Researching Collaborative Structures and Their Outcomes:

Challenges of Measurement and Methodology

Abstract

Recent years have seen significant efforts in the U.S. and elsewhere to privatize government services and expand the mechanisms by which units of government relate to private entities, including nonprofit organizations. As a result, researchers and policy makers have increasingly come to recognize the need for assessing the structure and impact of collaborations, whether formalized or not. Here I discuss methodological challenges in measuring and evaluating collaboration. My analysis highlights the need for researchers to pay particular attention to how collaboration is defined, which groups are included in the assessment, and on whether the focus is on the process and dynamics of collaborations or on the outcome and impact of collaborations.

Introduction

Recent years have seen significant efforts in the U.S. and elsewhere to privatize government services and in other ways expand the mechanisms – or tools – by which units of government relate to private entities, including nonprofit organizations (Salamon 2002; Anheier and Salamon 2006). In Canada and the U.K. these developments have resulted in the establishment of formal policy agreements between government and representatives of the nonprofit sector. The Canadian Voluntary Sector Initiative, with its formal Voluntary Sector Accord (Brock 2005) represent far more deliberate and structured approaches than we have seen in the U.S. Similar, perhaps even more elaborate efforts have characterized the Voluntary Sector Compact in the U.K. (Elston 2005).

As a result, researchers and policy makers have increasingly come to recognize the need for assessing the structure and impact of collaborations, whether formalized or not (Agranoff and McGuire 1998; Brock 2005; Elston 2005; Gazley 2004; Provan and Milward 1991, 1998, 2001;

Thomson 2001a, 2001b, 2002).[1] In this article I discuss methodological challenges in measuring and evaluating collaboration. To do so, I draw on lessons learned about collaboration from the Indiana Nonprofit Sector Project (INS) which uses the state of Indiana as a laboratory for examining the scope and dimensions of the nonprofit sector in considerably greater depth than is possible at the national level. I provide a brief overview of the project below, but first highlight the conceptual frameworks that guide my analysis.

First, I view collaborations as a special case of inter-organizational relationships (IORs, Galaskiewicz 1985) that are of particular – and growing – significance to nonprofit organizations and to government. Second, collaboration is a multi-dimensional, dynamic process and as such not easily captured by any one methodology (Thomson 2002). Third, collaboration may have a wide range of impacts on partner organizations as well as the broader community or society – impacts that also are not easily captured by any particular methodological approach.

My analysis underscores the need for researchers to pay particular attention to how collaboration is defined, which groups are included in the assessment, and on whether the focus is on the process and dynamics of collaborations or on the outcome and impact of collaborations. I also highlight ways in which this analytic framework and some of the INS findings is useful for examining whether or how collaborations may promote (or impede) capacity, effectiveness, and (less directly) efficiency – the types of major outcomes that policy makers frequently expect collaboration with nonprofit organizations will produce – or at least use to justify privatization efforts.

Collaborations as Inter-Organizational Relationships

Collaborations are among a broad range of inter-organizational relationships (hereafter IORs) that organizational scholars have sought to understand. Collaborative IORs may take a variety

[1] See the complex evaluation protocol developed by the Audit and Evaluation Directorate (2005) for evaluating the Voluntary Sector Accord.

of forms. They include vertical relationships of power and hierarchical control, such as those between headquarter (or "peak") organizations and local affiliates or between government regulatory bodies and the organizations subject to the regulatory framework. But they include also more horizontal relationships that range from intense rivalry and competition to more or less formal collaboration. Indeed, it may not be entirely possible to separate collaboration from these other types of IORs – they may be embedded in formal headquarter-chapter affiliations, regulatory frameworks, or other types of hierarchical relationships. They may also be accompanied by (or result in) competition for a variety of resources.

Collaborative IOR's are, however, of special concern to nonprofits. Unlike in the private sector where collaboration is often suspect and occasionally referred to as collusion, there are normative expectations that nonprofit organizations will work together to achieve common ends. Indeed, there is a long tradition in the U.S. of collaboration among nonprofits. As early as the middle of the 19th century, Associations for Improving the Conditions of the Poor and Charity Organization Societies sought to coordinate the work of charities and prevent duplication of services. Later, social service councils and federated funding organizations (such as the predecessors to United Way) continued these efforts (Bremner 1966, 51-57). Independent Sector and the Coalition of National Voluntary Organizations (recently merged to form Imagine Canada) represent important contemporaneous examples in the U.S. and Canada respectively.

Nonprofit collaborative relationships often span sector boundaries, as when nonprofits work in partnership with government agencies and/or business organizations. Such networks and collaborative structures are integral to the "new public management" paradigm, in which government carries out public policy under a variety of cooperative structures with other organizational actors (Agranoff and McGuire 1998; Gazley, 2004; Provan and Milward, 1991, 1998 2001; Thomson 2001a, 2001b, 2002) – what Salamon (2002) calls the new tools of government.

As noted above, organizational theorists have explored collaborations both explicitly and implicitly as part of their efforts to understand how organizations relate to their environments (Foster and Meinhard 2002; Guo and Acar 2005; Hannan and Carroll 1992; Hannan and Freeman 1989; Lawrence and Lorsch 1967; Meyer and Scott 1983; Thompson 1967; Williamson 1985; Williamson and Masten 1995). I review briefly four perspectives that have received prominent attention among organizational scholars and that are particularly relevant for understanding who participates in collaborative IORs, the structure that such IORs takes (formality, size, and scope), and their impact.

First, perceived environmental uncertainty – the inability to accurately predict some aspect of the organization's external environment (the state, effect, or how to respond; Milliken 1987) – may motivate organizations to join collaborative IORs networks because doing so help them obtain more and/or better information and gain a sense of security and predictability (Galaskiewicz 1985, 287; Oliver 1990; Foster and Meinhard 2002). In the context of nonprofit organizations, I argue that those faced with broad expectations (public charities) or encountering more community or policy changes will be subject to greater environmental uncertainty and therefore be more likely to engage in collaborative IORs. In turn, better understanding of public expectations and of community or policy changes should improve relationships among partners and increase program effectiveness.

A second perspective, efficiency incentives (Transaction Cost Economics, TCE), takes it's departure in the fact that all organizations (or units within organizations) produce specialized goods and services which other organizations (or units) want. But they must also secure products, information, or expertise for their own operations. Such transactions require information and impose frictions, the costs of which can become quite significant when summed up over numerous transitions (Williamson 1975, 1981). Organizations can reduce these cost and gain efficiency by joining IORs to access human or physical assets (although IORs impose their own transaction

costs). This is especially the case for organizations involved in policy development (advocacy), which requires close monitoring of other groups concerned about the same issues in order to be effective. At the same time, access to information technology (IT) lowers the costs of obtaining information about the actions of others and therefore meets efficiency incentives.

A third perspective, resource dependency, focuses explicitly on the fact that organizations rely on external agents for resources and will adopt organizational forms and actions that align them with their most important resource providers (Froelich 1999; Galaskiewicz 1985, 282-5; Gronbjerg, Chen and Stagner 1995; Guo and Acar 2005; Pfeffer and Salancik 1978). Thus nonprofits that depend mainly on government funding will be likely to participate in collaborations or networks in order to secure organizational capacity, and such relationships are likely to have more members and involve a greater variety of organizations.

Institutional theories argue that organizations operate in an environment saturated with rules and norms (DiMaggio and Powell 1983; Meyer and Rowan 1977; Scott 2001, 2003; Scott et al 2000). They must comply with institutionalized standards if they are to be seen as credible and legitimate actors by others in their environment, even if doing so interferes with efficiency or effectiveness (Oliver 1990). In the case of nonprofits, there are normative expectations that nonprofits will collaborate and nonprofits may seek to join collaborations in order to signify to important stakeholders that they are legitimate participants in the field. Indeed, legitimacy may signal capacity to external stakeholders.

Other organizational features may also influence participation in collaborations or networks. Fields of activity (arts and culture, education, environment/animals, health, human services, religion) differ on a wide variety of dimensions that may affect interest in and capacity for collaborations – the number and size of organizations involved, programmatic technology, scope and form of

government activities, impact of demographic or economic developments, and the extent and nature of private sector competition. Smaller organizations may find it difficult to participate in collaborations or networks because they are have insufficient slack to carry out the activities. Older organizations have had a longer time to become involved in these activities, while younger organizations may be too consumed with the challenge of overcoming the "liabilities of newness" (Stinchcombe 1965) to devote time and efforts to IORs.

Examining Collaborations – Methodological Challenges

There are, however, major methodological challenges that researchers must address in order to examine collaborative IORs. I have organized these challenges into four areas of methodological decisions: How to define collaboration, how broadly to cast the net when identifying participants, how to map the extent and form of collaboration, and how to determine the impact or outcome of collaboration.

Defining Collaboration: Dimensions and Dynamics

To define collaboration, I rely on the work of Thomson (2001a, 2001b, 2002). Based on her comprehensive review of the enormous literature on collaboration and closely related concepts, supplemented by interviews with practitioners, she defines collaboration

> … as a process in which autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the issues that brought them together; it is a process involving shared norms and mutually beneficial interactions.

Collaboration is then a multi-dimensional activity (see also Gazley 2004). Thomson identifies five key dimensions of the collaboration relationship and has validated them empirically in a large-scale survey of almost 1,400 organizations involved in AmeriCorps, a large, national, U.S. service

program that requires organizational participants to engage in collaboration. Using higher-order confirmatory factor analysis and covariance structure modeling, she identified 17 indicators (out of 56 examined) that reliably measured the five dimensions. Each indicator was measured on a 7-point scale that ranged between "not at all" and "to a great extent." The five key dimensions include (with slight modifications):

- **Governance:** Involves *joint decision-making* by jointly creating rules and structures about the governance of participants' relationships through formal and informal negotiation mechanisms. Major indicators are:
    - *Credibility*: partners take each others opinion seriously when making decisions about collaboration
    - *Informal negotiations*: partners brainstorm to develop solutions to mission-related problems facing the collaboration
- **Administration:** Involves *structure*, such as formal and informal coordination, division of labor, clarity of roles and responsibilities, and monitoring mechanisms. Major indicators are:
    - *Clarity of roles and responsibilities*: understand own roles and responsibility as member of collaboration
    - *Goal clarity*: partners agree about goals of collaboration
    - *Well-coordinated*: tasks are well coordinated
    - *Effective meetings*: meetings accomplish what is necessary for collaboration to function well

- **Alignment:**[2] Involves *alignment between autonomous and collective interests*, and represents an on-going intrinsic tension between self interest—achieving individual organizational missions and maintaining accountability to board members, funders, stakeholders—and a collective interest—achieving collaboration goals and maintaining accountability to partner members, stakeholders, and funders. Major indicators are:
    - *Mission alignment*: collaboration helps (does not hinder) organization in achieving own mission
    - *Activity alignment*: collaboration activities helps (does not limit) own independence
    - *Expectation alignment*: collaboration expectations are consistent with organization's expectations
- **Mutuality:** Involves *mutually beneficial interdependencies* based either on differing interests ("we each bring something to the table that the other does not have but needs or could benefit from") or on shared interests. Major indicators are:
    - *Resources*: partners combine and use for benefit of all
    - *Information*: partners share to strengthen operations and programs of all
    - *Respect*: partners respect and appreciate each others
    - *Goals*: achieve own goals better working with partners than alone
    - *Conflict*: partners work through differences to arrive at win-win solutions
- **Trust**: Norms of *trust and reciprocity*. Major indicators are:
    - *Trustworthiness*: Partner representatives are trustworthy

[2] Relabeled as alignment from the original "autonomy" in Thomson (2001a, 2001b, 2002).

- *Reliability*: Partners can be counted on to meet obligation to collaboration
- *Overall reciprocity*: Working with collaboration more worthwhile than leaving

Note: Administration, mutuality, and trust dimensions have the highest degree of construct validity in Thomson's empirical validation (2001).

Even a cursory review of these dimensions will make clear that measuring whether collaboration relationships have improved or not requires careful attention to whether there are notable improvements in each of these dimensions over time. In addition, collaboration is not only multi-dimensional, but involves *complex dynamics* that change as time goes by. At the very least, one would want to examine such questions as who initiates the collaboration; who becomes involved subsequently and who drops out; which interdependencies are established and how these change over time; which expectations are created and how they change, which are fulfilled and which are abandoned; which administrative structures emerges and how they change; and which norms and values dominate, and how they change.

In short, collaborations are likely to have their own specific life cycles so that the question of whether collaborative relationships are viewed positively or not (or improving or not) depends on WHEN those questions are raised – at the beginning, at the end, or at points in between – and on WHICH groups are included in the assessment. Those who were never invited or who dropped out are likely to have significantly different (and likely more negative) perspectives than those that remain. Among those who remain, partners who initiated the collaboration or whose views and norms dominate and drive the collaboration are likely to view the relationship differently (and presumably more positively) than late-comers or those who feel trapped and unable to escape.

Establishing boundaries: Which Groups to Include in Assessment

This latter point, which groups to include in the assessment, is sufficiently important to

warrant a more in-depth discussion. To do so, I highlight lessons learned about the importance of boundaries from the INS project. Two components of the project – a survey of Indiana residents about their face-to-face involvement with nonprofits ("hyper-network" survey) and a major effort to establish a comprehensive database of Indiana nonprofits – illustrate how misleading it is to rely on any single approach to identify the relevant universe of organizational actors. A third component – a survey of Indiana nonprofits drawn from these two sources – demonstrates the complexity of mapping participation and of establishing the impact of collaboration in a cross-sectional survey.

To develop a comprehensive database of nonprofits of all types, the INS project employed multiple source listings in order to overcome known weaknesses in the Internal Revenue Service (IRS) listing of registered public charities (Smith 1997; Gronbjerg and Paarlberg 2002). The sources included three statewide institutional listings: (1) all IRS-registered tax-exempt entities with Indiana reporting addresses (about 32,600), (2) all nonprofit incorporations in the state (about 29,400), and (3) all congregations listed in the yellow-pages of phone directories with Indiana phone numbers (about 9,000). Jointly, these three identified about 54,800 nonprofits, or about 100 per 10,000 residents. The ratio is still higher – about 150 per 10,000 in one region of Denmark where a complete census has been taken (Ibsen 2004), suggesting that the estimate for Indiana is not abnormally high.

A review of local listings of nonprofits in eleven communities across the state added roughly 25 percent of additional nonprofits in each community. Further additions came from the hyper-network survey of 526 Indiana residents about their personal affiliations with Indiana nonprofits as employees, congregants, volunteers, or attendees at association meetings or events during the previous year. About 30 percent of the roughly 1,000 nonprofits identified in this manner were not already included in the database. When combined and duplicates eliminated, these listings produced an inclusive statewide sampling frame of 59,412 nonprofit organizations, containing not only

charities, but also churches, advocacy nonprofits, and all types of mutual benefit nonprofits, whether IRS-registered in the state, elsewhere, or not at all.

It is noteworthy that the IRS listing, the largest of the three institutional sources, includes no more than 60 percent of the combined listings and that the overlap between it and the next largest listing (incorporated nonprofits) is no more than about 26 percent. The IRS-registered charities account for about half of the IRS list. "Reporting charities" – those that file financial information with the IRS and the category on which most U.S. nonprofit research is based – constitute only about 10 percent of all nonprofits in the state, although this segment does capture the largest and most service-oriented nonprofits. Moreover, different listings – or segments of listings (e.g., IRS-registered charities or reporting charities) – differ notably in the profiles they produce of Indiana nonprofits.

One important lesson learned from these efforts is that focusing on only particular segments of the nonprofit sector will most likely ignore a large number of organizations that are involved in collaborations or networks – 57 percent overall based on the INS nonprofit survey. Had the survey included other participants in the collaborations, such as units of government and business organizations, the analyses would have been more complete, but also more complex. Most likely, the patterns of collaboration structures and impacts would have been quite different. Thus, Gazley and Brudney (2005) report that nonprofit managers show a stronger undercurrent of skepticism towards inter-sectoral collaborations than do government executives. That is why it is important to pay explicit attention to boundary issues. In particular, researchers should expect notable differences among government executives at the national and state and local levels of government and among community-based nonprofits and those with strong presence in the nation's capital.

Mapping Collaborations

The multiple dimensions of collaborative relationships, the likelihood that collaboration structures change over time, and the challenge of including all current participants – let alone prior or prospective ones – all point to the methodological complexities of measuring collaborative structures. I review briefly four important methodological and analytic approaches.

First, *in-depth case studies* that follow all actors in a particular collaborative effort over time are essential if we are to understand how collaboration plays itself out and why some organizations join collaborations and others leave. This approach requires a rather eclectic set of data collection strategies – surveys at key points in time to establish how participants assess the collaborative relationships, in-depth interviews to explore how and why particular assessments develop and change; structured observations to determine behavioral indicators of group dynamics; and documentary analysis of trace evidence not available otherwise.

Second, formal *network analysis* is a powerful analytic approach to determine the structure of interactions among partner organizations. It is a very demanding approach, however, that requires systematic information from all participants of the network about the exchanges a given partner has with each of the other participants in the collaboration, including the types of exchanges involved and the direction of exchanges. Matrix analyses of these exchanges allow for graphic presentations of network nodes, clusters, and isolates. Organizations at different locations in these network structures likely differ significantly in how they view the collaboration.

Third, the use of *panel studies* of collaboration participants – where the same set of organizations are surveyed systematically over time, using the same questions – is essential if one wishes to establish what produces particular types of collaboration outcomes, not just which features the outcome is correlated with. Only panel studies allow researches to establish the sequence of events – for example that a particular feature of the collaboration or of the participating

organizations is not only associated with, but occurred prior to, subsequent improvement (or deterioration) in the relationships among collaboration partners. This type of analysis is essential (but not sufficient[3]) to establish causal relationships, but is rarely undertaken because of the expense involved in collecting panel data.

Finally, much useful – though limited – information can be obtained from *cross-sectional surveys*: The INS nonprofit survey, especially findings about who participates and in which types of collaborations or networks, provides some useful lessons on mapping collaborations. The survey itself was based on a stratified sample of nonprofits drawn from the comprehensive nonprofit database described above (including all nonprofits identified from the hyper-network survey). The 2,206 nonprofits (about 29 percent response rate) provided information on a broad range of organizational characteristics and activities: age; mission and services; faith-based status; human resources; finances; management capacities and challenges; the impact of community and policy changes; advocacy activities; membership activities; and relationships with other organizations.

The INS survey makes it possible to map key structural dimensions of collaborations: (1) the extent of involvement in some form of collaborations or networks, (2) the extent of participation in formal collaborations, (3) the size of the networks/collaborations, and (4) their homogeneity. The INS survey also makes it possible to determine which nonprofits are more likely to participate in certain types of collaborations.

To identify nonprofits involved in *collaborations or networks*, a screening question asked whether the responding organizations was (1) involved in one or more formal collaboration (legal, fiscal, administrative, or programmatic exchanges) with other organizations, (2) involved in one or

[3] To establish causality, it is necessary to demonstrate not only that a relationship exist (which can be tested if data are collected with appropriately methodology), but that the postulated sequence has occurred (which panel studies and case studies can do), and that alternative explanations can be ruled out (which may be difficult to do). Careful attention to experimental and quasi-experimental designs will help address these issues (Shadish, Cook and Campbell 2002).

more informal networks (coalition, cooperation, coordination, working together) with other organizations, (3) involved in both formal collaborations and informal networks, or (4) not involved in any collaborations or networks.[4]

More than half (57 percent, see Table 1) of nonprofits say they are involved in collaborations or networks; 42 percent are involved in *informal networks* and a quarter (27 percent) are involved in *formal collaborations*. Of these, 12 percent are involved in both formal collaborations and informal networks. Bivariate analysis suggests that larger nonprofits and those with basic information technology components are most likely to indicate that they participate in formal or informal relationships.

<<Table 1 about here>>

Those who reported some involvement were asked to indicate how many organizations were members of their most important collaboration or network.[5] Responses to this question were used to measure *the size of the collaboration or network*. More than one-half (56 percent) of the nonprofits involved in collaborations or networks say that their most important network or collaboration involves five or fewer organizations and three-quarters (75 percent) say it includes ten or fewer. The rest are split about evenly between those who have eleven to twenty participating organizations (12 percent), or more than twenty organizations (13 percent). This measure is highly skewed, so the analysis uses the log value of the number of collaboration or network members.

The analysis also included measures of the *homogeneity of the collaboration or network*. Respondents were asked to indicate which of seven types of organizations were involved in their

[4] Distinguishing between informal and formal relations may have been difficult for some respondents. However, their decision to identify relationships as formal or informal (or both) does not appear to be random since bi-variate and multi-variate analyses show significantly different results depending on the type of relationship in question.

[5] Respondents were also asked to briefly describe the purpose of their most important collaboration or network (see Table 2 below).

most important collaboration or network: religious bodies; other religious or faith-based organizations; secular service organizations; nonprofit advocacy organizations; nonprofit mutual benefit (membership) organizations; business or other for-profit organizations. We use a count of the number of types of organizations involved in the most important collaboration or network to measure the homogeneity of the IOR. A score of one signifies that the nonprofit collaborates with only one type of organization, while a score of seven indicates that the organization has linkages with all seven different types of organizations. The former suggests rather narrow relationships, while the latter emphasizes collaborations and networks that cross multiple boundaries.

Most networks or collaborations are quite homogeneous, involving similar types of organizations. More than a third (36 percent) of nonprofits that form relationships with other organizations say that their most important network or collaboration involves only one type of organization and two-thirds (65 percent) say it involves two or fewer types of organizations. More than nine out of ten (92 percent) indicate they collaborate with four or fewer different types of organizations. As Table 1 shows, on average collaborations or networks involved 1.2 types of organizations for all nonprofits.

I summarize briefly findings from a multivariate analysis to test whether indicators of the four sets of environmental features outlined above: (1) environmental uncertainty, (2) efficiency incentives, (3) resource dependency, and (4) exposure to institutional forces help predict whether nonprofits are involved IORs, in formal rather than informal IORs, as well as the size and heterogeneity of the organization's most important IOR. Controlling for other organizational features (nonprofit field, size and age) the analyses show that all models are highly significant, regardless of which aspect of participation in IORs are examined and there is support for at least one indicator associated with each of the four conceptual frameworks, as well as for several of the control variables (nonprofit field, size, and age).

Specifically, awareness of a greater variety of community changes (indicator of environmental uncertainty and perhaps pointing to the role of collaboration in improving effectiveness) is significantly related to all IOR dimensions (likelihood to be involved, formality, size, and scope of IOR). So is access to information technology and to a lesser extent involvement in advocacy (both indicators of transaction cost economics, but the former focusing more explicitly on efficiencies incentives and the latter on effectiveness goals). Government funding (indicator of resource dependency and hence capacity) is also positively related to all IOR dimensions, but viewing reputation and visibility as a major challenge (indicator of institutional forces, or capacity) is only important for involvement in any collaboration or network, and then only when measured on a scale (none, minor, major).

Of the other organizational features considered, only a few are significant. Thus nonprofits in the environmental/animal field are less likely to be involved in heterogeneous IORs than the comparison group (human service nonprofits) as are smaller nonprofits (square root of staff FTE). The detailed statistical results are presented in Appendix 1.

Assessing the Impact of Collaborations

Measuring the impact of collaborations is no less complex. There are multiple outcome measures to consider, such as those relating to the collaboration process itself, e.g., problem resolution, formation of social capital, shared meaning, enhanced network structure, or shifts in power distribution (Thomson and Miller 2001), but also those related to the specific programmatic objectives of the collaboration (e.g., service coordination). In addition, the impacts may be intended or unintended, positive or negative, and may accrue to collaboration participants as well as to other entities external to the collaboration.

Indeed, the latter – external or spill-over impacts (preferably beneficial ones, obviously, e.g.,

enhanced capacity, effectiveness and efficiency) to nonprofit organizations and units of government – often constitute the primary justifications for collaborative initiatives and the substantial investment of human and financial resources they require. However, unless the collaboration benefits the participants positively, directly and substantially – it will not survive. Or, at least, it will not remain "a collaboration" in the fullest sense of that concept – a voluntary structure characterized by joint decision-making, alignment between autonomous and collective interests, mutuality, and shared norms and reciprocity.

The multiple dimensions of collaboration impacts, the likelihood that impacts change over time, and the challenges of where to draw the boundaries when assessing impacts again points to the methodological complexities involved and the utility of the four major methodological and analytical approaches outlined earlier.

In-depth case studies are essential for identifying unintended as well as intended, manifest as well as latent, impacts of the collaboration on collaboration partners, and how – and perhaps why – these impacts change over time. By identifying structures of interaction among collaboration partners, formal *network analysis* makes it possible to determine how interaction structures change over time and the mechanisms by which impacts propagate themselves among collaboration partners. Such analysis will also make it possible to assess whether particular network structures are more conducive to beneficial than negative impacts. The use of *panel studies* of collaboration participants is essential if one wishes to establish what causes particular types of collaboration outcomes, not just which features the outcome is correlated with.

However, additional efforts will be required to assess the external impacts of the collaboration – most likely this will involve one or more *cross-sectional surveys* of the broader universe of organizations that are not directly involved in the collaboration, but likely to experience some

type of impact. I again summarize findings for analysis of the INS survey to review the lessons learned from that effort.

The survey sought to measure the impact of collaborations or networks directly from a question which asked respondents to indicate in general how these relationships impacted their capacity to obtain funding, recruit/keep staff, recruit/keep board members, recruit/keep volunteers, meet client/member needs, or enhance the organizations visibility or reputation. Respondents were given the options of indicating that collaborations or networks made it harder, easier, or had no impact on their capacity to secure a given capacity – or that it was not applicable to them (e.g., if they had no staff or volunteers).

The majority of nonprofits involved in collaborations or networks say that these relationships generally make it easier for them to enhance their visibility and reputation (68 percent) and to meet their client or member needs (55 percent), while two-fifths (39 percent) say the relationships make it easier for them to obtain funding. I interpret the second of these components as related to effectiveness and the other two as related to capacity. However, over half say that participating in their most important collaboration or network has no impact on various human resource challenges or capacities and only 30 percent say these relationships make it easier to recruit or keep volunteers, and one in five indicates the same about recruiting or keeping staff (19 percent) or board members (19 percent).

Several multivariate models examine whether indicators of environmental features[6] (environmental uncertainty, efficiency incentives, and resource dependency) help predict (Model 1) whether nonprofits view collaborations as having positive impacts on key organizational capacities,

[6] This analysis did not include the fourth environmental indicator, exposure to institutional forces, in order to examine in greater detail whether nonprofits that found each of the five indicated capacities to be a major challenge responded differently.

net of other organizational features (nonprofit field, size, and age). The analysis also considered whether the structure of the collaboration (formality, size, and heterogeneity) was associated with different patterns of impact (Model 2).

I highlight only the results for enhancing reputation/visibility, meet client/member needs, and secure funding since these are the arenas where collaborations were seen to have the greatest positive impact. They are also the items likely to be of most direct salience to policy makers that seek to foster collaboration initiatives. The results show that indicators of environmental uncertainty and efficiency incentives are most consistently related to finding that collaborations or networks enhance the ability of nonprofits to secure specific resources, e.g., strengthen their capacity. However, the impact of these environmental indicators and of other dimensions included depends on the particular objective involved and on whether nonprofits find the given objective to present a major challenge. The details of these results are presented in Appendix 2.

Specifically, charities (indicator of environmental uncertainty) are likely to find collaborations or networks more helpful than their counterparts in enhancing their own reputation or visibility (capacity) and in meeting the needs of clients or members (effectiveness). Those with better access to information technology (indicator of efficiency incentives) are more likely to find collaborations or networks to be helpful in enhancing reputation or visibility (capacity), meeting client or member needs (effectiveness), and securing funding (capacity, but only for Model 1 and not if we control for the structure of the collaboration). Those with government funding, however, are significantly less likely than their counterparts to say that collaborations or networks help them meet client or member needs (effectiveness), perhaps because government funding requires organizations to limit services to those that meet relevant eligibility requirements.

Among other organizational features included in the multi-variate analysis (nonprofit field,

size and age), some are associated with positive, others with a negative impact of collaborations. Controlling for other factors, collaborations appear to be more helpful to arts and culture nonprofits in enhancing their reputation and visibility (capacity) and to environmental and animal nonprofits in securing funding (capacity) than to human service nonprofits (the comparison group), but less helpful to public and societal benefit nonprofits in meeting the needs of clients and members (effectiveness). The size of nonprofits is generally not related to whether collaborations help obtain these three types of objectives, but younger nonprofits are more likely to report that their most important collaboration or network help them secure funding (capacity, but only for Model 1).

The form and structure of the collaboration or network also appears to play a role in whether participation helps nonprofits secure particular objectives, but not across the board. Controlling for all other factors, participating in more heterogeneous structures is significantly related to viewing collaborations as helping to meet client and member needs (effectiveness goals). In addition, there are also some variations in which organizational features are associated with a positive impact of collaborations or networks on a given capacity when the analysis is restricted to the subset of nonprofits that say it is a major challenge for them to secure that particular capacity.

The ability of this analysis to assess the impact of collaborations or networks – and to predict which nonprofits are likely to benefit from such participation – is limited by the focus on the six objectives included in the survey. While these objectives are important, they are far from exhaustive. Indeed, when asked to describe the purpose of their most important collaboration or network (an open-ended question), half of the respondents gave various instrumental, program-related purposes, such as coordinating services or meeting needs (see Table 2). The remaining responses are broadly consistent with several of the conceptual frameworks outlined above. Thus almost a third (31 percent) gave responses aligned with efficiency goals (e.g., sharing resources, personnel, or costs), resource dependency theory (e.g., fundraising or grant related purposes), or

environmental uncertainty (e.g., sharing information or ideas). About a quarter (25 percent) said the purpose was to meet the types of relational obligations (e.g., denominational or national headquarter affiliations) typically associated with institutional forces.

<<Table 2 about here>>

Conclusion

The analysis presented here suggests two general sets of observations. First, the INS project point to four lessons about collaborations. (1) Expect *selective participation* in collaborations – some environmental factors and some organizational characteristics encourage participation, others discourage it. (2) Expect *selective impact* – some of these factors are also associated with positive impact on participating organizations, others with negative impact. Some factors are associated with capacity, others with effectiveness, and some with efficiency. (3) Recognize that access to *information technology* is important for virtually all aspects of involvement in collaboration (and several other key activities as well, such as advocacy), but such access is not evenly distributed, at least not among nonprofits. This is likely to be a critical capacity issue if collaborations are to succeed.

Results from analysis of the INS nonprofit survey also suggests that (4) participation in collaborations is *not an unmixed blessing*. The analysis shows that for significant segments of nonprofits participation in collaborations or networks at best is ineffective in helping secure organizational resources and at times impedes the efforts. Those participating in collaborations or networks are also significantly more likely to report competition for key resources, although that may be either because collaboration creates competition or because such activities simply make participants more aware of the competition they face.

In addition, although there is no direct documentation of it in the INS survey, participation in collaborations requires substantial investments of time, effort and material resources if these

efforts are to succeed. In other words, whatever efficiencies collaboration makes possible may be off-set, at least in part, by the costs of participation itself. Such investments may be difficult to sustain over time as initiatives become stale or compromises subverted by internal resistance. This observation is supported by Gazley and Brudney (2005) who report finding resistance to and/or reservations about inter-sectoral partnerships by both government and nonprofit executives in Georgia; in some cases those with more extensive collaboration experiences express the most reservation.

Second, as I have emphasized throughout, methodological considerations are critical in assessing collaborations, including whether collaboration relationships are improving or deteriorating and what their impacts are. Four major challenges stand out: (1) *Definition*: collaboration is multi-dimensional and therefore difficult to assess without careful attention to a variety of indicators. I have highlighted one particularly promising approach (Thomson 2001a, 2001b, 2002) and hope that it receives careful consideration. (2) *Timing:* collaboration is dynamic and changes over time, so that what is observed during the early phase may not hold later. It is therefore essential that assessment be a continuing process as well, with data collected early, late, and at several points in between.

Another consideration (3) is *focus*. Collaboration boundaries are amorphous and difficult to pin down. Some new participants may join late in the process and some early participants may drift out. More importantly, the new recruits and the drop outs are likely to differ significantly from one another so that both the composition and the dynamics of the collaboration itself will change over time. We know from research on membership associations (Popielarz and McPherson 1995) that principles of "homophily" operate to create increasingly homogeneous participants. That occurs because existing members use their own networks to recruit others similar to themselves while participants that are not part of those networks (and therefore tend to differ from the majority) drift

away more quickly than others. This is confirmed by Weisinger and Salipanto (2005) who report on the difficulty of building and sustaining diversity within groups. If similar dynamics hold for collaborations, it will be very easy to focus on core collaboration participants without asking the broader question of which organizations are not included.

Hence I urge careful attention to a variety of indicators of diversity among collaboration participants. It is likely to matter a great deal whether all sectors are involved – government (by level: federal, state, or local), nonprofit organizations (by type: services or advocacy), and businesses (by ownership status: privately held or publicly owned). And it matters whether participants are all from the same policy arenas (human services) or from diverse arenas (health, education, human services, arts and culture, religion, environment).

Finally (4), *data collection methods matters* – and are complementary to one another. I emphatically endorse the use of multiple methods of data collection and urge that evaluation efforts pay particular attention to case studies (including documentary analysis), formal network analyses, panel studies, and cross-sectional surveys.

In the final analysis, the advantages of collaboration seem obvious – sharing of information, coordination of activities, alignment of organizational objectives, reduction of duplication, and expansion of coverage,. But it may also be useful to ask whether there is a darker side as well – not only to participants in the collaboration, but to the larger society. There is a risk that collaboration, with its alignments and its isomorphism with efficiency models, may reduce experimentation with different approaches or stifle personal passions that don't fit the prevailing paradigms.

Appendix 1

Appendix Table 1 presents the results from the INS nonprofit survey of multivariate analysis to assess how well the various independent and control variables explain participation in any type of collaboration or network (Model 1), participation in formal collaborations (Model 2), the size of the most important collaboration or network (Model 3), and the heterogeneity of the most important collaboration or network (e.g., number of different types of organizations that are members of the IOR, Model 4).

For each model, three variations are considered: (a) one that excludes legitimacy/reputation as a challenge, (b) one that includes the legitimacy/reputation challenge variable as a dummy variable (major, not major), (c) one that includes the legitimacy/reputation challenge variable as a three-level interval variable (major, minor, no challenge or not applicable).

As Appendix Table 1 shows, all models are highly significant, regardless of which aspect of participation in IORs is examined. The findings show that at least one indicator associated with each of the conceptual frameworks is significant, as are several of the control variables, although the particular configurations vary across the four models and the specific variations examined.

Appendix Table 1	**Any relationship**			**Formal collaboration**			**Size of IOR**			**Heterogeneity of IOR**		
Concept (variable name)	**Model 1a**	**Model 1b**	**Model 1d**	**Model 2a**	**Model 2b**	**Model 2d**	**Model 3a**	**Model 3b**	**Model 3d**	**Model 4a**	**Model 4b**	**Model 4c**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Environmental uncertainty												
Public charity (D, prof_gds)	0.383	0.358	0.335	0.247	0.165	0.177	0.167	0.166	0.173	0.185	0.161	0.166
	(0.207)	(0.242)	(0.265)	(0.398)	(0.575)	(0.553)	(0.231)	(0.239)	(0.225)	(0.268)	(0.339)	(0.331)
# community changes (chav)	0.236***	0.233***	0.210***	0.263***	0.300***	0.291***	0.110***	0.122***	0.119***	0.160***	0.160***	0.156***
	(0.001)	(0.002)	(0.005)	(0.001)	0.000	0.000	(0.001)	0.000	0.000	0.000	0.000	0.000
# policy changes (polch)	-0.092	-0.109	-0.132	-0.004	0.009	-0.016	-0.093*	-0.080	-0.091*	0.011	0.007	-0.002
	(0.397)	(0.318)	(0.239)	(0.968)	(0.922)	(0.869)	(0.077)	(0.126)	(0.084)	(0.863)	(0.908)	(0.977)
Efficiency Incentives												
Advocating NP (D, advocsum)	1.225***	1.145***	1.086***	0.626**	0.504*	0.467*	0.556***	0.563***	0.552***	0.995***	1.044***	1.028***
	0.000	0.000	0.000	(0.027)	(0.062)	(0.088)	0.000	0.000	0.000	0.000	0.000	0.000
Technology score (ptech1)	0.191**	0.176*	0.136	0.289***	0.276***	0.267***	0.212***	0.205***	0.203***	0.154***	0.158***	0.154***
	(0.035)	(0.050)	(0.130)	(0.003)	(0.007)	(0.010)	0.000	0.000	0.000	(0.002)	(0.002)	(0.003)
Resource dependency												
Government funding (Dgov)	0.977**	0.979**	0.968**	0.824**	0.809**	0.801**	0.624***	0.614***	0.611***	0.428*	0.464**	0.458**
	(0.012)	(0.013)	(0.015)	(0.026)	(0.028)	(0.029)	0.000	0.000	0.000	(0.058)	(0.039)	(0.041)
Institutional forces												
Reputation & legitimacy (D, majrep)		0.194			-0.310			-0.216*			-0.151	
		(0.464)			(0.238)			(0.077)			(0.279)	
Reputation & legitimacy (D, majrep3)			0.439***			0.024			-0.030			0.007
			(0.001)			(0.864)			(0.588)			(0.918)
Control variables - nonprofit field												
Arts/culture/humanities NP (D, art)	0.618	0.729	0.571	0.874	1.076*	0.956*	0.148	0.252	0.194	0.133	0.190	0.135
	(0.211)	(0.168)	(0.287)	(0.119)	(0.072)	(0.097)	(0.448)	(0.257)	(0.365)	(0.547)	(0.428)	(0.571)
Environment/animal NP (D, env)	-0.463	-0.496	-0.636	-0.510	-0.281	-0.398	-0.499	-0.413	-0.475	-0.798**	-0.802**	-0.853***
	(0.622)	(0.586)	(0.471)	(0.388)	(0.638)	(0.500)	(0.131)	(0.200)	(0.147)	(0.013)	(0.015)	(0.009)
Health NP (D, hlth)	0.192	0.057	-0.007	-0.534	-0.693	-0.747	0.131	-0.046	-0.075	-0.318	-0.502	-0.518
	(0.787)	(0.939)	(0.993)	(0.341)	(0.207)	(0.174)	(0.734)	(0.899)	(0.836)	(0.353)	(0.115)	(0.110)
Education NP (D, educ)	0.314	0.273	0.155	0.545	0.568	0.521	-0.399	-0.369	-0.394	-0.128	-0.143	-0.159
	(0.592)	(0.644)	(0.797)	(0.331)	(0.296)	(0.352)	(0.141)	(0.164)	(0.146)	(0.682)	(0.643)	(0.610)
Public/society benefit NP (D, pb)	0.015	-0.043	-0.027	0.545	0.483	0.462	-0.210	-0.255*	-0.273*	-0.265	-0.285	-0.298
	(0.968)	(0.911)	(0.942)	(0.176)	(0.234)	(0.255)	(0.189)	(0.099)	(0.080)	(0.244)	(0.220)	(0.199)
Religion NP (D, rel)	0.445	0.357	0.245	0.233	0.172	0.117	0.132	0.181	0.149	-0.020	-0.016	-0.048
	(0.218)	(0.324)	(0.496)	(0.570)	(0.672)	(0.775)	(0.449)	(0.312)	(0.406)	(0.927)	(0.945)	(0.830)
Mutual benefit NP (D, mb)	-0.326	-0.365	-0.323	-1.005	-1.056	-1.071	-0.073	-0.071	-0.081	-0.509*	-0.480*	-0.475*
	(0.574)	(0.541)	(0.604)	(0.237)	(0.213)	(0.209)	(0.758)	(0.757)	(0.736)	(0.066)	(0.079)	(0.090)
Other control variables												
Squareroot of FTEs (sqrt_emps)	0.120	0.116	0.115	0.002	0.008	0.008	0.019	0.019	0.020	0.037***	0.042***	0.041***
	(0.116)	(0.119)	(0.119)	(0.952)	(0.778)	(0.786)	(0.413)	(0.394)	(0.364)	(0.004)	(0.001)	(0.001)
Agein years (agey)	0.001	0.001	0.001	-0.001	-0.001	-0.001	0.001	0.001	0.001	0.002	0.001	0.001
	(0.774)	(0.738)	(0.739)	(0.839)	(0.858)	(0.879)	(0.421)	(0.519)	(0.503)	(0.315)	(0.550)	(0.538)
Constant	-1.353***	-1.310***	-1.944***	-2.806***	-2.748***	-2.810***	0.035	0.076	0.101	0.196	0.275	0.250
	0.000	0.000	0.000	0.000	0.000	0.000	(0.782)	(0.553)	(0.474)	(0.294)	(0.140)	(0.184)
F-statistic	6.28***	5.52***	5.89***	3.33***	3.11***	3.08***	10.77***	9.62***	9.82***	13.19***	13.51***	13.76***
Observations	1,255	1,229	1,229	1,232	1,206	1,206	1,098	1,075	1,075	1,188	1,163	1,163
R-squared							0.266	0.263	0.258	0.266	0.269	0.267

Appendix 2

Appendix Table 2.1 presents the results of multivariate analysis to assess how well the independent and control variables help explain whether nonprofits find that participation in IORs facilitate their capacity to meet three specific objectives. Four models are explored for each of the capacities. Model 1 includes most of the variables included in Appendix Table 1: indicators of environmental uncertainty, efficiency incentives, and resource dependency, in addition to three control variables (nonprofit field, size, and age). Model 2 adds in three IOR measures to see whether IOR structural features are important in determining the impact of IOR participation. These include whether the nonprofit is involved in any formal IOR (as opposed to only informal networking) and the size and heterogeneity of the most important IOR. The underlying logic for linking some conceptual dimensions (e.g., environmental uncertainty, efficiency incentives, or resource dependency) to the impact of IORs is tenuous for some capacities and the results should be interpreted with caution.

Models 1 and 2 do not include the measure of institutional forces (whether reputation or legitimacy is a challenge) in order to explore whether the subset of nonprofits that face major challenges in securing a particular capacity exhibit the same pattern for predicting the impact of IORs on that specific capacity as do nonprofits involved in any IORs. The two regression models are repeated for each of the dependent variables (Models 3 and 4), but limited to the subset of nonprofits that report facing a major challenge in securing that particular capacity. These findings are reported in Appendix Table 2.2. This analysis is also exploratory and the number of cases is relatively small for each analysis.

As Appendix Tables 2.1 and 2.2 demonstrate, the regression results on impact of IORs on each of the six types of capacities show some consistencies for key predictor variables. However,

there are some variations depending on which capacity is considered and whether the analysis is limited to the subset of nonprofits that say it is a major challenge for them to secure the particular capacity.

Appendix Table 2.1

Predictor Variables	Regresion on impact of IORs					
	Reputation easier		Meeting needs easier		Funding easier	
	Model 1 (1)	Model 2 (2)	Model 1 (3)	Model 2 (4)	Model 1 (5)	Model 2 (6)
IOR dimension						
Any formal IOR		0.157		0.411		0.668*
		(0.702)		(0.266)		(0.058)
Size of IOR (lognet)		0.049		-0.029		0.048
		(0.833)		(0.837)		(0.694)
Heterogeneity of IOR (numrel3)		0.293*		0.425***		0.09
		(0.065)		(0.001)		(0.396)
Environmental uncertainty						
Public charity (D, prof_gds)	0.948**	1.180**	0.811**	1.209***	0.653*	0.708*
	(0.025)	(0.020)	(0.037)	(0.004)	(0.052)	(0.053)
# community changes (chav)	0.112	0.098	-0.035	-0.168	0.116	0.053
	(0.233)	(0.382)	(0.711)	(0.128)	(0.142)	(0.562)
# policy changes (polch)	-0.005	0.026	0.144	0.218	-0.01	-0.143
	(0.978)	(0.911)	(0.293)	(0.173)	(0.943)	(0.398)
Efficiency incentives						
Advocating NP (D, advocsum)	0.24	0.163	0.264	-0.124	0.194	0.233
	(0.454)	(0.644)	(0.390)	(0.718)	(0.543)	(0.507)
Technology score (ptech1)	0.384***	0.449***	0.265**	0.285**	0.310***	0.232*
	(0.003)	(0.002)	(0.018)	(0.030)	(0.009)	(0.086)
Resource dependency						
Government funding (Dgov)	-0.473	-0.936	-1.045**	-1.007*	-0.24	-0.188
	(0.327)	(0.103)	(0.037)	(0.062)	(0.546)	(0.699)
Control variables - nonprofit field						
Arts/culture/humanities NP (D, art)	1.601*	2.676***	0.251	0.417	0.583	0.748
	(0.061)	(0.003)	(0.692)	(0.588)	(0.347)	(0.282)
Environment/animal NP (D, env)	0.459	0.47	-1.893*	-2.253*	1.445**	1.452*
	(0.552)	(0.556)	(0.085)	(0.064)	(0.027)	(0.055)
Health NP (D, hlth)	-0.424	1.002	0.454	0.323	-0.801	-0.555
	(0.686)	(0.200)	(0.580)	(0.691)	(0.294)	(0.482)
Education NP (D, educ)	0.434	1.159	-0.11	0.168	1.150*	1.307*
	(0.531)	(0.171)	(0.874)	(0.828)	(0.076)	(0.088)
Public/society benefit NP (D, pb)	-0.754	-1.003*	-1.406**	-0.727	-1.741***	-1.558***
	(0.153)	(0.089)	(0.011)	(0.238)	(0.001)	(0.004)
Religion NP (D, rel)	-0.519	-0.716	-1.201**	-1.229**	-0.496	-0.522
	(0.302)	(0.205)	(0.018)	(0.027)	(0.296)	(0.310)
Mutual benefit NP (D, mb)	-0.707	0.196	-1.365	0.073		
	(0.485)	(0.828)	(0.154)	(0.939)		
Other control variables						
Squareroot of FTEs (sqrt_emps)	-0.003	-0.054	-0.016	-0.092*	-0.049*	-0.018
	(0.919)	(0.224)	(0.535)	(0.099)	(0.056)	(0.676)
Agein years (agey)	-0.005	-0.005	-0.005*	-0.003	-0.008**	-0.007*
	(0.130)	(0.193)	(0.087)	(0.456)	(0.031)	(0.093)
Constant	-0.041	-0.747	0.703	-0.13	-0.763	-0.979
	(0.943)	(0.399)	(0.233)	(0.861)	(0.161)	(0.106)
F-statistic	2.81***	2.89***	2.36***	2.36***	5.54***	3.65***
Observations	701	556	704	559	696	554

Appendix Table 2.2

	Regresion on impact of IORs (if major challenge)					
	Reputation easier		Meeting needs easier		Funding easier	
	Model 3	Model 4	Model 3	Model 4	Model 3	Model 4
Predictor Variables	(1)	(2)	(3)	(4)	(5)	(6)
IOR dimension						
Any formal IOR		-0.971		0.094		0.45
		(0.135)		(0.852)		(0.361)
Size of IOR (lognet)		0.327		0.191		0.073
		(0.205)		(0.397)		(0.670)
Heterogeneity of IOR (numrel3)		0.470**		0.805***		0.13
		(0.043)		(0.002)		(0.321)
Environmental uncertainty						
Public charity (D, prof_gds)	0.667	1.375*	1.286**	2.835***	0.161	0.266
	(0.233)	(0.061)	(0.015)	0.000	(0.722)	(0.607)
# community changes (chav)	0.078	0.132	-0.059	-0.146	0.122	0.071
	(0.658)	(0.576)	(0.689)	(0.438)	(0.301)	(0.633)
# policy changes (polch)	0.206	0.313	0.468**	0.571**	0.048	-0.121
	(0.390)	(0.237)	(0.034)	(0.015)	(0.806)	(0.615)
Efficiency incentives						
Advocating NP (D, advocsum)	0.622	0.366	-0.012	-0.234	0.067	-0.024
	(0.252)	(0.565)	(0.981)	(0.650)	(0.873)	(0.958)
Technology score (ptech1)	0.253	0.274	0.083	0.282	0.325**	0.226
	(0.167)	(0.251)	(0.720)	(0.259)	(0.027)	(0.189)
Resource dependency						
Government funding (Dgov)	0.065	-1.006	-1.068	-0.723	-0.757	-1.291**
	(0.916)	(0.233)	(0.245)	(0.466)	(0.122)	(0.037)
Control variables - nonprofit field						
Arts/culture/humanities NP (D, art)	1.798	4.008***	0.267	-0.468	0.459	0.626
	(0.163)	(0.005)	(0.835)	(0.768)	(0.536)	(0.478)
Environment/animal NP (D, env)	1.982*	1.419	1.352	0.336	2.323***	2.243**
	(0.071)	(0.241)	(0.344)	(0.804)	(0.004)	(0.018)
Health NP (D, hlth)	-1.934*	-0.551	1.413	2.034	-1.289	-1.212
	(0.060)	(0.646)	(0.169)	(0.257)	(0.135)	(0.189)
Education NP (D, educ)	0.65	-0.213	-0.47	-0.235	1.018	1.487*
	(0.560)	(0.871)	(0.721)	(0.859)	(0.124)	(0.075)
Public/society benefit NP (D, pb)	-0.612	-1.638*	-0.633	-0.005	-2.276***	-2.258***
	(0.469)	(0.061)	(0.511)	(0.996)	(0.001)	(0.005)
Religion NP (D, rel)	-0.78	-1.637*	0.04	0.168	-0.919	-1.510**
	(0.207)	(0.056)	(0.966)	(0.866)	(0.122)	(0.024)
Mutual benefit NP (D, mb)	-1.554	-2.819	-2.472*	-1.302		
	(0.171)	(0.114)	(0.097)	(0.456)		
Other control variables						
Squareroot of FTEs (sqrt_emps)	0.044	-0.078	-0.008	-0.159**	-0.045	0.017
	(0.394)	(0.454)	(0.855)	(0.037)	(0.105)	(0.797)
Agein years (agey)	0	-0.003	-0.006	0.002	-0.014***	-0.012**
	(0.984)	(0.686)	(0.250)	(0.789)	(0.001)	(0.028)
Constant	-0.331	-0.416	0.35	-2.653	0.028	0.311
	(0.687)	(0.688)	(0.808)	(0.122)	(0.966)	(0.684)
F-statistic	2.73***	2.16***	2.26***	1.83**	5.70***	3.08***
Observations	292	229	266	210	397	305

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TABLE 1:

Descriptive Statistics

VARIABLE	DESCRIPTION	MEAN	STD. ERROR	MIN	MAX	*N*
Dependent Variables						
Any IOR	1 if organization participates in a formal or informal relationship; else 0 (dependent variable)	0.57	0.02	0	1	2,055
Formal IOR	1 if organization participates in a formal relationship; else 0 (dependent variable)	0.27	0.02	0	1	2,012
Size of IORs	Log of number of organizations in respondent's most important collaboration (dependent variable)	0.89	0.05	0	9.44	1,760
Types of IORs	Number of *different types* of organizations in respondent's most important collaboration (dependent variable)	1.20	0.06	0	7	1,924
Environmental Uncertainty Theory						
Public Charity	1 if organization is an IRS-registered public charity; else 0	0.32	0.02	0	1	2,187
Community Change	Number of different community changes	2.00	0.07	0	7	1,902
Policy Change	Number of different policy changes	0.78	0.06	0	6	1,639
Transaction Cost Economics Theory						
Advocacy	1 if organization participates in advocacy; else 0	0.27	0.02	0	1	1,950
Technology Score	Number of technological components (computer, Internet access, e-mail, website) possessed by organization	1.98	0.06	0	4	2,036
Resource Dependency Theory						
Govt. Funding	1 if organization receives government	0.19	0.02	0	1	1,984
Institutional Theory						
Major Reputation Challenge (a)	1 if enhancing visibility or reputation is a major challenge; else 0	0.36	0.02	0	1	1,952
Major Reputation Challenge (b)	0 if enhancing visibility or reputation is not applicable; 1 if it is not a challenge; 2 if it is a minor challenge; 3 if it is a major challenge	2.04	0.04	0	3	1,952
Control Variables						
Nonprofit field						
Arts	1 if organization is in Arts and Culture field; else 0	0.05	0.01	0	1	2,187

VARIABLE	DESCRIPTION	MEAN	STD. ERROR	MIN	MAX	*N*
Human Service	1 if organization is in Human Services field; else 0	0.29	0.02	0	1	2,187
Environment	1 if organization is in Environment/Animal field; else 0	0.03	0.01	0	1	2,187
Health	1 if organization is in Health field; else 0	0.04	0.01	0	1	2,187
Education	1 if organization is in Education field; else 0	0.08	0.01	0	1	2,187
Public Benefit	1 if organization is in Public & Societal Benefit field; else 0	0.19	0.02	0	1	2,187
Religion	1 if organization is in Religious and Spiritual Development field; else 0	0.24	0.01	0	1	2,187
Mutual Benefit	1 if organization is in the mutual benefit field; else 0	0.08	0.01	0	1	2,187
Size	Square root of number of full-time equivalent staff members	1.68	0.19	0	57.17	2,029
Age	Age of organization	50.47	2.02	0	302	2,020

TABLE 2:
PURPOSE OF MOST IMPORTANT COLLABORATION OR NETWORK

Type of Purpose	Percent of Nonprofits Involved in Relationships
Program Related	***50.5***
Coordinating Services/ Service Delivery	16.9
Meeting Community Needs	7.2
Meeting Member Needs/Fellowship Opportunities	4.9
Similar Mission	4.1
Promoting Awareness	3.0
Lobbying Efforts	2.4
Other	4.9
Management Related	***30.6***
Sharing Resources/Facilities/Personnel	10.1
Fundraising/Grant Related	7.9
Sharing Ideas/Information	5.8
Training Volunteers/Employees/Leaders	2.1
Sharing Costs	2.1
Other	0.6
Relational	***25.3***
Denominational/Religious Affiliation	9.4
National Organization	5.1
United Way/Local Umbrella Organization	2.1
Other	6.6

N=1,077 - the number of organizations that participate in IORs and that answered the open-ended question regarding the purpose of their most important relationship. Respondents may be coded in more than one category so the total may not add to 100 percent.