
Media Obstacles to Social Capital

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Abstract

Improved design of online community relies on a firm understanding of the limitations of existing applications and the needs of participating members. Current design principles may not take into account the distinct contexts of the two types of social capital—bridging and bonding—or the unique challenges different communication media present in building that resource. This research seeks to explore experimentally the obstacles to social capital that are embedded in conversational technologies (electronic mail, bulletin boards, wikis, multi-authored blogs, and instant messaging). This study proposes content analysis, surveys and interviews with participants in small group bridging and bonding conversations.

Keywords

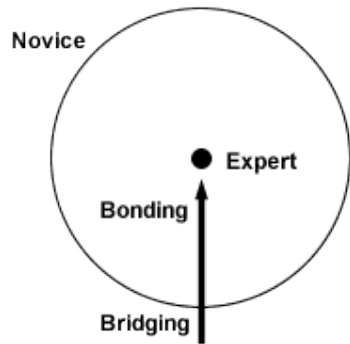
Online community, social capital, bridging, bonding, design principles, content analysis, communication.

ACM Classification Keywords

H.5.3 Group and Organization Interfaces: Computer-supported cooperative work. K.4.3 Organizational Impacts. C.4 Performance of Systems: Design studies.

Introduction

When considering the design of online community, there are two main areas of concern. The first deals with the kind of tool that facilitates action. The second



Embedded in a community of practice is a relationship between bridging and bonding. As a novice enters a new community and gains experience through interaction with expert practitioners, the relative nature of the community shifts from bridging to bonding.

deals with the kind of user who will interact with that tool. In HCI, the latter informs the former. However, existing design principles may not consider the contextual nature of social capital and the choice of medium to serve as the channels of communication for the community.

This research focuses on the following question of interest: *What obstacles to bridging and bonding are embedded in various communication media?* Answers to this question will inform interaction design by identifying structural, cognitive and functional issues that keep social capital from thriving.

Background

Social capital is a modern idea that can be traced back to Jane Jacobs work on city development in the 1960s but more recently came into vogue with Robert Putnam in the past decade. Social capital is the advantage created by a person's place in a network of relationships. Leveraging such resource is seen as the key to economic, social and political health, so building it up is a goal of many advocates.

Putnam distinguishes between two types of social capital: bridging and bonding. Bonding is the social network that helps sustain homogenous groups. Bridging occurs when individuals outside of the same social circles connect. In most interpretations, bonds are strong and few while bridges are weak and numerous [5]. The definition may not be in question, but there is debate over the nature and benefit of bridging and bonding relationships.

Ambiguity with Bridging and Bonding

In terms of economic growth, for example, bridging—by expanding connections to a larger market—offers opportunities that bonded regions cannot generate. However, social networking is also a time-consuming process that can take away from other activities important to growth, such as learning and working [1].

While providing a strong support structure, there is evidence that bonding groups unduly tax the mental health of individuals, particularly in economically depressed areas [4]. Ethnicity is a factor, often benefiting when cultural emphasis is placed on maintaining ties to extended family. Loosening of ties with one's ethnic group is not a prerequisite to bridging [2], but the perception assimilation is a consequence of doing so can prove an obstacle to establishing too many bridge relationships. Benefits conflict.

Bonding is sometimes viewed as the first part of the bridging process. A study of Belfast, however, showed that Putnam's assumption of homogeneity in social networks is flawed. Self-interest remains an obstacle as well as motivation for some, leading to an unbalanced distribution of individual benefit from social capital gains [3]. On the other hand, Wenger's community of practice model may be evidence that bridging can lead to bonding.

A community of practice involves a mutual engagement of its members, bound together in some social identity. Its members constantly renegotiate that identity, as well as its focus of action. The result is a body of knowledge and resources that are developed by membership through shared experiences [8]. This concept overlaps Putnam's idea of social capital in that

the journey from novice to expert—the peripheral to the center—is a bridge action that potentially becomes a bond with other practitioners.

The Benefit to HCI

Online community offers great opportunities to forward these debates. Conversational technologies—discussion forums, weblogs and wikis—are considered a significant innovation in knowledge management. They prove ineffective, though, if there is a mismatch with the organizational culture, particularly one that is not open-minded about multiple points of view [7]. The choice and design of such tools have the potential to make social capital unduly difficult to obtain. It is vital to understand the role different computer-mediated communication channels play in creating obstacles to connection.

Research Design

The choice of communication channel made by community developers could prevent new participants from integrating with existing members with more experience or radically different viewpoints. This research seeks to identify the effect media has on the ability to create social capital by analyzing bridging and bonding experiments through different online media.

It is important to distinguish between a communication medium and a mode of communication. Instant messages may be sent from a cell phone or a computer (mode), but the kind of communication relies on the same function (medium). The media included in this study are: electronic mail, bulletin boards, wikis, multi-authored blogs, and instant messaging.

While the successful creation of bridging groups is the primary focus, it is necessary to study bonding groups as well. They are yin and yang to each other, so observed effects on bonding should reveal insights about the significance of findings with bridging. Obstacles and incentives, on the other hand, do not share that symbiotic relationship. Obstacles to participation are structurally more important than incentives since the latter is typically implemented to overcome the former.

Methodology

This is a laboratory experiment featuring both qualitative and quantitative analysis. The central activity is comprised of a series of short computer-mediated discussions between small groups, however participants will also be asked to complete entrance and exit surveys surrounding each discussion and will be invited to semi-structured interviews about their experiences in the study.

Recruiting for this research will draw from a local community in geographic proximity and from existing online communities. A pool of approximately 500 people will be recruited for this study. Each participant will be asked to provide demographic information (used to create group diversity) and self-select their preferred means of communication (used for media assignment).

After being assigned to a group, participants are asked to use their medium to introduce themselves, discuss a general topic, and collaboratively summarize that conversation. These discussions are constrained by size and time—no more than two-dozen members in a group, communicating for up to two weeks—and conducted four times over the course of a year.

The community experiments will be engineered to test all five media channels. Groups are made intentionally diverse or homogeneous to represent bridging or bonding conditions. The discussions generated by each group are captured for later content analysis.

Additionally, each participant is asked to complete a short survey before and after engaging in group discussion. These surveys will be simple and ask members about their knowledge of their current communication medium, experience in online discussion, general mood, and sense of connectedness with others. Upon exit, they will also be asked about their familiarity with other participants. Selected interviews will be conducted to allow for greater articulation of individual experiences with the study.

This research will not directly study the life cycle of community, the relationship between online and offline social capital, or the effect experience has on participation—although each is relevant to the central questions. Nor does this research confirm any real-world corroboration of experimental results. Once media obstacles are identified, these areas will become ripe for exploration.

Value of Outcomes

Bridging and bonding groups may struggle to materialize in different media channels of communication. Analysis from this research should reveal the obstacles unique to each medium and type of social group that could be addressed through future forum design.

Existing design principles [6] address the task of building community in a general manner, without

regard to the choice of medium. Likewise, best practices for web site design argue for rubrics that fail to account for the uniqueness or context of the user interactions. In tying social capital goals to traditional HCI methods, the construction of the tools of community may both lower the barrier to entry and improve long-term sustainability.

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About the Author

Kevin Makice has devoted much of the professional career to the pursuit of community on the Internet. His current research as part of the doctoral program at the Indiana University School of Informatics is a continuation of work begun over a decade ago.

Self-educated in web programming, Kevin brought more than two dozen small businesses and non-profit organizations to the World Wide Web for the first time as a freelance designer for Real World Creations.

During his time in northern Illinois, Kevin created a web site for a successful school referendum. He also established a community portal—square.city—that rivaled the early Chicago web site in both size and scope for a town of about 20,000 people. Supported by a network of organizations, square.city's content included an online journal, member forum and a daily trivia game that proved very popular with relocated residents. The site became the first in Illinois to provide live updates of high school football games.

Kevin eventually left his design business to serve as the Web Services Coordinator for the Indiana University Kelley School of Business, a job that brought his family to Bloomington in 1999. There, the programming repertoire expanded to include Cold Fusion and SQL database programming. At the same time, Kevin began freelance work TicketsNow.com, a startup brokerage company for secondary-market entertainment tickets.

As the primary technical designer and programmer for TicketsNow.com, Kevin was responsible for bringing the company onto the World Wide Web for the first time. He then led a major redesign of the ticket search and

web site content that provided the foundation for company sales. A second major application, EventInventory.com, was created the following year. Kevin spent his final two years at the company working on data importing and optimization tools. He remained a full-time telecommuter from 2000 until enrolling in the School of Informatics in 2004 to pursue a Masters degree in Human-Computer Interaction.

At Indiana, Kevin was part of a team of Informatics students who won the CHI 2005 Student Competition for their design and presentation of mPath, a social networking system to increase meaningful connection between senior citizens, residence administrators and the community at large. In 2006, Kevin earned the Associate Instructor Teaching Excellence Award for his work in redesigning a graduate level HCI design course to include a service-learning component.

A high school valedictorian and honored graduate of DePauw University, Kevin remains at Indiana University to continue his education with the pursuit of a Ph.D. in Informatics. His current interests fall between the domains of complex systems, computer-mediated communication and forum interface design. Kevin is also active in an initiative to develop a Sports Informatics track at the School.

Contribution and Benefit Statement

It is vital to understand the role different media play in creating obstacles to connection. This research seeks to identify those hurdles through experimentation and include them in design principles.

Estimate of Expenses

- Air Travel - \$600
- Hotel Accomodations - \$500
- Incidentals - \$100