

Network Power for Social Change: Grassroots Organizing Efforts via Information Technologies in California's Central Valley

Gerardo Francisco Sandoval

Abstract

This article analyzes how two community organizing networks in California's Central Valley, the Central Valley Partnership (CVP) and the Civic Action Network (CAN), use information technologies to create strong multi-ethnic advocacy groups. Like formal organizational structures "from above," these grassroots groups "from below" take advantage of information technologies to maximize limited resources and minimize barriers to collective action to further their social justice agendas. By utilizing Castells' Information Age framework and emerging theories from the planning field on "network power" through collaboration, this article addresses the research gap on grassroots-level networks and identifies the type of power these organizations can attain by networking via information technologies. The article examines the social morphology of these two grassroots networks and reveals the technological obstacles and constraints for community development organizations that use information technology to form advocacy networks. The research finds that the two case study networks strategically use information technologies to their advantage to increase and strengthen the inter-connectivity of their network communication structure, thereby increasing the power of their network.

Introduction

This article analyzes how two community organizing networks use information technologies (IT) to increase their ability to promote social change and equity for minorities and low-income households in California's Central Valley. The article examines both the opportunities and constraints that emerge from two specific efforts to incorporate information technologies in the organizing strategies of community development groups: the Central Valley Partnership (CVP); and the Civic Action Network (CAN). The CVP is a network of fifteen well established community-based organizations, each working to increase

the quality of life for recent immigrants throughout the Central Valley. CAN, a spin-off network from CVP, is composed of 175 emerging grassroots organizations working on projects dealing with economic development, popular education, civic engagement, arts, and culture.

By utilizing Castells' (2000; 1997) framework of the Information Age (i.e., the representation of society's new dependency on information and information technologies as socializing tools) and emerging theories from the planning field on "network power" through collaboration (Booher and Innes 2002), this paper addresses the research gap on grassroots-level networks and identifies the type of power these organizations can attain by networking via information technologies. The existing literature on globalization and social networks tends to emphasize networks "from above" and the macro-level conditions under which they form and operate (Scott 2001; 1998; Castells 1996; 1989; Mollenkopf 1991).

This article investigates an area missing from this literature by focusing on traditionally marginalized actors and the ways in which they deploy information technologies to create a shared identity that is ultimately used to promote social justice. These are actors that Smith (2001) and Guarnizo and Smith (1998) describe as "from below" because they represent the other side of globalization; the players that lack resources and legitimate institutional power, but who are nonetheless engaged in processes that are transforming local and global socio-economic and political relations. These actors "from below" create flexible networks of multi-ethnic community organizations that structure their community organizing strategies through the use of information technologies. Their strategies, in turn, intensify their organizational networks and generate "network power" that increases their political clout and community organizing capabilities.

In order to understand the relationship between grassroots network community organizing and information technologies in the Central Valley, this paper first examines the "network power" literature, which focuses on understanding the social makeup, or morphology, of network structures in the Information Age. More specifically, by using an Information Age analytical framework, the paper describes how information technology-based networks actually increase resources and collaboration between various agents within that form of social organization.

This article takes a closer look at how CVP and CAN are structured and how they use information technologies to organize, especially in the context of drastic material inequalities within California's Central Valley. In doing so, the article makes a preliminary analysis of the out-

comes and social change that might be attributed to both networks. I argue that networking via information technologies has improved CVP and CAN's ability to effect a range of changes, mostly political and economic, within their region. Some of the outcomes and changes discussed in the article include the promotion of civic participation, information sessions on naturalization, increased affordable housing, improved cultural sensitivity on the part of local police forces, and the organization of cultural festivals that have convened hundreds of people from various ethnicities.

The case study data collected for this paper and the analytical methods used to interpret it include: participant observations of CVP quarterly meetings and CAN events; Geographic Information System (GIS) maps of the CVP and CAN; thirty interviews of participants; content analysis of the CVP listserv; and my personal participation in the development of a survey for CAN participants. This participatory approach to research helped me gain access to the network and improve my understanding of the internal dynamics within it.

The Power of a Network Structure

In his monumental trilogy, *The Information Age*, Castells (2000; 1998; 1997) argues that "networking logic"¹ constitutes the new "social morphology"² of our time. In this context, a network is a decentralized form of social organization comprised of at least two actors with similar interests or concerns (e.g., political, economic, cultural) which interact and remain in informal contact for mutual assistance or support. According to Castells, during the present "Information Age," actors that create and function in networks shape the world's key processes of production, experience, power, and culture. That is, the current moment of capitalist globalization is sustained by a network structure of capital, finance, production, and governing systems that work in real time and use information technologies to sustain their activities and hegemony. The global firms sustaining our economic system are, in turn, organized around global networks of capital, management, and information, that depend on an international division of labor that is also dependent on networks of production and supplies.

In an attempt to further outline the contours and implications of the current moment of capitalist globalization, Michael Peter Smith argues

¹ Network Logic is the conceptualization of networking as a social form and process. Networks are used to facilitate communication, create shared meaning, and accomplish tasks in partnership.

² Social morphology is an organized body of mutually connected parts, as defined by Heer (1998).

in, *Transnational Urbanism*, that globalization represents a spatial and cultural phenomenon embedded within capitalism's current stage. While invoking urban geographer Murray Low, Smith states (2001, 3) that "even in the economic sphere, "globalization is not a scatter of the construction of a "global" economic space or arena, but of the restructuring and extension of networks (of flows of money, goods, and people) and of their articulation with areal or "regional" spaces at different scales." Hence, agents are the center of globalization and they are agents networked through a system of markets and information technologies that form a web of communication and interaction. This web of global relationships is manifested both from power relations stemming "from above" and "below," a political field of contestation organized via networks of agents working through a networking logic shaping their embedded political economic structure.

Academia has placed a considerable amount of attention on understanding these networks "from above," especially as they relate to dominant economic systems. Networks "from above" are those networks that maintain legitimate institutional power and hence effectively shape agents and political, economic, and social structures to further their own particular structures to buttress their own political economic agenda. In this article, networks from "below" shall be characterized as those networks from the grassroots working to challenge and influence the "above" networks, by increasing their own unique form of network power.

While social and economic networks are fundamental structures within the current Information Age, they are not necessarily new forms of social structures. Indeed, there is a vast set of literature dedicated to the constitution, meaning, and function of networks (Tsuji 2001; Cook 1992; Wellman 1983). Social network analysis, for example, has existed since the 1930's as scientists tried to measure the links between agents in certain environments.³ This type of social network analysis measures connections between people quantitatively and tries to measure links between actors, or agents, and their strengths (Scott 2000; Wasserman 1998; 1996). These measurements are spatially-graphed, displaying web-like maps showing how nodes connect individuals (Wagner 2003; Hoff 2002; Marsden 1982). Networks have also been extensively studied within the natural and physical sciences and are shown to be fundamental building blocks within these systems (Capra 2002; 1996). Nevertheless, what makes today's social network structures (and our analysis of them) different is their dependence on information technologies. Contemporary society exists as a complex sys-

tem of communications that has differentiated itself horizontally into a network of interconnected social subsystems wherein information technologies act as platforms that connect subsystems or nodes (Luhmann 1995).

What makes networks the new social building blocks of our time are the extraordinary advantages of networks as organizing tools. Networks allow for agents' increased flexibility and adaptability, which are critical features of survival in our globalized world. Through the network structure, agents are better able to prosper in a fast-changing social and economic environment (Castells 2001). On the one hand, firms need the flexibility allowed by a network structure to create and produce the goods for diffuse and fast changing markets. On the other hand, governments (i.e. national, regional, local) are promoting networks of public and private interests as well as the flexibility of public institutions to strengthen the economic competitive advantage of their particular region over another (Scott 1998). Within the world's dependency on a network structure in this context, information technologies are accelerating the linkages between various agents and their networks by effectively reducing time and space barriers.

While academia has focused largely on macro-level forms of networks and networking — the networks from "above" — there is little research into specific forms of network structures at the grassroots levels. Moreover, not much is known about the ways in which information technologies affect and are affected by these grassroots organizations. Much of the analytical work on network logic focuses on understanding global networks "from above" (Castells 2000; 1996; 1989; Scott 2002; 2001; Sassen 2001; Saxenian 1999), yet more research is needed to understand how the information age currently affects networks working "from below" (Smith 2001). The notion of "above" and "below" pertains to power relations between structures and agents. Structures and agents from "above" maintain power, whereas those from "below" are agents and structures influenced and shaped by the "above" power relations. Yet all agents have the ability, depending on their role within a political-economic structure to influence both forms of power relations. Smith and Guarnizo (1999, 29) explain this relationship within the transnational literature by stating that "categorizing transnational actions as coming from "above" and from "below" aims at capturing the dynamics of power relations in the transnational arena. By definition, these categories are contextual and relational." Harking back to Castells' theorization of globalization and identity, these networks from "below," from the grassroots, have gained a greater increased ability to influence large structural forces by their increasing their knowledge

³ See Bruce Sterling's 2004 article in *Wired Magazine* for a provocative view of social network analysis and academia, science, and art.

of networking logic as a means to construct and mobilize collective identities for political purposes (Castells 1996).

Admittedly, the networking logic that is currently permeating society is nothing new to immigrant groups who have honed most of their adaptive and survival strategies in network-like settings and relationships. Specifically, the significance of networks of kinship and friendship has influenced greatly the process of settlement and adaptation of immigrants (Winters 2001; Brettel 2000; Massey 1995; Boyd 1989). Within the community development literature, attention has been given to the importance of networks in forming a sense of cohesion and solidarity within groups. There are, however, few studies that address networks and information technology within contemporary community development efforts among immigrants and low-income sectors (Contractor and Bishop 1999; Nunn 1999). Specifically, information technologies have created a potential for intensifying those social and communication patterns that have traditionally been deployed by immigrant or marginalized social groups. Therefore, the degree to which information technologies can serve as a means to intensify communication between community organizations and their relationship toward political action needs further analysis.

This article is an attempt to address a gap in the intersection of the community development and information technologies literatures by showing that information technologies have the potential of increasing the "network power" of community organizations through enhancing their networking abilities. Innes and Booher (2002) state that,

Network power is the shared ability of linked agents to alter their environment in ways advantageous to these agents individually and collectively. Network power emerges from communication and collaboration among individuals, public and private agencies, and businesses in a society. Network power emerges as diverse participants in a network focus on a common task and develop shared meanings and common heuristics that guide their action. (225)

It is the shared meaning and common heuristics that shape an agent's ability to work collectively for mutual benefit and change the existing social structure. A network structure increases the organization's potential for political action as various groups share their community organizing strategies, learn from past mistakes and successes, and begin to share resources such as contacts with politicians and grant-makers, as well as their own members. The network structure enables information to flow more rapidly from agent to agent without being

confined by bureaucracy or other rigid organizational communication barriers.

Within community development networks, agents are encouraged to participate and establish themselves within the nodes, or communication connection points, of the organization. In other words, barriers for participation by collective or individual agents are lower within network structures than in other formal (mostly vertical) forms of social organization. Participation in a network, either as an agent within a node, or as a node itself, opens more opportunities to express one's voice or to exert one's influence over particular issues. Nonetheless, while participation and association within networks might be easy to achieve, the creation of shared meaning within them is not necessarily a guaranteed outcome, as the diverse networks of community organizations represent very different cultural heritages and maintain diverse ideological views.

Castells' theories of networks and information technologies help set the context for how information technologies can help these grassroots groups organize for social change. One of the main characteristics of the Information Age, according to Castells, is the emergence of identity as a political action tool organized around networks of social change. Identity forms an important uniting factor for grassroots networks working from "below." Cultural identity can serve as the ideological glue that unites agents in struggles to create structural changes. Yet this "power of identity" is difficult to harness in a multi-ethnic environment such as California's Central Valley with populations migrating from around the world.

As the following sections of this article will detail, ideological, cultural, and historical differences can be surmounted by groups and individuals within these multi-ethnic community organization networks to develop a common experience or shared identity. Differences and hurdles can be overcome by building off of people's shared status as immigrants in the Central Valley of California. The migrant experience can serve as the foundation for collaborative work between diverse social, cultural, and ethnic groups, which can ultimately harness social justice advocacy work to advocate for social change. More specifically, the uniting social factor of these grassroots groups in the Central Valley becomes the identity formed through their shared migration experience. The two networks of community based organizations examined in this study build upon their members' diverse cultural traits and experience as immigrants, through deploying basic information technology networking tools, namely, email, list serves, and web pages. These tools supplement other, more traditional forms of networking such as

workshops, meetings, and participation in cultural activities. For the purpose of increasing networking and interaction between groups and helping them develop a heightened sense of shared meaning despite the opportunity for improved mobilization and self-help, there are constraints that emerge from efforts to incorporate information technologies into the traditional organizing strategies of grassroots community groups. These challenges will be discussed more thoroughly in the latter part of this paper.

Migrant Farmers in California’s Fertile Central Valley

Although farm workers, especially migrant workers, are not readily associated with California’s image as a national and global economic powerhouse, they are indeed a fundamental element in the state’s economy. California’s Central Valley is vital to the economic health of the state. Yet most of the population in this area does not benefit from the abundant wealth generated by the region’s agricultural industry. California’s economy stands on two pillars: knowledge-based high technology industries; and immigration. There are two types of immigration. The first consists of highly educated immigrants employed in the high-tech sector and the second consists of low-wage migrants employed in the agricultural and service sectors. This study focuses on the latter group of migrants. By comparing the economic and social gains of the agricultural sector in the Central Valley to the conditions of these low wage earners, one begins to see a picture of great material disparities that has prompted disparate efforts to promote social and economic change in the region.

California’s Central Valley is the most productive agricultural region in the world. The state ranks first in the country in terms of agricultural cash receipts at \$27.8 billion for 2003 (California Agricultural Statistics Service 2003). Within California, seven of the ten top agricultural producing counties lie within the Central Valley. In the county of Fresno alone the gross value of agricultural production was over \$3.4 billion in 2000 and it almost surpassed the \$4 billion mark in 2003 (California Agricultural Statistics Service 2004). The Central Valley is divided into three production areas: the San Joaquin Valley; the Sacramento Metro Area; and the Northern Valley. The San Joaquin Valley represents almost half of the state’s value in agricultural produce, with 47.7 percent of state value (See Figure 1). The entire Central Valley totaled over \$16.7 billion dollars in produce in 2000 (California Agricultural Statistics Service 2003).

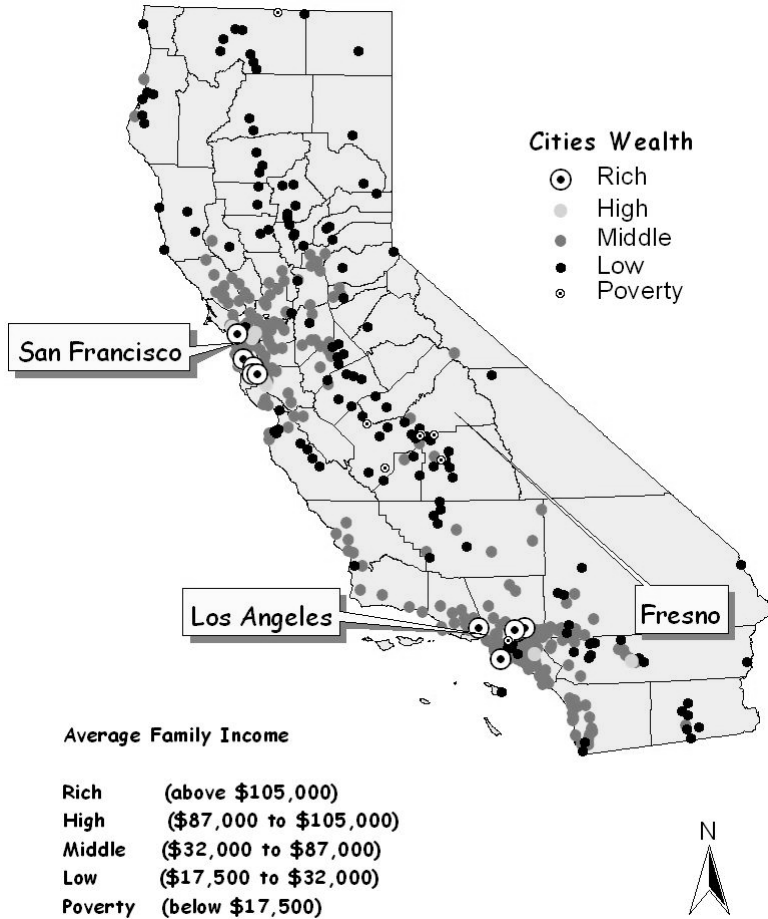
Figure 1: San Joaquin Valley, Gross Value of Agricultural Production 2000 (\$1,000)

County	Value	Percent of State Value	Rank in the State
Fresno	\$ 3,423,539	11.3%	1
Tulare	\$ 3,068,063	10.1%	2
Kern	\$ 2,209,928	7.3%	4
Merced	\$ 1,538,545	5.1%	5
San Joaquin	\$ 1,348,724	4.5%	6
Stanislaus	\$ 1,197,302	4.0%	8
Kings	\$ 885,062	2.9%	12
Madera	\$ 748,972	2.5%	14
San Joaquin Valley	\$14,420,135	47.7%	

Source: California Department of Food and Agriculture, County Agricultural Commissioners Reports. 2001.

Despite the impressive economic performance statistics, the social and income indicators of the majority of the Valley’s residents paint a different picture of the region. Socioeconomic indicators point to the spatial distribution of poverty in California, revealing a higher distribution of poverty in the Central Valley over other regions within California. Indeed, many of the poorest cities in California lie within the Central Valley. Figure 2 clearly shows the strong dichotomy between rural and urban areas within California. The smaller dots on the map are the locations of California’s “poorest” cities, whereas the larger circles show the location of California’s “richest” cities. One can almost superimpose a line connecting many of the small dots running down the state and locate Highway 99, which runs through the Central Valley. Note that many poor cities, those with household incomes less than \$17,500, are clustered in Fresno County, ironically the richest agricultural producing county in the US.

Figure 2: Wealth of California's Cities

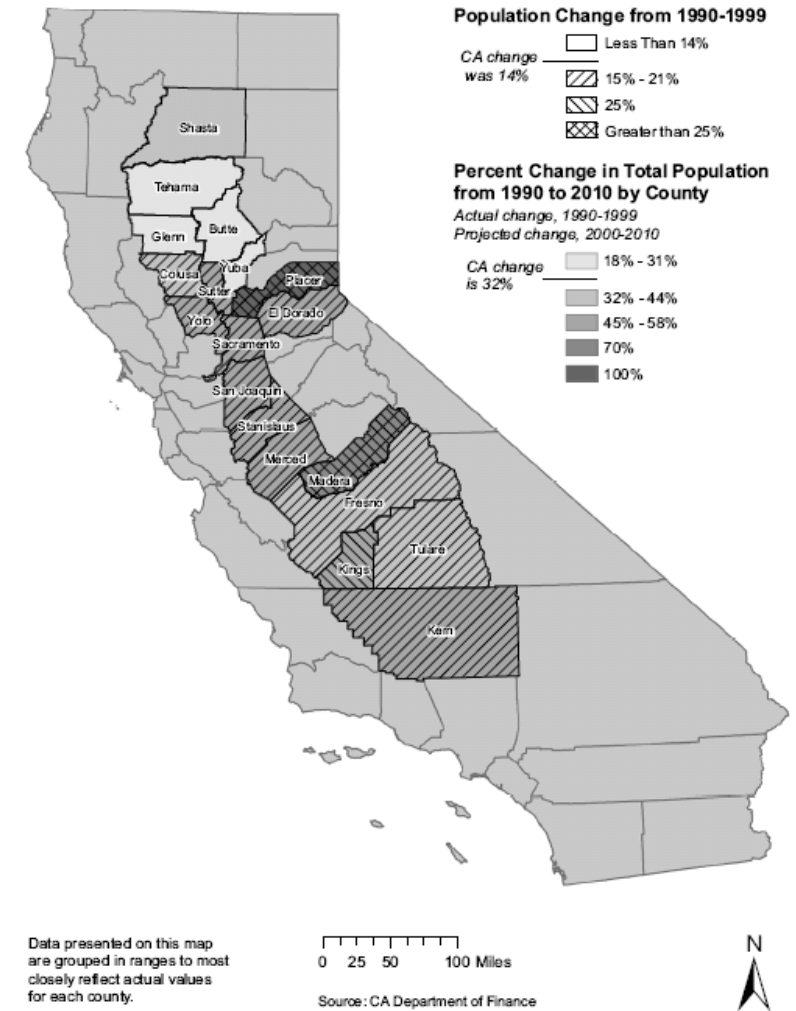


Source: Map created and produced by Gerardo Sandoval and Isao Fujimoto, with data from 2000 Census, produced 2004.

Trends in the Valley's population changes are also worth noting. As Figure 3 indicates, almost all of the Central Valley counties showed higher rates of population growth during the 1990's. Projected figures into the next decade show some counties, such as Madera, Merced, and Stanislaus, growing at 50 percent or more compared to the 32 percent projected for California as a whole. Unless the pattern of wealth distribution changes, it would be logical to consider that the projected increase in population would only intensify current inequities and the material needs of the bulk of the population. Some of the most pressing needs revolve around housing affordability, especially for the working poor. The Great Valley Center (2005) reports that 50 percent of Central Valley residents are unable to afford a median-priced two

bedroom rental unit in their community. Other specific needs revolve around employment opportunities for residents. The indicators report shows that unemployment rates in all of the Central Valley's counties are consistently higher than the state average and points to the demand for increasing job opportunities. Immigrant communities have it especially hard, as their needs are more basic, such as having access to basic health care, proper public school education, and having access to government and decision making institutions.

Figure 3: Central Valley Population Change, 1990-2010



Data presented on this map are grouped in ranges to most closely reflect actual values for each county.

0 25 50 100 Miles

Source: CA Department of Finance

Source: Great Valley Center 2005.

The Central Valley is vital to the economic health of California. Yet most of the population in this area does not benefit from the abundant wealth generated through agricultural production. This article addresses efforts trying to change these socioeconomic conditions and improve living conditions for recent immigrants. The Valley's direct tie to the economic flows of the global economy, represented by its important agricultural sectors worldwide and its migrant agricultural workforce, is one of a dependence on a cheap, efficient, and hard working labor source. The community organizing networks examined in this study exist to change the structural constraints that place these populations in a disadvantaged position.

Within the environment of socioeconomic inequality in the Central Valley, the need for community development and organizing becomes especially salient. Two community organizing networks are working to organize marginalized populations in the Valley. They are the Central Valley Partnership (CVP) and the Civic Action Network (CAN). The focus of this study is to analyze: 1) how these two networks of community-based organizations are creating change for migrant, low-income communities in the Central Valley; and 2) how information technologies (IT) are shaping their strategies. Next, case studies on these two networks are presented.

The Central Valley Partnership

The Central Valley Partnership (CVP) consists of 22 community-based organizations with an established history of working with low-income populations in the Central Valley. In their own words:

Since 1996, CVP partners have launched campaigns and implemented programs to assist migrants, immigrants, and refugees organizing to claim their rightful place in the civic, cultural, and economic life of the Valley. The CVP supports Valley communities working together to achieve social and institutional change - change that provides the opportunity for all who reside in the Valley to live in dignity and good health, participate fully in decisions that affect their lives, and assume the rights and responsibilities of citizenship in its broadest sense.

The group's broad vision has helped recruit a wide array of organizations working in the region. Although focused on a myriad of issues and constituent demands, the CVP's member organizations provide a basic set of services, such as legal assistance, basic education, social services, youth empowerment, and applied research. The CVP net-

work increases the power of each organization by mobilizing their constituents for political action issues throughout the Central Valley. The network provides mechanisms for their interaction, helping them share organizing experiences as well as political and financial resources. These are the basic elements that underpin "network power" as conceptualized by Innes and Booher (2002).

The stimulus under which the network arose in 1996 stemmed from both the state-wide political anti-immigrant context at the time (e.g., Proposition 187⁴) and the need to mobilize migrant groups around the potential elimination of section 245(I) of the Immigration and Nationality Act (INA), which permitted families with one legal parent and family members without legal documents to stay together.

The network is composed of diverse community-based organizations using different strategies for organizing. One of the more established organizations is the American Friends Service Committee (AFSC), which has three different projects within the CVP geared toward increasing immigrants' civic rights. The three AFSC projects work directly with immigrants: conducting classes for citizenship; doing "know your rights" presentations; translation of documents; cross-cultural relationship building; and facilitating popular education programs. Another CVP organization, the California Rural Legal Assistance Foundation, focuses on providing legal services and representation for low-income migrants. They also have two programs that deal directly with the provision of health and housing services primarily for rural communities. The *Frente Indígena Oaxaqueño Binacional* (the Binational Oaxacan Indigenous Front), a transnational coalition of organizations, communities, and individuals working on indigenous rights issues in the Central Valley and in rural areas of Mexico, is also a CVP member. The *Frente* is composed of Mixteco, Zapoteco, and Triqui migrants who come from the Mexican state of Oaxaca. An organization providing research assistance, the California Institute for Rural Studies, based in Davis, California, is also a CVP member. The Institute conducts research on issues pertinent to farm workers in the Central Valley. Finally, a youth organization, Youth in Focus (YiF), provides participatory action research in the Valley carried out by youth to directly change and improve the communities where they live.

These diverse organizations, with their separate goals, agendas, and ideologies come together to form the CVP. They are scattered through-

⁴ Proposition 187 was a measure passed in 1994 that denied undocumented immigrants access to most public benefits and required many public officials to turn in undocumented immigrants to the authorities. The measure passed by a margin of 59 percent. However, its implementation was blocked by a court ordered injunction scarcely a week after the vote.

out the Central Valley, an area that is 400 miles long, and are all very much engaged in their own work trying to serve their constituencies. Yet, they come together as the CVP for the opportunity to meet, discuss, and participate in political activity. The CVP is organized as a network of affiliates that share information and resources while maintaining their own organizational integrity. The networked structure is maintained by face-to-face interactions, meetings, and increasingly, information technologies.

The Central Valley Partnership and the Use of Information Technology

The CVP covers a huge geographic area, from Sacramento to Bakersfield and there are 20 organizations within that and there are another 200 CAN organizations who are also tapped into the partnership. So the biggest obstacle was communications, because even though we all wanted these organizations to move forward and work on projects that they had in common, there wasn't anyway for them to really maintain the logistics of a network of that size.

-CVP IT Technician

The most obvious constraint to the organizing efforts of the CVP is the great geographical distances between the many CVP organizations. Yet these distances are, in effect, also the main reason that information technologies (specifically internet-based applications such as list serves, e.g., an automatic electronic mailing list and directory) and world wide web pages (e.g., URLs) have begun to play such a vital role in the organizing efforts of the network. Of the two applications, the CVP's listserv is the most successful. It now serves as the most used tool for communication in the network. There are about 25 people on the current listserv, representing all of the CVP organizations, consultants to the CVP, and other influential players in the Central Valley. On average during the study period, there were five e-mails per day depending on the level of organizing efforts in the Valley.⁵ Most of the e-mails relate to CVP's campaigns or internal organizational issues. Members also use the listserv to communicate press releases, events they are organizing, or political announcements and commentaries.

⁵ Analysis of the e-mail exchanges that occurred through this listserv from October 21 to November 17th, 2002 was conducted. A total of 150 e-mails were sent through this list server (Nov. 11-17: 60 e-mails, Nov. 4 - 10: 45 e-mails, Oct. 21-27: 12 e-mails, Oct. 28 - Nov. 3: 33 e-mails).

One of the most useful ways in which the listserv has been utilized is for political campaign organizing. A member of the CVP's Technology Committee stated in an interview:

Every time there is a campaign, like the drivers licenses for undocumented workers, it has been a major campaign and lots of e-mails have gone out about that. And also getting in-state tuition for undocumented students who graduated high school in California, all of those press releases, they organize conferences and marches.

The CVP organizations come together quarterly to decide which campaigns the network will become involved in by weighing the social issues that directly affect the Central Valley and its migrant communities. An example of such an issue includes Assembly Bill (AB) 60, a bill that was passed by then-Governor Gray Davis to grant the right for undocumented workers to obtain driver's licenses. The CVP was very involved in organizing a grassroots campaign to pressure politicians to support the bill and mobilize constituents throughout the Valley to march and place political pressure on the governor. This bill created much controversy throughout the state and was ultimately defeated once the new recently elected Governor, Arnold Schwarzenegger, vetoed the bill on the grounds of it being a threat to national security. Even though the bill ultimately failed, the political organizing process showed the importance of the CVP's efforts to work within the mainstream political structure and actually place pressure on it. Their use of information technologies as an instantaneous way to communicate organizing share information and mobilization strategies reveals the initial workings of "network power."

A communications consultant to the CVP provides another clear example of IT-fueled organization and mobilization:

The CVP has lots of separate organizations and they work together when it makes sense when they need each others' support on a certain issue, and for a lot of this organizing around amnesty and driver's licenses and other issues, partners came together that otherwise would not have worked together; like California Rural Legal Assistance, Immigrant Legal Resource Center, which is basically a law firm, and Sacramento Valley Organizing Community. They never worked together in the past, never. But they all have really big networks of community groups, and so because they met each other through this CVP, they were able to mobilize more events, press releases, and get more people involved across these lines.

The power of the CVP lies within the networks that it establishes and the resources that it brings together in order to place pressure on the formal regional governance structures. Indeed, the ability to bring people together that otherwise would not have worked together, is what underpins the network power that the CVP can harness. The listserv provides a direct link between all of these organizations, works in real time, and intensifies their organizing efforts. Conducting this analysis was extremely helpful to understanding why the CVP has seen success as a network and provides key insights into how it truly functions using information technology to rapidly adapt to the changing political and socioeconomic environment.

The adaptability of this communications system can be seen through analyzing specific e-mail exchanges on their listserv. For example, when a main actor in the network was no longer able to participate, information on the departure flowed through e-mail exchanges.⁶ When other members found out, it was proposed through the listserv to organize a meeting to deal with this unexpected event. The information was a shock to the network and a clear example of a system adapting to its environment through using information technologies as a platform of rapid collaborative work while sharing online information technology resources.

The interactivity and almost unsupervised exchange of e-mails via list serves can sometimes lead to disagreements between members on topics that are exchanged. For example, there was an e-mail sent by a community organizer regarding Immigration and Naturalization Service (INS) raids in Wal-Mart department stores. The organizer stated that the INS had investigated the documental status of workers in Wal-Mart stores in the Midwest. Fearing that they would do the same in the Central Valley, she sent an e-mail via the list server to be aware of the raids. This was promptly replied to by one of the members in a legal service organization within the CVP stating that those were isolated incidents and that no reports of those raids had occurred in California and were unlikely to occur in the Central Valley. He argued that this call for alert was an unnecessary over-exaggeration and he suggested that such exaggerations would lead to many migrants quitting their jobs in fear and that the CVP listserv should not be used in this manner. To an extent, this incident points to the self-regulation that occurs within this virtual space. There is really no need to police this space via a centralized authority, as the members regulate themselves and are not timid regarding their political or ideological stances. However, there is a need for someone to provide the technical service required to

⁶ These e-mails were instantly translated into Spanish for group members who did not speak English.

maintain the space, such as sending out alert messages regarding the latest viruses and keeping spam off the listserv.

The importance of the CVP's listserv cannot be understated. The examples reveal that it is an interactive and flexible tool used to communicate information, debate, and organizing calls between groups. It is not just for posting announcements as many list servers are used; it is used as a direct organizing strategy, as a way to communicate and organize meetings, and as a tool for sharing political thoughts on subjects affecting the CVP.

The other important use of IT by the CVP is the deployment of its web page (www.citizenship.net). According to many CVP members, the web page has great potential for helping maintain the network, although as a compliment to the listserv. At the time of this writing, the web page was not as widely used as the listserv. According to a member of CVP's Technical Committee, the web page is:

Not very useful in terms of communicating with grassroots community members, but it is integral to collaborative projects and to organizing between organizations, sharing information and resources. Most people are doing research over the Internet. They probably look at it as being really helpful in terms of the CVP communications but not very helpful for their day-to-day operations, in terms of their service provisions.

She goes on to state the potential for the web page:

For all of the campaigns that the CVP groups are working on collaboratively — they can post documents that can be downloaded — fact sheets, petitions — there are a lot of opportunities for using the web page to organize, to make things happen.

Within this context, the important question becomes, if the web page has this great potential and mostly everyone in the network agrees with this, why is it not being used to its potential? The website is not used because it does not incorporate the network structure of the CVP itself. Use of the listserv flourishes because it allows the CVP to increase their network power potential and intensify their communication linkages. Because it is a less dynamic tool, the web site does not increase any such functions within the CVP and therefore it is not seen as a useful organizing tool. The closest the web site came to accomplishing these functions was with the creation of a calendar page. Designed to show events throughout the Central Valley that the CVP was engaged in, this should have been a great networking tool for the CVP since the organizations would be able to post their own events on the

calendar for all to see. This, too, has seen minimal success, as organizations have become skeptical regarding the functionality of the site. Tools could have potentially been further developed on the web page, so that it could have served two roles: a marketing role; and an internal networking role. The new CVP web page, developed in 2004, does have more innovative marketing tools, such as the ability for visitors to download and watch informational videos of CVP-organized farm workers. Currently, there are three videos showing the work that the CVP has accomplished. One video shows the CVP's work on pressuring the City of Dixon to build their "*esperanza*" affordable housing project. The second shows Hmong communities creating more responsive institutions in Stockton. The third is a short video of the work the CVP has done on public school reform in the Valley.

In terms of increasing the internal organizational communication and networking within the CVP, the new web page reveals improvements. Some of the partners have begun to place their events on the new web-based calendar. There is also an area where partners can download various forms regarding conferences and workshops. Yet the web page still lacks the internal network structure that really enables the listserv to become a highly useful tool. An especially helpful on-line tool would be to incorporate web conferencing. A CVP IT technician stated, "Getting 20 organizations in one place is very expensive and time consuming...and I think that technology can provide some really hands-on tools for solutions to make that communication possible in a more effective and efficient manner." Again, bridging this distant geographical constraint can be done by utilizing innovative, yet accessible, information technology tools.

Another outcome of the CVP's technological efforts has been the increased sophistication of information technologies used by the individual CVP member organizations themselves. Many of these organizations have developed their own web sites and encourage their staff to further their skills in using information technologies. For example, Youth in Focus (YiF) the participatory research organization that works with youth throughout the Valley, developed a website that highlights their projects, their upcoming events, and provides resource manuals on how to organize and lead youth participatory research. They are also working to develop a geographic information system (GIS) to show where the youth projects are located throughout the Valley and the type of work they are engaged in. YiF aims to create a regional movement of youth organizers working on youth research, community organizing, and popular education in the hope of increasing youth participation in shaping Valley policy. This new network harnesses a potential in developing information technologies with the capacity to

engage the youth in manipulating information systems for furthering their organizing strategies.

The CVP has experienced both successes and challenges relating to the use of information technologies. There is great potential for developing information technologies that can facilitate the inter-networking of all the CVP organizations. Even though the limited availability of the technological resources across all member organizations still limits network potential, CVP has had much success in information technology use, particularly in establishing a listserv to enhance their network communication structure.

The Civic Action Network (CAN)

The Civic Action Network (CAN) is an outgrowth of the CVP; the CVP provides funding resources for CAN. Serving low-income migrant communities in the Central Valley, CAN is a network of 175 grassroots organizations whose mission is to develop and support a broad, diverse network of people, organizations, and institutions that work together to tackle local and regional problems. In particular, CAN works to strengthen the voice, participation, and decision-making power of immigrant communities and organizations across the Central Valley.

CAN groups are very different than the CVP organizations; they are small, newly emerging grassroots organizations. As a result, they have extremely limited funding and resources and are usually comprised of one to two staff members. They are engaged in six project areas:⁷

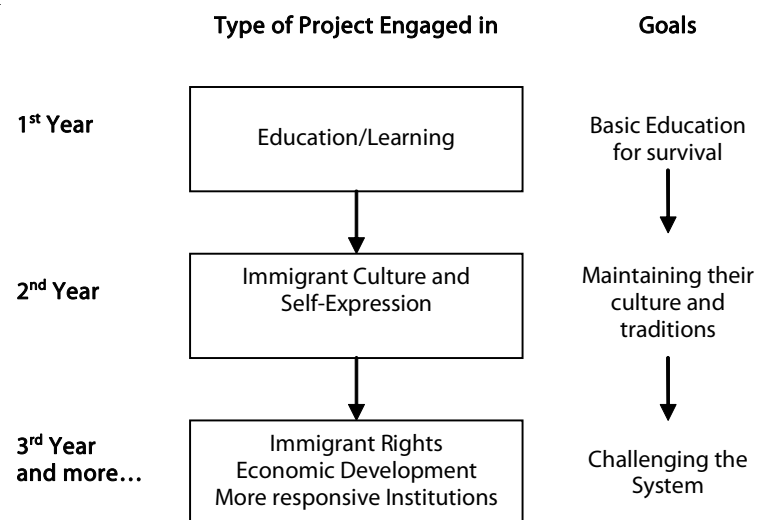
1. Education/Community Learning: efforts to improve communication among immigrant parents, school staff, and school boards; collaborative efforts to develop innovative community projects that contribute to education and community learning for children or adults.
2. Economic Development: projects that prepare immigrants to enter, and successfully advance in the work force; may include projects focusing on workers' rights, raising wages, skills development, creation of worker organizations, or benefit plans such as savings plans or credit unions.
3. More Responsive Institutions: projects to better engage immigrants in the governance of mainstream institutions or otherwise transform these entities to become more responsive

⁷Information taken from Civic Action Network brochure.

great potential for serving as a means to organize these diverse populations for political action. In this context, identity serves as a unifying force for social and political action and the strategic use of information technologies acts as the means to network channel this identity power potential toward is a new political tool in the information age political ends and social justice campaigns (Castells 1997).

Improved global communications, the relative ease of travel between countries, and the surge in transnational flow of money (i.e., remittances) has also increased the ability of these immigrant groups to maintain their transnational connections to their homes of origin (Smith 2001). However, now by living in California and serving an important role within California's economy, these communities are organizing to gain political legitimacy in their new homes. Thus, the construction of identity within the CAN groups becomes one of constructing a multi-cultural identity based on a migration experience now seeking legitimacy within their new home. This type of identity formation can be appreciated by analyzing the organizing strategies and their evolution of CAN groups. Specifically, most groups start by asking for funding from the CVP to conduct educational/community learning programs. Then, when they apply for the second year, they ask for funds to do immigrant culture and self-expression. By the third and subsequent years, they ask for funds to do immigrant rights, economic development, and to create more responsive institutions. Figure 5 illustrates the process of change in funding request from CAN.

Figure 5: Trajectory of Work for CVP and CAN Groups



This emerging pattern shows CAN groups becoming more sophisticated and complex as they become part of the network, gain experience, and better understand their rights. They first begin to educate themselves as a means to survival and to understand how the governance systems in California function. The longer they are a part of the network, the more they begin to understand and feel the need to maintain their cultures and traditions, which is typically done through cultural events such as dances, theatre, and other forms of art. Finally, the most sophisticated organizations start to increase their political engagement by questioning the political system and demanding that existing governance institutions pay attention to their needs. Facilitated by access to and the application of information technology tools, these CAN groups engage in marches, campaigns, and pressure police departments (i.e., pressure to become more responsive to the cultural characteristics of the diverse populations that they serve). This is networking power that cannot have happened easily without IT. Information technology is used to empower the migrants themselves as they become more involved in the multi-ethnic migrant organizational networks. The power of identity becomes a concrete political force sustained by a network structure.

The Civic Action Network and the Use of Information Technology

Because of their limited resources and recent origins, the CAN groups are not as sophisticated at using information technologies as the CVP partners. Their information technology needs were extremely basic, most of them needed basic connectivity because they are in rural areas. CVP's IT technician (Compumentor) was in charge of providing information technology support for CAN. Much of Compumentor's time was spent on connecting the CAN groups to the Internet and teaching them how to use the computer and e-mail. A staff member of the Pan Valley Institute, the CVP partner most closely working with the CAN groups, shed light on the experience that the CAN has had with information technologies. She stated that most of the CAN groups do not have access to computers and if they do, they need a lot of help with just learning how to use them. But once they do learn, they begin to use the computers quickly to organize programs and share information with the other CAN groups. Much of her work is in bringing the CAN groups together for meetings. Her belief is that "computers are helpful, but that you can not replace face-to-face interaction, especially with these groups that are so culturally different. They have to begin to build trust first, which is hard to do over a computer screen."

This is often done through cultural exchange activities and meeting such as sharing ethnic foods together.

CAN is about connecting people and having them gain, through their new network power, increased resources by working together with other CAN groups or gaining help and funding from the CVP groups. A survey of CAN groups conducted by the California Institute for Rural Studies and the Pan Valley Institute to help gauge the level of networking within the most recent CAN-funded groups provided insight into the relationship between the CVP and CAN. From a total of 30 respondents, the following insights were gained: The main reason for CAN groups getting involved was to share information and “know-how,” and to work on projects with other groups. CAN groups responded that the main benefits of participating in the network were receiving help finding funding opportunities and gaining technical assistance by the CVP in grant writing and understanding various community organizing strategies. The grassroots organizations’ vision of CAN was to increase networking, share information, increase funding opportunities, and to serve as a clearinghouse for experts, all of which can be done through the use of information technologies. The limited usage of information technologies by CAN groups can be attributed to a lack of resources rather than to a lack of potential demand for their application.

Discussion

The main function of each network revolves around creating a shared meaning among participants and collaborating amongst the network participants to change social structures to benefit their respective constituents. This article draws on Castells’ (2000; 1997) framework of the Information Age and argued that information technologies contributed to strengthening the networks within both the CVP and CAN, and hence the consequent outcomes and social change created by increasing the network power of both groups. Next, a summary of the outcomes of CVP and CAN organizing efforts and examples of how both networks are creating social change in the Central Valley is provided. Isao Fujimoto attributes the following as concrete outcomes of both networks: supported naturalization; built civic participation; strengthened leadership; improved access to higher education; built affordable housing in Dixon; improved public health and safety in Malaga; improved government responsiveness in Stockton; strengthened communities through cultural events in Fresno; improved schools in Lost Hills; improved naturalization system in Sacramento; and finally, net-

worked with other programs and philanthropies regionally, state-wide, and nationally.

CAN’s success in making government institutions more responsive to immigrant needs is a major outcome of the network. One example is found in the City of Porterville, where the *Asociacion de Padres* (Parent Association) encouraged a group of parents to meet for four months with the school district to ensure that Proposition 227 would be responsive to their children’s needs.¹⁰ When the school district was unresponsive, the parents filed and won state and federal lawsuits. Parents will now be monitoring the school district’s implementation of the ensuing agreement. Another example is found in the rapidly growing City of Goshen on Highway 99, where the Goshen Planning Committee was supported through CAN’s Civic Participation Grants Program to involve more immigrants living in this small Tulare County community to participate in drafting the city’s new general plan. Another example is found in the City of Madera, where the Madera Coalition for Community Justice developed a New Citizen’s Club to work with county agencies to increase the number of farm workers counted in the 2000 census. These are all examples of these immigrant organizing networks helping to create and shape institutional change in mainstream governance systems.

The CAN groups have seen further concrete outcomes from their work. The United Cambodian Families organization has worked closely with the City of Stockton in various capacities to bridge the cultural divide between the city and the Cambodian community. For example, a part time liaison with the Stockton Police Department has been hired to help ameliorate misunderstanding between police and the Cambodians. Another example is their efforts to develop a sister city program between the City of Stockton and Battambang, Cambodia.¹¹ This Cambodian CAN group is serving an important role as a bridge between the immigrant Cambodian community and mainstream government institutions.

Where information technology plays a central role in CAN outcomes is through networking, communications, and cultural programming. For example, VALER, a Portuguese CAN group, recognizes the importance of maintaining a network like CAN for building emerging organizations and sustaining their community development work. A VALER organizer stated that he firmly believes in the benefits of networks because people nearly always have something to offer in the future,

¹⁰ Proposition 227 was a 1998 voter initiative that requires all public school instruction be conducted in English.

¹¹ City of Stockton Press Release: “Battambang Sister City Delegation Visits Stockton” January 13, 2005.

especially in dealing with community organizing and increasing funding contacts. CAN has had success in convening cultural activities to additionally facilitate information technology networking and communications among member groups and local communities. For example, the Tamejavi Festival, a cultural exchange project held in Fresno in April 2002 and October 2004, brought together hundreds of people from around the Central Valley for a day of traditional music and performances by many of the CAN immigrant culture and self-expression programs.¹² The Tamejavi Festival serves to horizontally link multi-ethnic networks of community organizations and create spaces of trust and understanding, better enabling them to engage in informal political activities for social change. The Tamejavi Festival and year-round cultural gatherings provide numerous benefits, including: the creation of safe environments for cross-cultural learning; providing a public venue for cultural expression; build pride, voice, and unity among immigrant, migrant, and refugee communities; and also inspire new relationships and deepen cross-cultural understanding. These cultural programs are an integral part of the networking that takes place within the CVP and CAN groups. Once the trust and the building of relationships occur, the community and political organizing are the next steps.

Isao Fujimoto has identified a typology to describe CVP's organizing efforts with an eye to assist community organizing efforts. Fujimoto has divided the organizing strategies of the CVP partners into nine types as shown in Figure 6.

Each CVP organization utilizes one of the organizing strategies as defined by Fujimoto for their community action activities. For example, The Sacramento Valley Organizing Community and the Pacific Institute for Community Organizing utilize the Industrial Areas Foundations organizing methods, which are based on Saul Alinsky's (1971) aggressive, yet non-violent tactics of putting pressure on political leaders. The California Rural Legal Assistance Foundation uses strategies from the United Farm Workers, a union started by Cesar Chavez that in 1962 used non-violent organizing, marches, and protests to place pressure on both farm owners and politicians to increase the quality of life and civil rights of farm workers. The technology/research for the people strategy is used by the Compumentor, KNXTV (a TV channel), Youth in Focus, and the California Institute for Rural Studies; they all bring methods and information to marginalized communities for the purpose of using those resources to organize and create social change.

¹² The word Tamejavi is derived from the Hmong, Spanish, and Mixteco words for a cultural harvest market—Taj Iaj Tshav Puam, MErcado, nunJAVI.

Figure 6: Typology of Organizing Strategies

Strategy	Description	Groups Using Strategy
Industrial Areas Foundation	Aggressive community organizing but non-violent, placing political pressure on powerful individuals	Sacramento Valley Organizing Community Pacific Institute for Community Organizing
United Farm Workers	Union started by Ceasar Chavez, using non-violence and marches, boycotts and protests to place political pressure	California Rural Legal Assistance Foundation
Peace Church	Based out of the Quaker tradition, organizing for peace and justice	American Friends Service Committee Projecto Campesino, REAP
Liberation Theology	Emerged in Latin American as organizing based around working for social justice and questioning inequalities especially around land reform	El Colegio Popular
Popular Education	Popular education means education by the people, with the people, and for the people rooted in people's struggles for improving their life's and communities	Pan Valley Institute
Asset Based Community Development	Works with existing community resources and focuses on local knowledge and people	One on one Fresno Leadership Foundation
Faith Based Organizing	Community organizing based on a spiritual calling and using churches as organizing bases	Catholic Charities SVOC, El Colegio, San Joaquin Valley Organizing Program
Indigenous Organizing	Organizing using indigenous culture and identity as emphasis for empowerment and creating social change	Frente Indigena Oaxaqueno Binacional SJV Coalition for Immigrant Rights
Technology/ Research for People	Bringing technological resources to aid community organizing strategies and using participatory action research in organizing purposes	Compumentor, KNXTV, Youth in Focus, Non-profit communications, CIRS

Source: Fujimoto, personal communication with author.

Further analysis of the typologies of organizing strategies would be fertile ground for developing new theories of community development and political community organizing, particularly around the use of information technology. Further research is needed on how different strategies lead to various outcomes and when certain strategies are most useful, especially for identifying specific conditions that lead to concrete social change. The CVP's ability to bring a variety of diverse organizing groups (both ethnically diverse and diverse in terms of community organizing strategies) together and the resulting shared meaning created for community action, could characterize one of the most important outcome of CVP's and CAN's work. This points to the power of identity for political action and the strategic use of information technologies in harnessing this potential of action. Yet, measuring the networks' true success is based upon the political actions which stem from this increased network power. As shown, the networks have contributed to institutional change and increased political mobilization of immigrant populations. To do so, they have strategically used information technology as an organizing and communication tool. Although neither networks have a mission to explicitly create or use information technology, both have incorporated information technology into their organization in such a way that it helped build network power. In a sense, information technology becomes the glue that binds the network across space and cultural differences.

Conclusion

By studying networks "from below," from the grassroots, this paper has addressed a gap within the literature on social networks and community organizing. It analyzed how two community organizing networks, the Central Valley Partnership (CVP) and the Civic Action Network (CAN) have used information technologies to create a shared identity and then social change in California's Central Valley. The research sheds light on how community-based organizations increase their network power via the strategic use of information technology and the increased political action potential of multi-ethnic networks.

The study examined both the opportunities and constraints that emerge from the efforts of incorporating information technologies into the organizing strategies of grassroots groups. The strategies used by both networks are conducive to organizational strategies shaping what Castells (2000; 1997) terms the Information Age. The research finds that the two case study networks strategically use information technologies to their advantage to increase and strengthen the inter-connectivity of their network communication structure, thereby increas-

ing the power of their network. However, interview data reveal that participants felt that true collaboration only occurs when the groups are able to meet face-to-face and build the necessary trust to engage in mutual work. This building of trust and face-to-face communication is especially useful when breaking cultural barriers in creating a shared multi-ethnic identity based on a migration experience. Thus, information technologies helped to intensify the network structures once the trust and collaborative framework had been established between the diverse ethnic groups.

The study's main findings reveal the ways in which community development organizations work within a network structure and how they increase their resources based on sharing information and organizational strategies. Another main finding is the importance of using information technologies to intensify these communication networks, especially in a dispersed area such as California's Central Valley and specifically with marginalized ethnic groups. Like formal organizational structures "from above," these grassroots groups "from below" take advantage of information technologies to further their organizational goals. Lastly, the findings point to specific outcomes of social change created by both networks as they used their increased network power and their power of identity to place political pressure on mainstream governance institutions and gained resources for their constituents.

References

- Alinsky, Saul. 1971. *Rules for Radicals: A Practical Primer for Realistic Radicals*. New York: Random House.
- Brettell, Caroline and James Hollifield. 2000. *Migration Theory: Talking Across Disciplines*. New York: Routledge.
- Booher, David and Judith Innes. 2002. Network Power in Collaborative Planning. *Journal of Planning Education and Research* 21(3): 221-236
- Boyd, Monica. 1983. Family and Personal Networks in International Migration: Recent Developments and New Agendas. *International Migration Review* 23(3): 638-670.
- California Agricultural Statistics Service. 2004. Summary of County Agricultural Commissioners' Reports: Gross Values by Commodity Crops, California, 2002-2003. Sacramento: California Agricultural Statistics Service.
- _____. 2003. California Agricultural Overview, 2003. Sacramento: California Agricultural Statistics Service.
- _____. 2001. County Agricultural Commissioners Reports. Sacramento: California Agricultural Statistics Service.

- Capra, Fritjof. 2002. *The Hidden Connections: Integrating the Biological, Cognitive, and Social Dimensions of Life into a Science of Sustainability*. New York: Doubleday.
- _____. 1996. *The Web of Life: A New Scientific Understanding of Living Systems*. New York: Random House.
- Castells, Manuel. 2001. *The Internet Galaxy: Reflections on the Internet, Business, and Society*. Oxford: Oxford University Press.
- _____. 2000. *The Rise of the Network Society*. Second Edition. Oxford: Blackwell.
- _____. 1998. *End of Millennium. The Information Age: Economy, Society, and Culture*. Volume III. Oxford: Blackwell.
- _____. 1997. *The Power of Identity. The Information Age: Economy, Society, and Culture*. Volume II. Blackwell.
- _____. 1996. *Local and Global*. United Kingdom: Earthscan.
- _____. 1989. *The Informational City: Information Technology, Economic Restructuring and the Urban-Regional Process*. Cambridge, MA: Blackwell Publishers.
- Contractor, Noshir and Ann Peterson Bishop. 1999. *Reconfiguring Community Networks, The Case of PrairieKNOW*. Department of Speech Communication, University of Illinois, Urbana-Champaign.
- Cook, Karen and Joseph M. Whitmeyer. 1992. Two Approaches to Social Structure: Exchange Theory and Social Network Analysis. *Annual Review of Sociology* 18: 109-227.
- Heer, David. 1998. *Social Thought*. Edited by William Outhwaite and Tom Bottomore. Oxford: Blackwell.
- Hoff, Peter, Adrian Raftery, and Mark Hancock. 2002. Theory and Methods – Latent Space Approaches to Social Network Analysis. *Journal of the American Statistical Association* 97(460): 1090-1114.
- Great Valley Center. 2005. *The State of the Great Central Valley of California: Supporting the economic, social, and environmental well-being of California's Great Central Valley*. Modesto: Great Valley Center.
- Guarnizo, Luis and Michael Peter Smith. 1998 *Transnationalism from Below*. New Brunswick, New Jersey: Transaction Publishers.
- Logan, John R. and Todd Swanstrom. 1990. *Beyond the City Limits: Urban Policy and Economic Restructuring in Comparative Perspective*. Philadelphia, PA: Temple University Press.
- Luhmann, Niklas. 1995. *Social Systems*. Palo Alto: Stanford University Press.
- Marsden, Peter and Nan Lin. 1982. *Social Structure and Network Analysis*. Beverly Hills: Sage Publications.
- Massey, Douglas S. September 1995. The New Immigration and Ethnicity in the United States. *Population and Development Review* 21(3): 631-652.
- Mollenkopf, John M. and Manuel Castells. 1991. *Dual City: Restructuring*. New York: Russell Sage Foundation.
- Nunn, Samuel. 1999. The Role of Information Technologies in Community Development Organizations. *Journal of Urban Technology* 6(22): 13-37.

- Orfield, Myron. 1999. *Regional Challenges in California's Central Valley*. Minneapolis, MN. Metropolitan Area Research Corporation.
- Saxennian, AnnaLee. 1999. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge: Harvard University Press.
- Schuler, Douglas. 1996. *New Community Networks: Wired for Change*. New York: Addison-Wesley Publishing.
- Scott, Allen. 2001. *Global City Regions: Trends, Theory, Policy*. New York: Oxford University.
- _____. 1998. *Regions and the World Economy*, Oxford: Oxford University Press.
- Scott, John. 2000. *Social Network Analysis: A handbook*. London: SAGE.
- Smith, Michael Peter and Luis Eduardo Guarnizo. 1999. *Transnationalism from Below, Comparative Urban and Community Research, Volume 6*. Brunswick, New Jersey: Transaction Publishers.
- Smith, Michael Peter. 2001. *Transnational Urbanism: Locating Globalization*. Oxford: Blackwell.
- Tsuji, Ryuhei. 2001. Social Network Analysis by Wasserman and Faust: Its Value and Position in Social Network Analysis. *Sociological Theory and Methods* 16(2): 253-259.
- Wagner, Dorothea. 2003. Analysis and Visualization of Network Analysis. *Lecture Notes on Computer Science*. Springer Publishing 26: 261-266.
- Wasserman, Stanley, Katherine Faust, and Vladimir Batageli. 1998. Social Network Analysis, Methods and Applications. *Psychometrika* 63(3): 103-110.
- Wasserman, Stanley and John Scott. 1996. Advances in Social Network Analysis in the Social and Behavioral Sciences. *The British Journal of Sociology* 47(2): 374-385.
- Wellman, Barry. 1983. Network Analysis: Some Basic Principles. *Sociological Theory* 1: 155-200.
- Winters, Paul, Alain de Janvry, and Elisabeth Sadoulet. 2001. Family and Community Networks in Mexico-U.S. Migration. *Journal of Human Resources* 36(1): 159-184.

Gerardo Sandoval is a PhD student in the Department of City and Regional Planning at the University of California, Berkeley. His research focuses on the intersection of economic and community development in immigrant, rural, and inner-city neighborhoods. He wishes to express his gratitude to University of California, Davis Professor Isao Fujimoto for his mentorship and guidance throughout their together work in the Central Valley of California.