither MyHostedCalendar nor GreatHill could map to domains. MH Software was selected as the events calendar application because it not only met all technical requirements, but also it was among the lowest priced.

Blog Applications

There are many free blog hosting services, such as Google's Blogger (<http://www.blogger.com>), while other companies offer free entry-level blog hosting packages, as well as subscription packages with premium features for a monthly fee, such as LiveJournal (<http://www.livejournal.com>). Blog hosting services generally host a single blog on which multiple users may register as members. However, only the blog owner may create a blog; the multiple users can only post comments and use other blog features prescribed by the blog administrator. Since the ELDP Online Community requires multiple blogs, each blog created by a unique author, the free hosting services were not an option.

An exhaustive search for hosting providers that offer blog community packages revealed TypePad Business Class and 21Publish as the only viable alternatives. Both TypePad and 21Publish met and exceeded the technical requirements; both applications had high customization levels, domain-mapping ability, and ease of technical integration.

Table 5. Feature set of reviewed blog applications

Application	Price	Customization Level	Domain Mapping	User Support Type	Administration Features Level	Administration Support Type
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21Publish	\$950/yr	High	Yes	FAQ, Email, knowledge- base	High	FAQ, email, knowledge-base
Typepad	\$899 per blog / year	High	Yes	Phone, email, FAQ, knowledge- base	High	Phone, email, FAQ, knowledge-base

Support. TypePad's technical support options for both users and administrators far exceeded 21Publish's support options. 21Publish provides FAQs, an online help section and an email form for queries. TypePad provides priority technical support for users and administrators that includes phone support.

Security/Administration. TypePad and 21Publish offer similar security features to protect blog postings. TypePad's security level for blog postings is slightly higher than 21Publish's in that TypePad offers spam control to protect blogs from undesirable postings. Both candidates offered the required security features for a blog application:

- *Authentication:* Administrators can configure whether or not users need to be verified registrants before they can comment on blogs
- *Password Protection:* Administrators can chose to password protect blogs to allow only registered members to post
- *Moderation:* Blog authors can have review, edit or delete control over published comments
- *IP Banning:* Administrators can ban the IP Addresses that generate unwanted postings

User Features. Both TypePad and 21Publish offered the required user feature set that promotes information seeking:

- *RSS Feeds:* Aggregate links of most recent blog entries

- *Trackbacks*: Lists of links that refer to your posts as a source are posted on blog pages
- *Search within Posts*: The entire blog community can search within blog postings
- *Search and replace within posts*: Blog authors have the ability to perform search and replace in their postings
- *Mobile Blogging*: Users are able to blog from their wireless devices
- *Visitor Statistics*: Blog authors can view reports of visitor activity for their blogs

Recommendations for Purchase

The software applications recommended for purchase are WebsiteToolBox for discussion board, MHSoftware's event calendaring application and 21Publish's blog application.

Table 6. Applications recommended for purchase

Application Type	Selected Software	Price	Website
Discussion Board	WebSiteToolBox	\$60/year	http://www.websitetoolbox.com
Event Calendaring	MHSoftware	\$99/year	http://www.mhsoftware.com
Blog	21Publish	\$450/year	http://www.21Publish.com

Implementation

Layout

The ELDP Online Community template pages are based on the layout, design and navigation structure that is used throughout NAMIC.com. Each page of the site contains a horizontal navigation that provides access to all of the main section pages of the site.

Each section page contains an additional horizontal navigation that lists all of the pages within that section.

Navigational architecture

The navigation structure of the community pages contains links to access all community pages, and is positioned below the site-wide navigation structure. As recommended by usability test results, the background color of the navigation link for the current page that the user is visiting is offset by a different color from other links to distinguish it. The community section horizontal navigation displays links for the following pages:

- ELDP Community Home
- Event Calendar
- Discussion Board
- ELDP Blog
- ELDP Community FAQs
- Log Out

Community Pages

The list of pages within the ELDP community section are outlined below, followed by a description of page content:

ELDP Community Home. Users access the ELDP Community section home page from the NAMIC.com ELDP section home page. The ELDP section home page contains a link for the ELDP online community. When users click on the link, they are presented with the login page to the community that explains

- who is authorized to gain access to the community the login process, including:
 - How to access the community
 - Instructions on how to set cookies for the online community
 - The community home page also contains welcome and introductory text that explains the offerings of the community. Within the text of the page there are additional links for:
 - Login procedures and cookies policy to access bulletin board, event calendar and blog pages within the community
 - Community policies and procedures page
 - Change/update email address
 - FAQs

Event Calendar: The Event Calendar section main page. All links to view the event calendar items and post event information is accessed from the event calendar main page:

Discussion Board: The Discussion board section main page. All links to access discussion board posts and information is accessed from the event calendar main page.

ELDP Blog: The Blog section main page. All links to read blogs posts and create individual blogs is accessed from the ELDP Blog main page.

ELDP Community Policies and Procedures: The policies and procedures for the ELDP online community members, which addresses the rights and responsibilities of NAMIC, as well as the rights and responsibilities of ELDP members.

Login: Users are presented with the login page the first time they enter the community, and will see the login page upon return only if their browser refuses cookies from the site. When accessed from the link that says “Update/change Your Email Address,” which is located on the community home page, the login page displays a form for users to update their email address.

FAQs: ELDP online community frequently asked questions

User Login Procedures

Users enter their email addresses and cookies are placed on their computers so that they do not need to repeat the login process to gain access to the community upon return.

Each of the applications--discussion board, event calendar and blog--requires that users have a unique user name and password to contribute; however, once users complete the login process for each application, cookies are placed on their computers that allow users to gain access to the applications upon return without repeating the login process.

Users have been pre-registered for the events calendar. During pre-registration, user accounts are created for each ELDP member in the calendar application interface. The first time that users attempt to login to the calendar to post an event, users are presented with a screen to enter their email addresses. When users click the submit button, a computer-generated password is then forwarded to their email address. Users can then access their account, change desired account settings, and post to the events calendar. Advantages to pre-registration are:

- Allows users to receive email events notifications without completing the registration process

- Helps to generate traffic and interest for the online community through the emailed events announcements

The discussion and blog applications also require separate login procedures, but users will not be pre-registered for these applications. As recommended by usability testing, instructional text is placed in an optimal position on the discussion board page that explains to users that they must create a user name and password in order to post to the bulletin board.

The registration form that users must complete to create blog pages contains form fields that allow users to customize their blog settings, and therefore requires answers to questions that only the users themselves can provide. Additionally, since less than 50% of ELDP are likely to create blogs, users are not pre-registered for blog pages.

Conclusion

Lessons Learned

In order to gain more specific and pointed responses from the survey questions, I would revise one of the survey questions, and also add one more question to the survey. The question that I would revise is the question that asks, “With what blogging software are you familiar?” The question as phrased was intended to elicit responses that would inform the information seeking motivations of the ELDP; however, the question as phrased was not specific enough to provide detailed information on familiarity with blog information seeking tools.

A more helpful question would be “With what blog tools are you familiar?,” and then to offer choices for blog features such as “blog rolls, trackbacks, links, and RSS blogs feeds.” The responses would provide data for a clear analysis of the ELDP

interaction with information-seeking tools, and also, would allow for an analysis of the correlation between ELDP alumni motivation for information seeking and their participation in online community.

The question that I would have included is a Likert five-scale, strongly agree to strongly disagree question: "Tools such blogs, bulletin boards and e-mails provide a unique and needed outlet for self-expression." The responses to this question would present an opportunity to gain insight into the percentage of ELDP members for whom self-expression would be a motivator to create blogs in the ELDP online community.

Future Direction

NAMIC has invested a nominal amount, in both human and financial resources, for the production and implementation of the online community. Monetary cost is about one thousand dollars per year, and on-staff human resources costs are none. The ELDP Program Director or his assistant will act as online community administrator; however, since the community and its content is user driven, there is only a very small time investment that will be required of an administrator.

The information gleaned about the ELDP in this exercise can be used to inform other NAMIC Internet projects. Because of the pervasive nature of the Internet in all of our personal and professional lives, there will undoubtedly be future projects that NAMIC will implement, and NAMIC can use the survey results and the results of the actual level of ELDP community participation to help gauge standards, practices, and implementation issues for those future projects.

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APPENDIX A

Survey Questions

Below is a questionnaire that is being sent to a select group of NAMIC members, the Executive Leadership Development Program alumni. We are continuously trying to improve the ELDP, and by completing this survey, you will help us to make the program better. The survey will take no more than a few minutes of your time to complete, and will go a long way towards enabling NAMIC to enhance the ELDP experience.

Please provide an answer for each question

Section 1. Your online habits

1. How much time do you spend online?

- 0 – 5 hours/week
- 6 – 10 hours/week
- 11 – 15 hours/week
- 16 – 20 hours/week
- 20+ hours/week

2. How much time do you spend online engaged in non-social activities?

- 0 – 5 hours/week
- 6 – 10 hours/week
- 11 – 15 hours/week
- 16 – 20 hours/week
- 20+ hours/week

3. How much time do you spend online engaged in social activities (e-mail, chat, discussion board, blog or social networking sites)

- 0 – 5 hours/week
- 6 – 10 hours/week
- 11 – 15 hours/week
- 16 – 20 hours/week
- 20+ hours/week

4. What types of community activities do you participate in online (check all that apply)

- E-mail
- Discussion board
- Blog
- Social networking

5. If you had more time to spend online, in what types of community activities would you participate (check all that apply)

- E-mail
- Discussion board
- Blog

Social networking

6. How often do you read blogs?

Several times a day

Several times a week

Several times a month

Once in a while

I never read blogs

7. Do you currently author a blog or have you authored one in the past?

Yes

No

8. With what blogging software are you familiar?

Typepad

Blogger

MySpace

Blogspot

None

Other

If other, please specify _____

Section 2. Your participation in online community

1. In discussion or bulletin boards, I often provide answers to other's requests for information

Strongly Disagree

Disagree

Undecided

Agree

Strongly Agree

2. In discussion or bulletin boards I often post questions

Strongly Disagree

Disagree

Undecided

Agree

Strongly Agree

3. In discussion or bulletin boards, I often contribute to discussion threads

Strongly Disagree

Disagree

Undecided

Agree

Strongly Agree

4. It is important to me to help other NAMIC members resolve problems

Strongly Disagree

Disagree

Undecided

Agree

Strongly Agree

Section 3: Online Community Design and Support

1. Would you be willing to participate in usability testing for an ELDP online community website?

Yes: Please provide your e-mail address: _____

No

2. Would you like to help establish policies and procedures for an ELDP online community?

Yes: Please provide your e-mail address: _____

No

APPENDIX B

Usability Testing Volunteer Solicitation Email

Dear ELDP Alum,

You are being contacted because you stated that you would be willing to participate in Usability Testing for the ELDP Online Community website.

Purpose:

The purpose of the testing is to solicit feedback from users to ensure that once the online community is launched, users will find the site highly intuitive and be able to interact with and navigate the site with ease.

Testing Format:

The testing will be performed on a demonstration model of the ELDP Online Community. Users will be asked to perform a series of tasks and then provide feedback on their experiences.

Technical Requirements:

The form that the testing will take is remote meeting with teleconferencing. Technical requirements for test participants are:

- A high-speed Internet connection
- A computer with Windows 2000 or higher
- Microsoft Internet Explorer 7 or higher
- A phone to dial in to the teleconferencing number

Time Requirements:

Remote meeting login and setup will take approximately 5 – 10 minutes. Total Usability Testing time should not exceed 30 minutes.

Test Schedule:

To accommodate your busy schedule we are making the testing schedule very flexible:

- Time slots are open each day, including weekends, Monday March 17th through Friday April 4th
- One 30-minute time slot is available at the top of each hour, 11:00 am to 10:00 pm EST daily

Please reply to this email with a time that fits your schedule. Please supply:

- The day and date that you are available (for example, Tuesday, March 18th)
- The time that you are available (for example, 3:00 pm)
- The time zone that you will be teleconferencing from (for example, PST)

Andrew Williams, NAMIC Technical Consultant, will conduct the testing. Andrew will contact volunteers directly by email, from the address Andrew@andrewzwilliams.com, to confirm the date and time, and provide instructions for the testing. With your help, the ELDP community experience will be the best possible online experience.

APPENDIX C

Draft of ELDP Online Community Policies and Procedures

What is the ELDP Online Community

"Online community" is the concept of convening people in virtual space and describes a range of online activities including electronic collaboration, virtual networks, Web-based discussions or electronic mailing lists.

The ELDP Online Community is an exclusive social networking space for all ELDP alumni, that supports NAMIC's mission to extend networking opportunities for its members through computer-mediated community interaction.

The ELDP Online Community includes a discussion space, events posting and calendaring tools, and tools for you to create and maintain a personal blog. All community tools allow users to receive updates, notices and reminders of community activities through email. As a member, you can set preferences, specific to each tool, that define how connected you want to be to blog postings, forum discussions or events postings.

Guidelines for the ELDP Online Community

Comments by participants represent the views and opinions of that individual and do not necessarily reflect the position of NAMIC, its officers and directors, or other NAMIC members. Community members are expected to participate in a tone of congenial discussion and professional courtesy.

When posting in discussion forums, please keep your comments consistent with the subject and purpose of the conversation thread.

NAMIC's Rights and Responsibilities

NAMIC is not the publisher or author of any works posted by ELDP members. The ELDP Online Community is a passive service for storage and dissemination of the works that ELDP members may choose to post and distribute via The ELDP Online Community. NAMIC management does not screen works before they are posted, and no prior approval is required for posting. NAMIC disclaims all copyright and ownership in such works and all responsibility for them.

Although NAMIC cannot make an absolute guarantee of system security, NAMIC takes reasonable steps to maintain security through the third-party vendors that supply the community infrastructure. If you have reason to believe system security has been breached, contact NAMIC staff for help.

If NAMIC staff finds that files or processes belonging to a member pose a threat to the proper technical operation of the system or to the security of other members, NAMIC reserves the right to delete those files or to stop those processes. If NAMIC staff suspects

that an account is being used by someone who is not authorized by the account holder, NAMIC may temporarily disable that account in order to preserve system security. In all such cases, NAMIC will contact the member as soon as feasible.