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Community Carrying Capacity

A Network Perspective

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Scholars have explored the idea of the determinants of the size of the nonprofit sector as a linear relationship between supply of resources and the demand for nonprofit services. This in turn has fueled debate about whether there are too many nonprofits for available resources. In this article, we propose that the scarcity (or abundance) of resources does not inherently determine the limits of a community's nonprofit "carrying capacity". Rather, network exchanges between nonprofits and other organizations may exhibit positive synergistic effects that are associated with diverse outcomes. We therefore propose a model of nonprofit carrying capacity that shifts the discussion to the ability of a community to support network exchanges among independent agents.

Keywords: *nonprofit organizations; theory; networks; carrying capacity*

Why does the size of the nonprofit sector differ dramatically across geographical communities? Why do some communities support a larger, more vibrant, and more effective nonprofit sector than others? Population ecologists have studied this question of the "carrying capacity" of communities—the number of organizations that can be supported by resources in a particular environment (Anheier, 2005; Roughgarden, 1979). In a similar manner, scholars have explored the idea of the determinants of the size of the nonprofit sector in a particular community as a linear relationship between the supply of resources and the demand for services (Corbin, 1999; Grønbjerg & Paarlberg, 2001; Matsunaga & Yamauchi, 2004).

Supply approaches to carrying capacity assume that nonprofits in a community face a fixed pool of inputs determined by the human and philanthropic capital of the community and also that nonprofits deliver a single output—tangible service delivery. They lead us to expect that communities with similar stocks of human and financial resources will have similar densities of nonprofit organizations; in addition, that

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once a community with a particular stock of human and financial resources reaches the optimum level of organizations, then the health of the sector will decline as competition for resources increases (Eggers, 2004; Maryland Association of Nonprofit Organizations, 2007).

Scholars who take a supply approach to community carrying capacity take inventory of the types and number of resources possessed in a given geographical community, considering them to be determinants of the number of nonprofit organizations to be found there (Ben-Ner & Van Hoomissen, 1991; Corbin, 1999; Grønbjerg & Paarlberg, 2001; Joassart-Marcelli & Walsh, 2003). Their studies generally include measures of the social and institutional structures in which nonprofit organizations are embedded. Formal relationships between nonprofits and institutions, including government and corporate leaders (Baum & Oliver, 1992) and informal interactions between peer organizations (Lincoln, 1977; Wiewel & Hunter, 1985), provide legitimacy and resources necessary for nonprofit founding and survival. Other studies have incorporated measures of social cohesion and stability as indicators of the exchange relationships within social communities (Corbin, 1999; Grønbjerg & Paarlberg, 2001).

Yet studies of carrying capacity have not fully captured the synergies of networked relationships in empirical analysis. Nor have concepts of interorganizational relationships been systematically applied. In this article, then, we build on earlier research and the concepts of network relationships and interorganizational relationships to propose that the scarcity (or abundance) of a fixed pool of human, financial, and social resources does not inherently define a community's nonprofit carrying capacity. We propose, alternatively, that the nonprofit carrying capacity of any geographic community is a function of the relationships among diverse agents and that exchanges between nonprofits and other organizations in such communities and the broader interorganizational fields in which they are embedded may produce positive synergistic effects (Lasker, Weiss, & Miller, 2001; Porter & Powell, 2006). Such interactions are associated with potentially diverse outcomes and ultimately expand the overall pool of resources available to organizations. Theories of network exchange lead us to measure the nonprofit carrying capacity of a community according to its capability to support network exchanges among independent agents, keeping both proximity and the organizational fields in which they are embedded in mind as discriminating variables.

Our article challenges assumptions that a geographic community's ability to support a population of organizations is limited by the sum of resources within that community, what we later refer to as a "linear input-output model". Alternatively, we argue that a community's ability to support a population of organizations is a function of that community's ability to engage effectively in complex webs of exchange and dependency within a broader organizational field. These exchanges are moderated by the following conditions: the reciprocity of exchange among organizations (Condition 1), capabilities of exchange (Condition 2), the process (number and quality of interactions)

that describes this exchange (Condition 3), and the coordinating structure that govern exchange relationships (Condition 4).

We begin by describing a network approach and the potentially synergistic effects of network exchanges in the context of the nonprofit sector. We then describe the four conditions that moderate network synergies and which affect on the level of a community's nonprofit carrying capacity. We offer examples of how these concepts may apply to the study of nonprofit carrying capacity. We conclude by discussing how this perspective contributes to the building of theory for the study of nonprofits.

A Network Approach

A network approach conceptualizes how interconnected agents (people and organizations) in a particular field (Davis & Marquis, 2005; DiMaggio & Powell, 1983) exchange economic, social and intellectual goods (Burt, 2004; Laumann, Galaskiewicz, & Marsden, 1978). The field may include individual and organizational consumers, key suppliers and producers, competitors, regulatory agencies, and other organizations that produce similar products or services (DiMaggio & Powell, 1983). Agents—both individual and organizational—may interact in collaborative or competitive relationships and can be connected to each other through a variety of social and economic relationships including informal social relationships, supplier relationships, financial and human resource flows, trade association memberships, interlocking directorates, and prior strategic relationships (Gulati, 1998; Laumann et al., 1978). For the purposes of our model development, we include in our discussion here all types of networks, including those that occur within the bounds of geographic location or broader external organizational fields. We include those that are coordinated through formal and informal mechanisms, as well as vertical and flat structures.

The Potential Synergies of Nonprofit Networking

Networking has proved time and again to provide synergies that result in positive outcomes for individual participants, organizational participants, and communities (Porter & Powell, 2006). A review of network research suggests that exchanges among organizations are positively associated with more effective service delivery, innovation and entrepreneurship, and enhanced civic engagement.

Networks play an increasingly important role in delivering public services (Isett & Provan, 2005; Kettl, 2006; O'Toole & Meier, 2001). Service delivery networks are particularly effective responses when the complexity of issues exceeds the capabilities and resources of individual organizations (Musso, Weare, Oztas, & Loges, 2006; Raab & Milward, 2003). Interorganizational linkages allow organizations to make use of tangible and intangible resources that are outside of their direct control

(Baum & Oliver, 1992; Galaskiewicz, 1997; Porter & Powell, 2006), allowing organizations to pool skills and staff, ideas, and other resources across organizations (Powell, Koput, & Smith-Doerr, 1996). Such exchanges may lead to organizational and systemic benefits, such as cost savings, enhanced expertise and capacity of all organizations, transfer of good practices, and promotion of more effective problem solving (Hansen & Nohria, 2004; Provan, Veazie, Staten, & Teufel-Shone, 2005; Selden, Sowa, & Sandfort, 2006), as well as to higher quality outcomes for service beneficiaries (Selden et al., 2006; Small, 2006).

Earlier studies of nonprofit sector size have suggested that the presence of other organizations in a geographic community—both nonprofit (Lincoln, 1977) and for profit (Galaskiewicz, 1997)—may be an important predictor of organizational growth and development. For example, Wiewel and Hunter (1985), in a study of community development organizations in differing urban neighborhoods, found that the growth of nonprofits is dependent on the exchange of resources. Such exchanges are not limited to exchange between nonprofit organizations. For example studies of interlocking boards found that corporate board linkages provide a valuable source of information for business leaders about nonprofit activities (Galaskiewicz & Wasserman, 1989) and open access to company foundation and contribution committees, ultimately increasing corporate contributions to nonprofit arts organizations (Galaskiewicz & Rauschenback, 1988).

Networks have also been shown to be related to innovation and entrepreneurship: the likelihood that organizations will adopt a particular technology or technique, discover a totally new solution, or even launch a new venture (Burt, 2004; Powell et al., 1996). Knowledge is created and stored in the context of fluid and dynamic interactions (Agranoff, 2005; Florida, 1995; Powell et al., 1996). When organizations no longer hold all of the knowledge necessary to solve a complex problem, innovation can occur within a set of interorganizational interactions rather than in an individual agent (Burt, 2004; Powell et al., 1996), enabling organizations to learn what worked in other contexts and diffusing new ideas and work practices (Pittaway, Robertson, Munir, Denyer, & Neely, 2004).

Interactions among organizations also allow organizations to reduce the risk associated with starting a new project by sharing necessary tangible and intangible resources (Hoang & Antoncic, 2003; Pittaway et al., 2004; Schneider, Teske, & Mintrom, 1995). Interorganizational networks may provide legitimacy for new activities (Wiewel & Hunter, 1985), reducing the uncertainty for potential investors (Hoang & Antoncic, 2003). For example, new or less visible organizations developing relationships with larger, more established organizations may build public confidence in new services, attracting customers and other investors (Stuart, 2000). Ultimately innovations become available to all organizations within a network and not just those which generate a new idea, expanding the pool of resources available to all (Cohen & Fields, 2000; MacKinnon, Cumbers, & Chapman, 2002).

Finally, network interactions in social and business settings are productive (Burt, 2004) in that they facilitate the development of a shared vision or mindset (Tsai &

Ghoshal, 1998), trust building, the development of civic skills, and the transmission of information about community interactions across social and class boundaries. Such interactions are self-reinforcing and cumulative (Putnam, 1993), increasing the likelihood that individuals will engage in future interactions and exchanges. Several studies of the growth of the nonprofit sector specifically have indeed found that nonprofit organizations flourish in smaller and stable communities in which there are higher levels of trust and familiarity (Grønbjerg & Paarlberg, 2001). In explaining why the communities of north-central Italy have higher levels of civic engagement than the communities of "uncivic" regions, Putnam (1995) explained, "Networks of civic engagement embody past success at collaboration, which can serve as a cultural template for future collaborations" (p. 67).

The Cost of Exchange Within Networks

Although resource exchanges within networks can produce positive synergistic effects, they do not always lead to positive outcomes. Forming, motivating, and sustaining interorganizational relationships is difficult and costly (MacKinnon et al., 2002; O'Toole & Meier 2001). For example, interorganizational collaborations can increase the complexity of decision making (Stone, 2000). Mixing of values, organizational structures, missions, and experience can create conflict and tension within networks, increasing the costs of service delivery (Kettl, 2006; Rainey & Bozeman, 2000). Network structures may in fact hinder efficient management, particularly when human tendencies toward self-interest emerge and the absence of collective motivation leads to lack of participation (Burt, 1992; Raab & Milward, 2003).

In addition, as social exchanges become less rewarding or important to members of a network, checks on accountability and reliability are likely to decrease (Krackhardt, 1994). When actors have too many linkages to other actors, they may have difficulty operating independently and they may decrease their capacity to participate effectively in any network. In fact, empirical research demonstrates that networks themselves have a limited carrying capacity and each agent in a network may have a limit on the number of links that it can maintain (Monge, Heiss, & Margolin, in press). Moreover, not all organizations benefit equally from network exchanges (Arya & Lin, 2007).

In the following section, we identify the conditions under which network exchanges among nonprofit organizations may have positive synergistic effects for all organizations in the community, producing outcomes—such as innovation or heightened civic engagement—that far exceed the value of the original resources contributed to the exchange.

Reconceptualizing Carrying Capacity Using a Network Perspective

As discussed in the Introduction, earlier models of carrying capacity suggested that the size and vitality of a nonprofit sector in a geographical community is linked

in a linear fashion to the stock of human and financial resources residing within that community. In contrast, a network exchange perspective leads us to see nonprofit carrying capacity as dependent on exchange of such resources between organizations. However, in the light of the potential costs, as well as the benefits, of interorganizational networking outlined in the previous section, we propose in this section that the value of networking for a community is realized only under specific conditions; conditions that we have drawn out from earlier research, including concepts from network science. These conditions are described below and include the reciprocity of exchange among organizations (Condition 1), the requirements of capabilities of exchange (Condition 2), the process (number and quality of interactions) that describes this exchange (Condition 3), and the coordinating structure that governs exchange relationships (Condition 4).

Condition 1: Reciprocal Nature of Exchange

The first condition we suggest is that nonprofit carrying capacity is a function of the reciprocal nature of exchange. A network exchange model of carrying capacity would focus on the formal and informal reciprocal exchanges between peer organizations, as well as the two-way relationships between organizations and institutions, such as government, corporations, and foundations. Although each individual nonprofit organization might have a large number of resources including funding, staff, facilities, and social linkages exist between organizations, these resources alone do not support a community's carrying capacity unless and until they are exchanged across organizations.

Thus Wiewel and Hunter (1985) found in their study of community development organizations in an urban community that being located in a community that had resources created no value for nonprofits unless those resources were exchanged. Similarly, in a study of the comparative development of technology clusters in Silicon Valley and Route 128 in Boston, Saxenian (1994) concluded that although both regions were initially endowed with similar resources, Silicon Valley prospered because of the high level of formal and informal exchange of resources across diverse organizations. In contrast, technological development in the Boston Area lagged as a result of a culture of "secrecy and self-sufficiency."

In short, reciprocity allows parties to share and leverage information and resources and remain connected to one another. The likelihood of two organizations (or more) reciprocating (both receiving and giving resources to each other) will increase the likelihood of continued exchange (Ring & Van de Ven, 1994). "One of the general expectations regarding the effects of interaction is that cooperative behavior will ordinarily be made more likely by the other's cooperation" (Schellenberg, 1965, p. 160).

Some exchange relationships between nonprofits may be formal, such as the interactions that occur as the result of strategic partnerships that coordinate service

delivery. Other exchanges may involve the informal exchange of information at community meetings. Some may be unintentional, such as the free flow of staff and volunteers across organizations. Transactions may include tangible goods, such as financial and physical resources, as well as less tangible resources, such as moral support, advice and knowledge sharing among individual employees or social friends (Guo & Acar, 2005; Laumann et al., 1978). LANs (local area networks) are sometimes created "to discuss common concerns, share information about each other's activities, and discuss obstacles to their working cooperatively. Often they review individual client cases in an attempt to coordinate services."(Snavely & Tracy, 2000, p. 158).

Rather than assuming a one-way direction of resource exchange, from institutional giver to nonprofit recipient, a network exchange perspective suggests that nonprofits can also provide resources to government and philanthropic institutions, such as specialized expertise (Gazley & Brudney, 2007), legitimacy, and access to communities that they would otherwise not reach. Although previous studies suggest that there is generally a positive relationship between government aid and the size of the nonprofit sector (Bielefeld, 2000; Salamon, 1987), a network exchange approach would also take into consideration the synergistic value of nonprofits on institutional actors. For example, in describing the role of local community-based nonprofits, Deschenes, McLaughlin, and O'Donoghue (2006) described the importance that nonprofits play in connecting disadvantaged individuals to government programs that were otherwise inaccessible to them.

Condition 2: Capability for Exchange

Earlier linear input-output models of carrying capacity measured capacity as the human and financial capital available in a community, while a network exchange perspective also includes the capabilities necessary to develop and maintain relationships of exchange across agents. Creating and maintaining interorganizational relationships requires commitment of time and energy and costs of coordination that are rarely included in budgets (Cummings & Kiesler, 2005). A network exchange perspective assumes "relationship intelligence"; a situation in which organizations consider the exchange possibilities that offer positive synergies and strategies in which the benefits of participation outweigh the costs. Organizations must possess stocks of relationship skills and knowledge that allow them to begin and maintain relationship, including how to structure exchange relationships, how to evaluate resources exchanged, and how to budget for exchange costs (Linden, 2002; Powell et al., 1996; Sagawa & Segal, 2000). Increasingly, organizations need access to the internet and computing technology, such as e-mail, work sharing programs, and other collaborative online technologies that facilitate interactions across organizations and individuals (Norris, 2001).

Condition 3: Process of Exchange

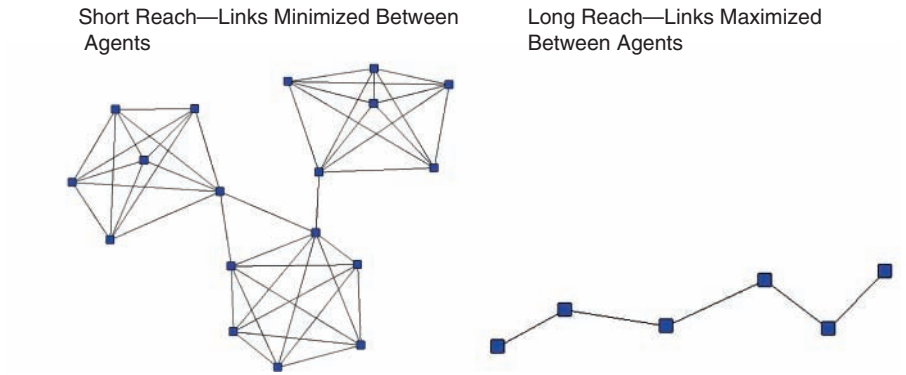
The third condition we propose refers to the process of exchange among a network of organizations as it relates to two primary characteristics: how members of a network are connected (connectivity) and the quality of their connections (strength of ties and the level of trust among members). Research on network exchange (e.g., Burt, 1992; Granovetter, 1973) has emphasized how connectivity and quality are related to embeddedness within a network and to an actor's ability to take advantage of position and quality of relationships within a network.

Connectivity. Connectivity refers to the overall "reach" among the actors in the network, that is, how many network actors it takes to reach other actors of the network. Some actors can reach each other through a direct (short) connection (A is connected to B), whereas other actors have a longer reach (A knows B, B knows C, so A must go through B to reach C), and so on (the more actors, the longer the possible reach between them). In some communities, networks of organizations may cluster closely together (a short reach), whereas in others, there may be a long reach between most members. In Figure 1, each dot is an "actor"; that is, a person, organization, or whatever is being considered in a network analysis. The lines between each dot indicate the presence of a relationship between those two actors and the lack of a line represents the absence of a relationship. The relationship is defined by the network analyst—it can be a friendship tie, a kinship tie, or may represent an exchange relationship (the focus in this particular discussion). The number of "links" between network members can indicate how easy or difficult it might be to exchange resource and coordinate information sharing (Burt, 1992).

In communities where groups of people or organizations are clustered into cliques (small groups of actors with a short reach), bridging ties between clusters can bring positive benefits, especially when resources previously unavailable are connected through these bridging ties. There may be a strategic advantage to those organizations that act as bridges between clusters. Burt's (2004) theory of structural holes suggests that organizations develop advantages not because they are more connected than their peers (i.e., have more links to other actors) but because they are better connected than their peers (i.e., their connections enable them to bridge clusters of cliques and increase their reach to others). Connecting across these kinds of clusters increases access to resources, promotes diversity, and promotes access to hard-to-reach populations (Granovetter, 1973). Such bridging ties create benefits to the community by increasing understanding across groups, transferring best practices, improving reach to traditionally underserved populations, and synthesizing diverse resources and ideas to create something new (Granovetter, 1973).

Strength. The strength of the ties between all organizations involved in community exchanges (including nonprofit actors) can also affect on the nonprofit carrying

Figure 1
Examples of Connectivity



capacity of a community. Exchanges that occur through frequent, extended, and reciprocal activities are characterized as "strong ties" and are most common among organizations that are homogeneous. Strong ties often develop as a result of lasting transactions resulting from physical proximity or repeated interactions (Gulati, 1995). Strongly tied organizations often have similar missions and similar clients and therefore find it natural to work together. "Weak ties", on the other hand, refers to networks with more diverse members, often organizations that are characterized as "different" from each other with regard to aspects such as missions, clients, and resources streams (Granovetter, 1973). There can be an advantage to including a more heterogeneous group of members in a community network, thereby leveraging the diverse resources, ideas, and access to various populations. Communities may benefit, then, by possessing a stock of both strong and weak ties between organizations, simultaneously increasingly resilience (strong ties) while increasing diversity (weak ties).

The strength of a tie can fluctuate, depending on the amount of interaction, trust, and intensity. Although bridging ties are often referred to as weak ties (Burt, 1992) because of their characteristic of connecting previously unconnected groups or clusters, these ties often transition to strong ties as relationships grow. In such cases, although connectivity may remain static (same number of ties bridging/connecting the same groups), the strength of the tie may fluctuate. This has an effect on carrying capacity in several ways. First, ties require different levels of commitment, time, and energy. Although weak ties are often difficult to foster initially, they are often easier to maintain than a strong tie because of their limited intensity. If a weak tie is later tapped into for more intense exchange, the cost of that tie may increase and become

more difficult to maintain. However, the payoff anticipated is worthwhile due to the potential for reciprocal exchange. Therefore, the capacity of an organization, or a community, to maintain the same number (and configuration) of ties—connectivity—fluctuates based on the strength of those ties. When both connectivity and strength fluctuate, then community carrying capacity also fluctuates.

In addition to connectivity and strength, there is a third important aspect of relationship quality between organizations: trust. A recent study proposed that trusted partners in community collaboration have the qualities of (a) being reliable and following through, (b) sharing a common mission, and (c) willingness to engage in open, frank discussion, even when disagreement exists (Varda, Chandra, Stern, & Lurie, 2008). The level of trust between organizations can result in a fluctuating level of capacity within a community. Trust can increase the likelihood of interaction and reduce the cost of exchanges, including the need for frequent interaction, and deepen the quality of the exchanges (Pittaway et al., 2004; Varda et al., 2008). As trust increases, partners are more willing to share valuable resources and accept the risk of exchange relationships. As trust develops between partners, the need for formal regulations decreases because familiarity breeds trust (Gulati, 1995). Conversely, trust cannot be built without frequent reciprocal exchanges. Trust is a resource that increases rather than decreases through use and is depleted if not used (Fukuyama, 1995).

Condition 4: Coordination of Exchange

The fourth condition of carrying capacity that we propose here is that exchange requires coordination. Although the inclusive and discursive properties of networks are often celebrated (Thomson & Perry, 2006), networks must be linked to a governance structure of some kind (Habermas, 1984). Governance—implying some degree of power or control over the participating agents—is often articulated in a set of rules and reporting relationships. Governance structures provide the predictability necessary for exchange to occur by regulating the control of resources, increasing the predictability of interactions, and coordinating the action of independent agents (Jones, Hesterly, & Borgatti, 1997).

Networks exhibit diverse structural forms, including vertical and flat structures. Although policy networks, service delivery networks, professional associations, government funded contracting relationships, or industrial agglomerations are often vertically structured networks (Inkpen & Tsang, 2005), other networks, such as community collaboratives, strategic alliances, and consortia, may have flattened leadership structure (Krackhardt, 1994) and may involve more informal exchanges among peer organizations with leadership and decision-making roles represented by a larger number of member organizations. Coordinating structures may also be formal, dictated by governing bodies, or informal, accepted or understood prescriptions of behavior. Although some suggest that relational or cognitive governance structures

may substitute for formal contracts, others suggest that they may be complements (Poppo & Zenger, 2002). Formal institutional contracts may ensure that exchanges are successful and allow partners to use relational governance structures to monitor and enforce behaviors. Both formal and informal rules may emanate from outside the network, such as societal norms or national regulatory bodies or from the local interactions of agents.

Formal governance structures. Legal institutions, such as patents and contracts, have long been recognized as facilitating the exchange of resources and reducing the risks associated with entrepreneurial behavior. In hierarchical networks, such as government contracting networks, incentives and sanctions serve to coordinate and control behavior of otherwise independent agents. Sometimes, a principal, such as government or a philanthropic funder, may mandate that agents come together and develop a plan to govern themselves. However, in the absence of bureaucratic rules and hierarchical reporting relationships, a leader or "honest broker" may step forward to help coordinate the action of peers (Faerman, McCaffrey, & Van Slyke, 1999). Such leadership may emerge as the result of power differentials within the network. For example, in their study of the effectiveness of service delivery networks, Milward and Provan (1998) found that the most effective network was controlled by an agent that dominated both services provision and the terms under which mental health services and funding were provided by other agencies. In many instances, local professional societies or interest groups articulate nonbinding best practices that govern and guide behavior. In addition, organizations engaged in horizontal relationships may devise formal contracts to govern their exchange relationships (Poppo & Zenger, 2002).

Informal governance structures. Ostrom and Ostrom (1977) challenged traditional mandates for top-down governance to suggest that under a variety of situations, individuals will come together and create informal "rules" to manage resources. Informal governance structures are social mechanisms such as shared cognitions; social sanctions are created through the dynamic interactions of people in different and reciprocal roles that guide the behavior of individuals (Feldman & Khademian, 2002). Shared cognitions, such as shared visions, assumptions, and goals provide an important mechanism for coordinating interactions by creating ground rules to guide actions and specify roles (Jones et al., 1997; Tsai & Ghoshal, 1998). Shared vision creates collective responsibility for issues faced and similar perceptions of how agents should interact with each other, promoting mutual understandings and facilitating the exchange of resources and ideas (Thomson & Perry, 2006).

Agents are more likely to trust those that they perceive share their viewpoints. Saxenian (1994) described how informal norms of cooperation governed ongoing exchanges of information and resources in Silicon Valley. Despite intense competitive pressures, companies shared a commitment to "technological" excellence and were

willing to engage in fluid resource exchanges to achieve it. Informal coordinating structures may be particularly valuable in these kinds of situations in which formal contracts are difficult to monitor and enforce.

Sanctions. "Self punishment" safeguards exchanges by increasing the costs of opportunism and providing independent agents with incentives to monitor exchanges (Jones et al., 1997). Numerous examples exist of communities coming together to sanction community members who violate norms (Ostrom, 1999). For example, Acheson (1985) described how the Maine lobster industry has policed itself by destroying the pots of fishermen who violate fishery norms. Similarly, nonprofits often come together to self-police, creating regional standards of accountability to guide organizational behavior, for example.

Implications for the Study of Nonprofit Organizations

This article has offered an alternative to studies of the nonprofit sector that have proceeded from an assumption that geographical communities have a finite level of resources to support nonprofit activity and that the supply of human, financial, and social resources determines the size and scope of the nonprofit sector in an area. Instead, we have proposed using a network approach to understanding community carrying capacity, focusing on the nonlinear and synergistic relationships among diverse organizational actors. Although previous network studies have described network processes and recognized the value of linkages and resource exchanges within the nonprofit sector (e.g., Wiewel & Hunter, 1985), linear studies of the size of the nonprofit sector have not systematically incorporated these concepts.

Our alternative model offers two contributions to nonprofit theory development, potentially shaping the way that nonprofit scholars model the structure of the sector and the way that managers strategize their relationships. First, our alternative model suggests that the size or capacity of the nonprofit sector in a geographical community is not inherently limited by the existing stock of financial and human resources available within that community. This insight necessitates a rethinking of not only the variables that we include in studies of nonprofit sectors but also of the methodology we use to study the determinants of nonprofit structure. From a theoretical perspective, studying determinants of the size of the nonprofit sector in a community using a network perspective would include commonly used formal measures of resource exchange, such as governmental transfer payments, and would also include community indicators of informal and often diffuse and fluid interactions, such as common professional and social memberships and staff mobility. In addition, variables of interest would move from the characteristics of resources to measures of the linkages between organizations and the exchange of resources that occurs within embedded systems.

Our model also assumes that informal and formal exchanges across organizations are value creating. Although the linear (supply and demand) approach neglects the possibility of exchange as an alternative to limited supply, our model recognizes that through the exchange process new knowledge is created, existing resources are combined to create innovations, and external resources are accessed to expand the existing stock of community resources. Interorganizational linkages have nonlinear, synergistic value that can enhance the capacity of an entire nonnprofit sector. In other words, a small event, such as a time limited task force, may have long term and significant impact on the structure of a nonprofit sector. An assumption of nonlinearity requires that we draw on methodological tools, such as in-depth case studies, that do not assume linearity and are able to capture the often diffuse nature of relationships.

Second, our model adds to our understanding of the conditions under which interorganizational relationships create value. Although existing empirical research often includes some measures of resource exchange, such as government grants or community levels of philanthropy, not all network relationships create value. We do not assume a perfect world of collaboration—or the "cult of cooperation"—in which all organizational actors being linked by common goals inevitably create a better world (Ostrower, 2005). Rather, our model proposes that networks create value under some conditions. Managing relationships is costly and not all relationships have positive public benefits. Our model reminds us that there are important moderating variables—such as network structure and governance characteristics—that influence the relationship between organizational linkages and community nonprofit carrying capacity. Business management and public administration literatures have increasingly paid attention to the strategic management of networks. By drawing on these concepts, our model improves our understanding of the conditions under which interorganizational exchanges shape the structure and size of the nonprofit sector.

In addition to providing a foundation for future empirical work and development of nonprofit theory, our model has the potential to change the way nonprofit managers think about day-to-day and strategic tasks that involve relationship management. From a practical perspective, "managers now find themselves not as unitary leaders of unitary organizations . . . instead they find themselves convening, facilitating, negotiating, mediating, and collaborating across boundaries" (O'Leary, Gerard, & Bingham, 2006, p. 8). Although the nonprofit sector has long embraced this networked spirit, empirical work exploring the size and structure of the nonprofit sector has not consistently reflected networked perspectives.

Imagine the case of a service community working to improve the lives of homeless individuals in a geographic region by providing housing, support services, and opportunities for social interactions within the community. Planning for service delivery would involve not just counting the number of beds at homeless shelters (input/out model) within a region but also taking into account historical indicators

of reciprocity across organizations, the level of trust across partners, and the existence of protocols, such as decision rules to allocate beds within the service delivery network. At the service delivery level, our model suggests that clients' lack of access to services may not only result from living in service-poor and resource-poor areas but also from living in areas in which service providers are not well connected, nor relationships among providers well governed (Small, 2006).

In conclusion, our model offers an alternative to existing linear models of community nonprofit carrying capacity to suggest that the size, health, and vitality of a community are shaped by the exchanges among organizations. We posit community carrying capacity should not be seen as having a zero sum outcome, but rather that network exchanges among organizations within and outside the community create individual, organizational, and community value. Ultimately, the capacity of the nonprofit community is not limited by the pool of available resources but by the possibilities of the community to support exchanges among diverse agents.

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