

# **What are the Potential Effects of Technology in Affordable Housing Construction on the Development of Social Capital By Community-based Development Organizations**

Rex L. LaMore<sup>1</sup>

## **Abstract**

This paper explores the potential effects on the development of social capital by community-based affordable housing organizations (CBAHO's) as a result of the introduction of new housing technology intended to increase the production of affordable housing units. The paper also examines the implications of Diffusion Theory in the adoption of new housing technology by these civic institutions. The paper posits that there exists a relationship between the creation of social capital, the construction of affordable housing by CBAHO's and the application of new technology in housing construction/rehabilitation. Understanding the nature and scope of these complex relationships could have a significant effect on to the introduction of new means of affordable housing production within these organizations and the building of social capital within communities in which they exert primary influence.

**Keywords:** Community-based affordable housing organizations (CBAHO's), Housing technology, Diffusion theory, Housing construction/rehabilitation, Social capital

## **Introduction**

Estimates by the National Association of Home Builders (NAHB, 2001) suggest that one in four households in our nation face a serious housing affordability crisis, others argue that our civil society is at risk as a result of a serious civic paralysis resulting in social isolation and a loss of "community" (Murphy and Cunningham, 2003). The nation finds itself in a time of severely constrained resources challenging us to devise new and creative ways of rebuilding our housing infrastructure while also reinvigorating our civic society. The traditional policy choices between "place-based" redevelopment versus "people-focused" strategies are neither feasible nor affordable. Innovative comprehensive methods that efficiently produce affordable housing while simultaneously strengthening our civil society must be developed and implemented.

This paper explores the potential effects on the development of social capital by community-based affordable housing organizations (CBAHO's) as a result of the introduction of new housing technology intended to increase the production of affordable housing units. The paper also examines the implications of Diffusion Theory in the adoption of new housing technology by these civic institutions. The paper posits that there exists a relationship between the creation of social capital, the construction of affordable housing by CBAHO's and the application of new technology in housing construction/rehabilitation. Understanding the nature and scope of these complex relationships could have a significant effect on to the introduction of new means of

---

<sup>1</sup> State Director of the Michigan State University, Center for Urban Affairs, Community and Economic Development Program, Email: lamore@msu.edu

affordable housing production within these organizations and the building of social capital within communities in which they exert primary influence.

## Community-Based Affordable Housing Organizations

The production of affordable housing presents significant challenges to public, private and non-profit institutions. The obstacles of finance, construction and management are often overwhelming. In recent years as government has sought to reduce its principal role in the production and management of affordable housing greater importance has been placed on the private sectors role in the construction of affordable housing. With few exceptions, affordable housing production has become the principal domain of private non-profit organizations (Mourand, 2001). These Community-Based Affordable Housing Organizations (CBAHO's) are able to leverage public and private financial resources to finance affordable housing construction and mobilize local citizens to facilitate all aspects of the development process. The ability of CBAHO's to overcome these significant challenges to affordable housing production is in part due to their skilled production capacity but it is also attributable to such other factors as their networking, political, organizational, programmatic and resource capacity.

Glickman and Servon suggest that overall capacity Community based development organizations may be understood in terms of five interacting components (see Figure 1). According to Glickman and Servon, resource capacity reflects an organization's ability to "attract, manage, and maintain funding." Organizational capacity refers to the capability of a group's "internal

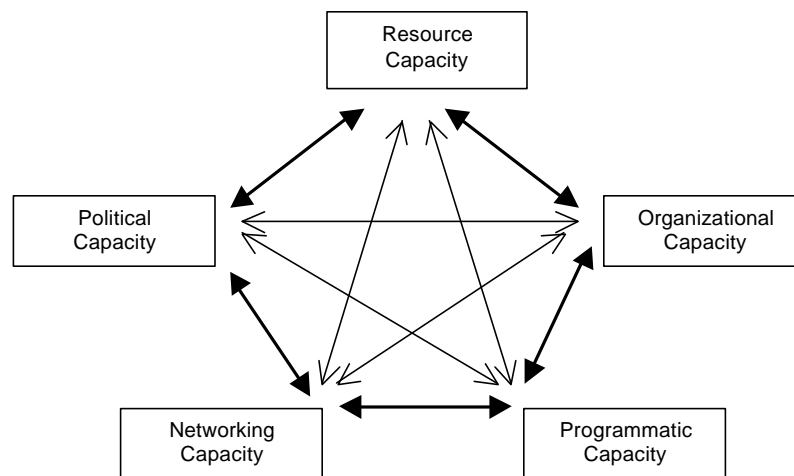


Figure 1. Interaction among Capacity Components (Glickman and Servon, 1998, p. 505)

operations.” Programmatic capacity “measures the types of services offered.” Networking capacity reflects ability to “interact and work with other institutions.” Political capacity is the “ability to credibly represent its residents and to effectively advocate on their behalf” (1998, pp. 503-504). In a study conducted by the Michigan State University, Center for Urban Affairs (2001) on the production efficiency<sup>2</sup> of CBAHO's in Michigan, they found that the capacity of these organizations to produce the needed affordable units “offers little promise that the

<sup>2</sup> Production efficiency in this study was defined as the “on-time/on-budget” construction of units of affordable housing.

nonprofit sector alone will resolve the affordable housing crisis”. The Michigan State University researcher’s noted that an important dilemma is confronting CBAHO’s. They discovered that there is an important need to balance the housing productivity goals of these organizations and their goals of community building. They noted that if CBAHO’s are forced to choose to increase their housing production capacity at the expense of continuing to meet other community needs, the loss in terms of community building may ultimately outweigh the gains in housing units constructed.

Daniels, Barbe and Seigle (1981) argue that an essential component of any comprehensive community revitalization strategy that is intended to address the inequities of social and economic structures (such as affordable housing construction) must derive from a community-based strategy. They note;

“From the viewpoint of the residents of low-income communities, community-based efforts are necessary to overcome distributional inequities and uneven development in the national economy. These inequities have had obvious results: unemployment rates at levels consistently above the national average; lack of control over and access to the community’s economic and financial institutions; and a shortage or absence of the organizational and institutional arrangements that are needed to promote economic growth.

Community-based development efforts present a “bottom-up approach that is most responsive to these inequities. A bottom-up approach recognizes that CBO’s (community-based organizations) are in a unique position to participate in economic activities: local residents can tailor a development strategy to satisfy their needs and priorities.”

They go on to note that community-based development is “one of the few methods of “harnessing the energy and expertise of residents in local development strategies.” or as we will examine later, social capital scholars might suggest, community-based development utilizes the social networks of a community for the improvement of the economic and physical conditions of that community.

A 1998 study conducted by National Congress for Community Economic Development estimated there are approximately 3,600 such groups across the United States in urban and rural communities. Since the emergence of these organizations in the late 1960s, they have produced 247,000 private sector jobs and 550,000 units of affordable housing. ([www.ncced.org](http://www.ncced.org)). These organizations perform a variety of critical functions at the local level. Kingsley, McNeely and Gibson (1999) identify seven themes that define the essence of these institutions. They are:

1. Focused around specific improvement initiatives in a manner that reinforces values and builds social and human capital.
2. Community-driven with broad resident involvement.
3. Comprehensive, strategic and entrepreneurial.
4. Asset-based.
5. Tailored to neighborhood scale and conditions.
6. Collaboratively linked to the broader society to strengthen community institutions and enhance outside opportunities for residents.

## 7. Consciously changing institutional barriers and racism.

The importance of these CBAHO's to the production of affordable units is evident. We will discuss in the next section their equally important role to the creation of strong and vibrant communities in a democratic society in the next section.

### **The Nature of Social Capital**

The term 'social capital' as defined by Robert Putnam in his groundbreaking book Bowling Alone: The Collapse and Revival of American Community (2000), refers to the social networks that exist between people. Putnam maintains that these social networks create value for people who are connected and occasionally for bystanders. He notes that social capital exists in the information flows that occur between residents of a community, the mutual aid that they provide each other, and their ability to act collectively. Social capital can be found in both formal and informal associations including civic associations, friendship networks, schools, churches, bridge clubs and other institutional networks that engage people in collective action (Putnam, 2000).

Putnam suggests that one of the major challenges we confront in creating a healthy viable community's is overcoming "civic disengagement" and the "lost sense of community". Others suggest that the value of social capital is that "it can produce economic benefits and if neglected, economic disadvantages. (Robison, L. 2002, pg. 1)" Robison and colleagues argue that social capital is an important resource in poverty reduction, and efforts to reduce poverty through physical redevelopment, financial investment and human development, depend on social capital (ibid. pg. 3).

The loss of social capital has severe implications for the quality of life in communities and the broader society. The lack of social capital reduces the ability of people to work together (Fukuyama, F. 1995, pg. 10) and has a detrimental effect on their social and economic condition. Where people do not look out for the interest of their neighbors the community is extremely vulnerable to lawlessness, economic decline and a decreasing quality of life. Successful communities depend on mutual trust and shared norms (Fukuyama, F. 1995, pg. 25). Where there is a high level of social capital the transaction cost of doing business are less than in communities where there is limited social capital. Additionally, where high levels of trust and social capital exist individuals are more likely to take risk and be innovative in their daily pursuits (Fukayama, F., pg.27). The collaborative behavior that is facilitated by a high level of social capital enables communities to address a variety of complex social and economic challenges. As noted by Clay and Hollister (1983) "the neighborhood is a uniquely linked unit of social/spatial organization between the forces and institutions of the larger society and the localized routines of individuals in their daily lives" (Clay, P. 1983, pg. 4). Vibrant, effective neighborhoods support and nurture creative, talented individuals and families who are able successfully address complex social, environmental and economic challenges.

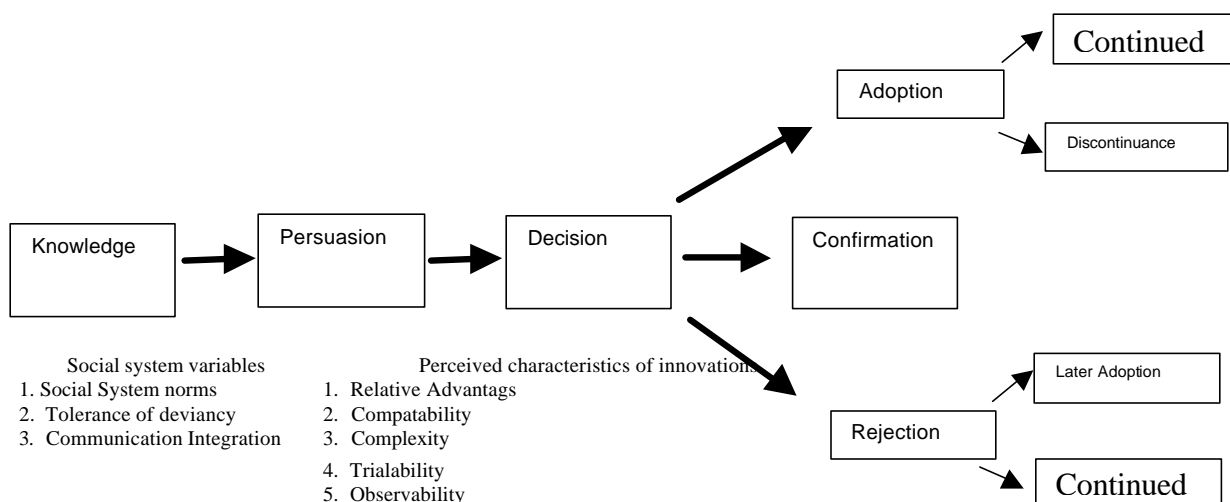
The revitalization of the built environment in distressed communities is in part contingent on the social capital of these communities and those social networks that exist in community-based organizations, including those engaged in affordable housing production. These CBAHO's have the capacity to integrate the development of social capital and the construction of affordable

units of housing. They accomplish this through the utilization of local social networks, the application of sound construction practices and by developing collaborative links with the broader society to mobilize resources and expertise.

## The Potential Effects of Technology in Housing Production and the Development of Social Capital

Increasing the units of production and improving the production efficiency of CBAHO's by introducing more efficient and effective means of housing production has the potential of addressing some of our most critical affordable housing shortages. Such accessible technologies as computer-based materials management, accounting and purchasing systems could go a long way in improving affordable housing production by many CBAHO's. The development, dissemination and application of "state-of-the-art" materials and construction methods, could significantly improve the cost, efficiency and ultimately the number of available affordable units of housing. However, the introduction of technology may produce other, less desirable/unintended outcomes in CBAHO's and the communities they serve. An informed dissemination strategy that values the community-building functions of these organizations has the potential to improve production while simultaneously contributing to the rebuilding of the social fabric of our democratic civil society.

The seminal work on diffusion theory, *Communication of Innovations* by Rogers and Shoemaker (1971) identify a number of important theoretical considerations. Their paradigm of the "Innovation-decision Process" identifies four critical stages of the adoption of an innovation (See Figure 2) that individuals go through.



**Figure 2. Simplified Paradigm of the innovation-decision process**

While this paradigm was developed though observing the behavior of individuals, it has relevant application to the processes organizations also undertake in adopting innovation. As Figure 2 indicates the stages of adoption include:

- 1.) *Knowledge*: The individual (or in our context the CBAHO) is exposed to the innovations existence and gains some understanding of how it functions.
- 2.) *Persuasion*: The CBAHO forms a favorable or unfavorable attitude toward the innovation.
- 3.) *Decision*: The CBAHO engages in activities which lead to a choice to adopt or reject the innovation.
- 4.) *Confirmation*: The CBAHO seeks reinforcement for the innovation-decision they have made. At this stage they may reverse their previous decision based on the feedback (positive and negative) that the organization receives about the innovation.

While the brevity of this paper does not permit a thorough analysis of the implications of Diffusion Theory to the adoption of new housing technology by CBAHO's, a synopsis of potentially key components is offered to highlight the need for more research in this important area.

Diffusion theory introduces the concept of "key leaders" and "early innovators". These are individuals and organizations, who are generally risk takers who have prestige and credibility in a community. The successful adoption of innovation by these individual/organizations has the potential to magnify the scope and speed by which innovation is disseminated in a community or constituent network.. Diffusion theory would suggest that a strategic set of actions targeting key leaders in the CBAHO's movement at the state and local level might facilitate the wide and rather quick distribution of innovation.

We see from Diffusion Theory that elements of *persuasion* and *confirmation* are critical to a successful outcome. In this regard a number of impediments to adoption must be considered. For example, many CBAHO's rely on volunteers for the production of affordable housing. One need only examine the Habitat for Humanity chapters to affirm this observation. Community volunteer support is a critical element of the nature of these organizations. Volunteer mobilization is facilitated by the social capital, community building activities, these organizations undertake. To the extent that the adoption of technology in affordable housing production challenges the role of volunteers in these organizations then the potential for adoption may be hindered. While neighbors may actively support and old fashion barn-raising event, where their limited professional housing production skills can be put to use, in a situation where specialized training in construction or materials management may be necessary, they will perceive their contribution to be much less significant. Undermining the role of volunteer labor in these organizations can have a serious effect on their ability to create and strengthen social capital within a community.

Another potential impediment to the adoption of advanced production methods in housing construction surfaces when we consider the need for specialized training on the part of the employees and leaders of CBAHO's. As we have seen from our earlier discussion examining the nature of these organizations, CBAHO's are lead by and usually employ local residents. Their reliance upon indigenous leadership and local residents is critical to the community building

functions of these organizations. They are by their very nature locally controlled, locally managed organizations. The level of professionalism within these organizations is a reflection the skills of the community in which they exist. Unfortunately, for numerous reasons, within many distressed communities this professional skill base is very limited. To the extent the introduction of highly specialized housing production technology, relies on a highly trained and professionally skilled work force and leadership cadre, the introduction of this technology has the potential to displace the indigenous community in these organizations. This would be disastrous to the community building functions of these organizations and raises a set of serious impediments to the introduction of innovative technology in these settings.

Finally, in examining the dissemination of innovation in housing technology to these organizations an obvious impediment to adoption presents itself. This impediment is the access to the financial capital to either purchase the necessary equipment/technology and the capital necessary to train the employees or hire the appropriate skilled professionals. The financial cost of new production methods by these organizations may put any technology investment options beyond their realm of consideration. This impediment is so critical that until an innovative way of financing the modernization of CBAHO's is devised, it is highly unlikely that any significant progress will be made in improving the affordable housing production capacity of these organizations through the introduction of improved means of production. .

## **Summary and Conclusion**

This paper has explored the potential effects that technological innovation within CBAHO's may have on their production of social capital within distressed communities. A number of critical research questions are evident including; the development a diffusion model that more accurately describes the processes of adoption by CBAHO's , the relationship between technology-based housing production methods and social capital production by CBAHO's, the effects of technology on local employment and training within CBAHO's, and innovative models of financing the adoption of technology by CBAHO's.

Perhaps our greatest challenge will not be the development of new technologies in housing design and construction, but the sensible and sensitive application of these innovations. The prudent introduction of technology in community based affordable housing organizations has the potential to support the much needed construction of affordable housing, build social capital, and rehabilitate the built environment in some of our most challenged communities. Such a public policy must be guided by an informed diffusion of innovation strategy that recognizes the nature of these organizations, values their dual functions of housing development and community building and accurately identifies the potential impediments the dissemination of new technology may face in this context. This article has briefly outlined some of these challenges and opportunities such a policy may face in its development and implementation.

---

<sup>3</sup> *The combined endowments of Michigan State University and the University of Michigan, the two largest endowments of Michigan's 15 public universities and colleges ,are valued in excess of \$4 billion in 2003. So an investment of 10 million would represents ¼ of 1% of the current endowments of these two institutions.*

## References

- Clay, Phillip L. & Hollister, Robert M.(1983), Neighborhood Policy Planning, Lexington Books, Lexington, MA.
- Daniels, B.; Barbe, N.; and Seigle, B.(1981), “ The Experience and Potential of Community-based Development “, Expanding the Opportunity to Produce, The Corporation for Enterprise Development, Washington, D.C.178.
- Fukuyama, Francis.(1995) Trust: the Social Virtues and the Creation of Prosperity. Free Press, New York..10.
- Glickman, Norman and Servon, Lisa.(1998) “More than Bricks and Sticks: Five Components of Community Development Corporation Capacity.” *Housing Policy Debate*, 9:497-540.
- Kingsley, T., McNeely, J., & Gibson, J. “Community Building: Coming of Age’. Retrieved July 15, 1999 from <http://www.ncbm.org> .4-9.
- Michigan State University, Center for Urban Affairs (Oct. 2001). “Organizational Capacity and Housing Production: A Study of Nonprofit Organizations in Michigan”. E. Lansing, Michigan. 27-28.
- Moufad, Moustafa.(2001) “Comprehensive Community Development: Back to Basics.” *Enterprise Quarterly* (Spring), 18-19.
- Murphy, Patricia W. & Cunningham, James V. (2003). Organizing for Community Controlled Development; Renewing Civil Society, Sage Publications, Thousand Oaks, CA., 3.
- National Association of Home Builders, “Decent, affordable Housing. It’s the American Dream”, Retrieved Nov. 1, 2003 from <http://nahb.org/page.aspx/category/section ID=207> 2001.
- National Congress for Community Economic Development, Retrieved Oct. 10, 2003 from <http://www.ncced.org/> “about us” Washington, D.C.
- Orfield, Myron & Luce, Thomas (April 2003). Michigan Metropatterns, Ameregis Metropolitan Research Corporation, Minneapolis, Minn.1.
- Putnam, Robert (2000). Bowling Alone: the Collapse and Revival of American Community. Simon & Schuster, New York,
- Putnam, Robert. Bowling Alone: the Collapse and Revival of American Community. Retrieved Sept. 10, 2003 from <http://www.bowlingalone.com/socialcapital.php3>.
- Robinson, L., Siles, M. & Schmid, A.(July 2002), “Social Capital and Poverty Reduction: Toward a Mature Paradigm” Michigan State University, Agricultural Economics Report #614, East Lansing, Michigan, 1.



Rogers, Everett and Shoemaker, F. Floyd, (1971). Communications of Innovation: A Cross Cultural Approach., The Free Press, New York, 100-120.