THE RELATIONSHIP BETWEEN EMBEDDEDNESS AND ORGANIZATIONAL
SOCIAL PERFORMANCE IN A COMMUNITY MENTAL HEALTH NETWORK
UNDER MANAGED CARE

by Kun Huang

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Kun Huang
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# TABLE OF CONTENTS

LIST OF TABLES .................................................................................................................. 10

LIST OF FIGURES .................................................................................................................. 12

ABSTRACT ............................................................................................................................. 13

CHAPTER ONE: INTRODUCTION ...................................................................................... 15

  RESEARCH SITE ............................................................................................................. 19

  STUDY FOCUS .............................................................................................................. 20

  EMPIRICAL ANALYSIS ................................................................................................. 27

CHAPTER TWO: BACKGROUND ......................................................................................... 29

  MENTAL HEALTH POLICY AND HISTORY .............................................................. 30

    Lessons from World War II ...................................................................................... 31

    Deinstitutionalization Policy .................................................................................... 34

    Emergence of a Fragmented System ......................................................................... 39

    Emphasis on Recovery and Service Integration ....................................................... 44

  MANAGED CARE AND BEHAVIOR HEALTH ............................................................ 49

  CONTRACTING OUT ....................................................................................................... 58

    New Public Management Reform ............................................................................ 59

    A Political Economic Perspective ............................................................................ 61

    Problems with Competitive Contracting ................................................................ 63
TABLE OF CONTENTS – CONTINUED

The Need for Hierarchy ........................................................................................................65

Contracts as Substitutes for Hierarchy .............................................................................67

CHAPTER THREE: LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

THE RISE OF NETWORK ORGANIZATIONS ..................................................................73

NETWORK ANALYSIS: ORIGINS AND APPLICATION .................................................82

ORGANIZATION EMBEDDEDNESS ...........................................................................88

Antecedents of Organizational Embeddedness .................................................................91

Consequences of Organizational Embeddedness .............................................................95

RESEARCH QUESTION ..............................................................................................106

HYPOTHESIS DEVELOPMENT .....................................................................................123

Embeddedness and Trust ...............................................................................................127

Embeddedness and Reputation ......................................................................................133

Embeddedness and Influence .........................................................................................137

CHAPTER FOUR: RESEARCH METHODOLOGY .........................................................140

RESEARCH SITE ..........................................................................................................140

DATA COLLECTION .......................................................................................................148

Network Boundaries and Sampling .................................................................................148

Survey .............................................................................................................................151
TABLE OF CONTENTS – CONTINUED

Survey Response Rate.................................................................156
Data Coding ............................................................................157
DATA MANIPULATION..............................................................159
Network Confirmation .............................................................159
Definitions and Operationalization .........................................164
Control Variable........................................................................167
Independent Variables..............................................................169
  Network Density....................................................................170
  Degree Centrality.................................................................171
  Betweenness Centrality..........................................................171
  Closeness centrality..............................................................172
  Multiplexity............................................................................174
  Clique and Clique Overlap.....................................................175
Outcome Variables.......................................................................176
  Trust......................................................................................176
  Reputation.............................................................................176
  Influence...............................................................................177

CHAPTER FIVE: DATA ANALYSIS .............................................178
  NETWORK STRUCTURAL DESCRIPTION ................................179
  Density.................................................................................179
TABLE OF CONTENTS – CONTINUED

Centralization..................................................................................................182
Network Plots..................................................................................................185
RESULTS OF REGRESSION ANALYSES ....................................................200
ADDITIONAL ANALYSIS...............................................................................222

CHAPTER SIX: DISCUSSION .............................................................................229
THEORY ............................................................................................................229
IMPLICATIONS ................................................................................................243
LIMITATIONS...................................................................................................244
FUTURE RESEARCH .......................................................................................245

APPENDIX A: DATA COLLECTION AND SUBJECT SOLICITATION
INSTRUMENTS.....................................................................................................248
APPENDIX A1: COVER LETTER ..................................................................249
APPENDIX A2: SURVEY ................................................................................251

APPENDIX B: ORGANIZATIONAL PROFILES................................................256
TABLE B.1, Provider Acronyms and Sectoral Affiliation.........................257
TABLE B.2, General Information about Service Providers ......................259
TABLE B.3, Type of Services Provided to SMI adults in the
TABLE OF CONTENTS – CONTINUED

Maricopa System ...........................................................................................................260

TABLE B.4, Trust / Quality of Inter-Agency Relationships (N=36) .........................261

TABLE B.5, Agency Influence Score ...........................................................................263

TABLE B.6, Agency Reputation Scores .......................................................................264

TABLE B.7, Agency Similarity Scores .........................................................................265

TABLE B.8, Agency Involvement in Number of Cliques .............................................266

TABLE B.9, Agencies’ Report of Reasons for Their Involvement with Another Agency .........................................................................................................................268

TABLE B.10, Agencies’ Assessment of VO’s Impact on Their Adult SMI Services .................................................................269

TABLE B.11, Agencies’ Assessment of VO’s Impact on the Overall Adult SMI Service Delivery System in Maricopa County ..........270

APPENDIX C: DATA CODING .....................................................................................271

REFERENCES ..............................................................................................................277
LIST OF TABLES

TABLE 2.1, Number of 24-Hour Hospital and Residential Treatment Beds in State and County Mental County Mental Hospitals, selected years, 1970-2000

TABLE 2.2, Number and Rate of Less Than 24-hour Care Additions, by Type of Mental Health Organizations, Selected Years, 1969-2000

TABLE 2.3, Number and Percent Distribution of Hospital and Residential Treatment Care and Less Than 24-hour Care Episodes in Mental Health Organizations: United States, selected years, 1955-200

TABLE 2.4, National Health Expenditures Trends in Public versus Private Funding selected calendar years

TABLE 4.1, Densities of Raw and Confirmed Linkage Matrices

TABLE 5.1, Density and Network Centralization Scores

TABLE 5.2, Descriptive Statistics and Correlations

TABLE 5.3, Descriptive Statistics and Correlations - Mixed Sector Network

TABLE 5.4, Descriptive Statistics and Correlations - Public Sector Network

TABLE 5.5, Regression Analyses Predicting Organizational Social Performance - Mixed Sector Network

TABLE 5.6, Regression Analyses Predicting Organizational Social Performance - Public Sector Network

TABLE 5.7, Additional Descriptive Statistics and Correlations - Mixed Sector Network
LIST OF TABLES – CONTINUED

TABLE 5.8, Additional Regression Analyses Predicting Organizational Social Performance - Mixed Sector Network………………………………………...225

TABLE 5.9, Additional Regression Analyses Predicting Organizational Social Performance – Public Sector Network……………………………………...228
LIST OF FIGURES

FIGURE 3.1, The Need for Network Collaboration……………………………………81
FIGURE 3.2, Hypothesized Model of Relationships between Organization
Embeddedness and Social Performance…………………………………………124
FIGURE 4.1, Funding of the Arizona Mental Health System……………………143
FIGURE 4.2, The ValueOptions System…………………………………………..146
FIGURE 5.1, Plot of Centralization and Density Scores of Three
Linkage Networks…………………………………………………………………184
FIGURE 5.2, Network Plot – Contract………………………………………………187
FIGURE 5.3, Network Plot – Information Sharing……………………………..188
FIGURE 5.4, Network Plot – Referrals……………………………………………189
FIGURE 5.5, Network Plot – Influence……………………………………………192
FIGURE 5.6, Network Plot – Reputation…………………………………………193
FIGURE 5.7, Comparison of Centralization Scores of Five
Types of Networks……………………………………………………………………196
ABSTRACT

This dissertation offers an empirical examination of a mental health service delivery network in Phoenix area and Maricopa County, Arizona. While services are provided mostly by nonprofit agencies, the system is monitored and funded by for-profit managed care. In this situation, nonprofit organizations are entrenched in the professional norms of client-centered cooperation, which may run counter to the funding mechanism in for-profit managed care. This dissertation examined the relationship between organizational embeddedness and organizational social performance (indicated by trust, reputation, and influence) in this a centrally governed network.

Data were collected on 35 network service providers in 2000. A comprehensive network survey and field interviews were employed to collect data. Standard network analysis and Ordinary Least Square (OLS) regression were used for data analysis.

This dissertation sought to determine the extent to which the social performance implications of organizational embeddedness can be generalized from decentralized networks to a managed multi-sector network. Based on a literature review of organizational networks, organizational embeddedness, and organizational social performance in the business and nonprofit sector, I proposed a model of embeddedness-based organizational social performance in a managed multi-sector network.

I found that organizational embeddedness was contingent on the degree of formality of a tie and the sectoral affiliation of network organizations. I also found
that organizational embeddedness was positively and significantly related to trust, reputation, and influence in the purely public and nonprofit sector network, but bore little relationship to trust and reputation in the mixed-sector network, which included for-profit organizations. These results suggest that social capital was maintained in the public sector network, notwithstanding the administrative control of managed care. Theoretical and policy implications of the results are discussed.
CHAPTER ONE
INTRODUCTION

The role of government in the United States has changed over the past 10 to 15 years. Many services that were formerly provided directly by government are now contracted out, ostensibly as a way of improving efficiency. According to the April 2003 GAO report, Federal Procurement Spending and Workforce Trends, Federal agencies procured more than $235 billion in goods and services during fiscal year 2001, reflecting an 11 percent increase over the amount spent 5 years earlier. Overall, contracting for goods and services accounted for about 24 percent of the (federal) government’s discretionary resources in fiscal year 2001 (www.gao.gov/new.items/d03443.pdf, p.2, 08/30/04). Salamon (2002) documents a similar pattern of increasing state and local procurement in the 1990s, noting that state and local procurement accounted for a higher percentage of state and local discretionary budgets (p. 288). The latest estimate puts the spending of states and localities on contracts at approximately $400 billion a year (Walters, 2004).

Underlying this sweeping contracting-out movement in the U.S. is the theory of New Public Management (NPM). This theory contends that the “old canon” of administration (direct production, coordination and monopoly, strong executive control, departmentalization and hierarchy, strong central agencies, and career public service) resulted in insulation both from market forces and from effective citizen pressure and, therefore, widespread inefficiency and policy failure. Thus, NPM emphasizes the centrality of the citizen or customer, as well as accountability for results. To achieve the latter, NPM advocates reforms that separate the policymaking
and regulatory roles of a government agency (steering) from its direct production and service delivery roles (rowing) (Osborne & Gaebler, 1993; Hood, 1995). The rationale behind such reforms is that service providers should concentrate on efficient production of quality services, without the distractions of evaluating alternative policies. In addition, policy-making can be more focused, more rigorous, and sometimes even more adventurous without having to be concerned for the needs of existing service providers. Once purchasers have been detached from providers, there are opportunities for creating contract-like arrangements to provide performance incentives. Hence, developing purchaser/provider relationships based on contracting is the centerpiece of the NPR reforms. The idea is to introduce quasi-markets with public and private service providers competing for resources from policymakers and donors.

A consequence of government’s contracting out is that a wide assortment of third parties from private and nonprofit sectors--commercial banks, social service agencies, private hospitals, religious organizations, for profit business firms--are delivering publicly financed services and pursuing publicly authorized purposes (Salamon, 2002). Thus, an elaborate system of third-party government emerges from such complex collaborative systems. The sharing of the exercise of public authority as well as the spending of public funds with a host of nongovernmental actors has become a major cause of concern (Salamon, 2002, Milward & Provan, 2002). In the eyes of some researchers, this new development constitutes the hollowing out of the state and poses acute question about the accountability of third-party government (Milward & Provan, 2002).
In this NPM environment, it is not surprising to see that government behavioral health agencies, confronted with constrained budgets, rising costs, and the responsibility to provide care to indigent persons who are uninsured or underinsured (Anderson, 2003; Essock & Goldman, 1995), became purchasers of managed behavioral health services, sometimes from for-profit companies. At the state level, Arizona, Utah, and Massachusetts initiated behavioral health carve-outs in 1991 (Croze, 2000); by 2003 half of the states (27) were using managed care practices to provide behavioral health services (State Mental Health Agency Relationship to Medicaid for Funding and Organizing Mental Health Services: 2002-2003, http://nri.rdm.org/Profiles02/14Medicaid.pdf, 09/02/04). State Medicaid programs, the single most important source of revenue for community-based mental health service providers, have turned to managed care, and many are removing the fee-for-service option completely. As of June 2003, 25.26 million Medicaid beneficiaries were enrolled in managed care, representing 59.11% of the total Medicaid population, an increase from 11 percent in 1992 (Fox, 2003; Centers for Medicare and Medicaid Services, http://www.cms.hhs.gov/medicaid/managedcare/trends03.pdf, 08/29/04).

In the area of mental health services, especially to individuals with serious mental illness (SMI), the involvement of for-profit entities is often seen as problematic, in part because clients are so vulnerable, but also, because the provision of mental health services requires the cooperation and integration of a broad range of agencies (Dill & Rochefort, 1989; Provan & Milward, 1995), most of which are nonprofit or public entities. Thus, there is the possibility that a community may have services to some of its most needy and vulnerable citizens being funded by government (primarily state and federal), monitored and controlled by a for-profit
corporation, and delivered by nonprofits. In this situation, it is not simply that all three sectors participate in the process, but it is likely that the principal organizations involved in these three sectors will have different and sometimes conflicting goals and values. This situation means that the full and cooperative integration of services to clients may be difficult to achieve. This dissertation is an examination of the level of inter-organizational cooperation (through contracts, shared information and referrals) in a mixed-sector centrally governed, public mental health service system. The main analysis will be an examination of the extent to which the network embeddedness of each agency (using measures of centrality, multiplexity, and clique membership) is related to three social outcomes: the reputation of the agency in the community, the level of trust attributed to the agency by its linkage partners, and the extent to which the agency is seen as influential within the network.

Though researchers have examined the relationship between network embeddedness and social outcomes in a network in both the business and nonprofit sectors, most of the extant embeddedness research has focused on decentralized homogeneous organizational networks, particularly for-profit organizational networks in competitive markets. Little attention has been paid to nonprofit service providers’ embeddedness in centrally governed networks, particularly centrally governed mixed-sector organizational networks designed to deliver publicly-funded services. In such networks, the funding network is likely to be centralized (and thus administration is centralized), but the client-centered networks (e.g., information sharing and referrals) may be decentralized. It is not clear to what extent the social performance implications of network embeddedness can be generalized across types of networks; namely, from decentralized networks to such centrally governed mixed-sector
networks and from business organizational networks to nonprofit organizational networks. This dissertation seeks to fill this knowledge gap by examining the relationship between network embeddedness and three organizational social performance indicators, trust, reputation, and influence, in a centrally governed network. By answering the question of whether the relationship between organizational embeddedness and each of the three organizational social performance indicators as observed in decentralized networks will hold in a centrally governed network, I hope to discern the boundary conditions of the theory of embeddedness. I also hope to contribute to the theory of embeddedness by answering the question: Do we need a separate theory of embeddedness in centrally governed networks or just a general theory of embeddedness in networks?

RESEARCH SITE

This study examines a network of mostly nonprofit, community-based health and social service agencies (N=35, thirty four public and nonprofit service providers and one for-profit case management organization) providing mental health services in Maricopa County, Arizona, which encompasses the Phoenix metropolitan area. After numerous problems when the system was run by a nonprofit organization, especially cost overrun problems, the state of Arizona decided to let a national for-profit managed care company participate in the bidding for the publicly-funded behavior health contract for providing SMI services to the Phoenix area. The hope was to bring management expertise from the private sector to stabilize the financially troubled system. Value Options (VO), headquartered in Norfolk, Virginia, is the for-profit managed care company. In 1999 it won the bid for the at-risk capitated contract to be
the Regional Behavioral Heath Authority (RBHA) of Maricopa County and became the sole purchaser of all government funded mental health services in the metropolitan area of 3.5 million people. The three-year contract was valued at $170 million for the first year (1999), with the possibility of renewal for two more years, contingent on the performance of the system. Alternative Behavioral Services (ABS), a wholly owned-subsidiary of VO, holds the contract with Value Options to provide case management services to the network. Thus, while ValueOptions controlled its own case management agencies and determined which clients qualified as seriously mentally ill (SMI), VO contracted with nonprofit and public agencies to provide key services (recreation, support, substance abuse, legal, housing, and rehabilitation. The imposition of for-profit managed care on the nonprofit service provider network marked the shift from a nonprofit governed, nonprofit service delivery system to a for-profit governed, but nonprofit service delivery system.

This network of mostly nonprofit, community-based health and social service agencies operating under a for-profit managed care arrangement offered an excellent opportunity to study the relationship between embeddedness and organizational social performance in a mixed-sector, centrally governed network.

STUDY FOCUS

The focus of this dissertation is on the concept of embeddedness, which is defined as the degree to which a health and human service organization serving SMI adults is involved in network structures of informal exchanges. I will examine the relationship between embeddedness and social performance of nonprofit service organizations under a managed care arrangement. Instead of focusing broadly on the
entire service delivery system, I have chosen as my unit of analysis the individual organizations that collectively comprise the system. The organization of the rest of this section is as follows. In this introductory chapter, I will discuss the need for centralized governance in community mental health service networks. Second, I will identify the knowledge gap between extant theories of network embeddedness and organizational social outcomes, including the lack of understanding in network embeddedness in a centrally governed network. I will then introduce the two research questions guiding this study and briefly describe the empirical analysis conducted to answer the two research questions.

The issue of service integration has intuitive appeal to mental health service professionals and policy makers alike. The prevailing assumption among practitioners in health care and human services is that an integrated network of service delivery is the most likely approach to succeed in providing vulnerable clients a seamless continuum of care, including psychotherapy, day treatment, vocational training, legal assistance, and residential treatment (Dill & Rochefort, 1989; Grob, 1994). One way to achieve integration of services is through the network form of organization because networks enable organizations to work together for a common purpose without losing their autonomy. Powell (1990) defines the network form of organization as a socially embedded exchange system that is based on complementary strengths and norms of trust, reciprocity, and reputation. He argues that networks are a distinct form of economic coordination, that is different from a market (based on price) or a hierarchy (based on ownership and administrative fiat).

Although Powell primarily uses business organization examples to illustrate network forms of organization, such forms are frequently used in health and human
services to meet the multiple needs of vulnerable populations. The difference between private sector networks and public sector networks lies in the extent to which a collective orientation is present or overrides the individual organization’s interests and needs. Laumann, Galaskiewicz, and Marsden (1978) observe that there is an almost hortatory “cult of coordination” in much of the social service delivery literature. They suggest that in such a cooperative mode of network formation, there is an implicit assumption that social welfare will be maximal when organizations with partially differentiated goals consciously cooperate to attain a collective purpose that could not be accomplished by any individual organization in the network.

The network form of organization holds the potential to solve the problem of integration and coordination in a service delivery system, but not without its own problems. To the extent that network linkages are decentralized and self-regulating (i.e., they form and break as a function of organizational needs and interests), the decentralized nature of such contingent cooperation may become its weakness under certain circumstances. For example, when network effectiveness (the extent to which services that are actually needed by clients are provided by the network) takes precedence over individual organizational interests and needs (resource acquisition, organizational survival), the effectiveness of a service delivery network may be enhanced through the failure or consolidation of member organizations that offer duplicated services (Provan & Milward, 2001).

The above discussion of the problems with the network forms of organization clearly indicates the need for centralized coordination in an organizational network. The centralized approach often involves a lead agency or the creation of Network Administrative Organization (NAO) (Human & Provan, 2000) that would centralize
the funding and authority for coordination in one set of hands at the community level (Frank & Gaynor, 1994). Chaskin et al. (2001) also advocate the establishment of broker organizations that can foster and convene partnerships and networks among existing organizations in a community. They suggest that the role of a broker organization is to be a bridge to information and resources within and beyond the boundaries of the community. They also emphasize the efficiency advantage of the broker organization; namely, it acts as a central point of contact and a clearing house for external and internal actors, streamlining communications and simplifying distribution of resources.

Despite the promise of efficiency gains of a powerful NAO in a community-based service delivery network, the deep penetration of managed care in Medicaid and taxpayer-funded health and mental health services brings additional uncertainty about how services might best be provided across agencies. This uncertainty is introduced when managed care organizations (either for-profit or nonprofit) are chosen by the state to be the NAO in charge of funding and organizing the delivery of mental health services. Under an at-risk contract with a state, under which the NAO is paid upfront a fixed amount of money to provide services for a designated population, a managed care organization (the NAO) has strong incentive to cut costs and impose tight controls (through case management, utilization review, prior authorization, and discounted rates for service) on the mental health service delivery network. The question is, how will the norm of collaboration among agencies be affected in such a managed mental health system? Will the agencies be able to maintain extensive client-centered collaboration under the centralized governance of funding relationships?
In the health and human service sector, nonprofit organizations are embedded in an extensive network of inter-organizational relationships for a variety of reasons (resource pooling, funder mandates, sectoral fragmentation and the complexity of the social problem, professional norms) (DiMaggio & Powell, 1983; Wiewel & Hunter, 1985). Organizational researchers have found that an organization’s embeddedness in an informal exchange network determines its social performance, including such outcomes as trust, reputation, and influence in the network (Galaskiewicz, 1985; Laumann, et al, 1978; Stuart, Hoang, & Hybels, 1999). Embeddedness has also been found to affect task performance (Uzzi, 1996, 1997, 1999). Such networks of inter-organizational cooperation constitute what Putnam (1993, 2000) calls the social capital of the community.

Several important studies have examined the patterns of collaboration among service providers in centralized vs. decentralized service delivery systems in the U.S. and documented the reduced organizational autonomy and horizontal connections among network members in centralized systems. Those studies include Morrissey and his associates’ (1994) evaluation of the Robert Wood Johnson Foundation (RWJF) Program on Chronic Mental Illness (PCMI), Provan and Milward’s (1995) study of four cities’ mental health delivery systems, Bickman’s (1996) study of the Fort Bragg Child and Adolescent Mental Health Demonstration, Morrissey and his associates’ (1998) study of ACCESS (Access to Community Care and Effective Services and Supports) demonstration program for persons who are homeless and mentally ill. Although these four important comparative network studies produced mixed findings regarding the utility of centralized governance in improving system and client outcomes, one common finding was that while network centralization
promotes system efficiency under certain conditions, network centralization may
reduce local autonomy and horizontal connections among network members.

It is important to note that in a centrally governed network, member
organizations will interact with and often be dependent on a network administrative
organization (NAO), which is either weak or does not exist in a decentralized
network. The NAO’s extensive involvement with other agencies in the network will
result in higher levels of embeddedness. Meanwhile, empirical evidence suggests that
network centralization reduces horizontal connections among network members and
tends to create lean and efficient networks (Alter & Hage, 1993; Morrissey, 1998).
This tendency for lean and efficient relationships will result in reduced levels of
embeddedness for network agencies. In this situation, as the NAO’s embeddedness in
funding and informal collaborative network increases, the embeddedness of the other
network agencies in informal collaboration will typically decline. Previous research
on decentralized networks has found that organizational embeddedness determines
organizational social performance (Banaszak-Holl, 1998; Benjamin & Podolny, 1999;
Gulati & Gargiulo, 1999; Podolny, 1993; Powell, 1990). Extending this finding to a
centrally governed network, it is plausible to argue that the NAO’s social performance
will be enhanced because of its enhanced embeddedness and network agencies’ social
performance will be suppressed because of their reduced embeddedness.

A caveat to this argument is that to the extent that the NAO has goals and
objectives that are different than those of most network agencies, its social
performance ratings by network agencies may not be elevated. A more likely
scenario is that even though network agencies’ embeddedness in a centrally governed
network will be reduced, these agencies will often have had a history of working
together, developing reputation, trust, and influence over time. These social performance outcomes may be resilient in the eyes of a focal agency’s partners and their contacts, even after the NAO is introduced into the system. Despite reduced embeddedness, some network agencies will receive high ratings of social performance by other agencies. This situation may mean that embeddedness will be loosely coupled with organizational social performance. Thus, the impact of embeddedness on social performance in centrally governed networks is not clear and may have both positive and negative effects. This forms the basis of my first research question:

Research Question 1: To what extent is the embeddedness of nonprofit service providers in a centrally governed network related to their social performance?

The second research question examines the relationship between organizational embeddedness and the specific content of the network ties.

Research Question 2: To what extent does the embeddedness of nonprofit versus for-profit organizations in a centrally governed network depend on the nature of the social ties being considered?

This question is derived from earlier findings that there is a loose coupling between organizational embeddedness in administrative and informal relationships (Morrissey et al., 1986; Van de Ven & Walker, 1984). The extent of relationship formality can be viewed on a continuum. Administrative relationships such as funding and contracts will be more formal and hierarchical, while client-centered relationships
such as information sharing and referrals will be more informal. As the formality and power asymmetry of relationships increases, embeddedness, based on network connectedness and network centralization, is likely to exhibit different patterns.

EMPIRICAL ANALYSIS

The data for this study were collected in 2000, shortly after the introduction of a for-profit managed care organization as the network administration organization for mental health services in Maricopa County (Phoenix, Arizona area). The data were gathered by an extensive social network survey conducted on the inter-agency delivery of community mental health services in Maricopa County. Data were collected from 34 nonprofit agencies and the two for-profit entities that essentially ran the system, ABS and VO. VO was the network administrative organization (NAO) that funded and managed the system while ABS was the case management agency for the system. The overall response rate from the survey was 92.3%. Network ties were measured in terms of contract, information sharing, and referral (sent and received) links to agencies. Each agency was asked: a) to identify its links to every agency in the system for each of four types of ties – shared information, contracts, referrals sent, and referrals received (used to calculate different measures of embeddedness); b) to rate the overall quality, based on trust, of its relationship with its linkage partners (trust); c) to identify other organizations in the network that “they most admire for doing an especially good job of providing services to adult seriously mental ill clients” (reputation); d) to identify those “organizations whose needs, goals, decisions, and/or expectations are generally taken into consideration by your agency when major decisions are made related to the services it provides to adults with
serious mental illness” (*influence*); and e) the percentage of budget devoted to 12
types of mental health services (*service specialization*).

The empirical analysis was conducted using both network analysis of the
survey data and multiple regression analysis on the relationship between
embeddedness and organizational social performance data. Through this theory-based
empirical analysis, I hope to contribute to an understanding of the cross-sector
relationships between nonprofit and for-profit organizations. The results of this study
will enable me answer part of the question: What is the impact of cross-sector formal
and informal collaborative relationships on organizational embeddedness? By
empirically answering this question, I test the theory of embeddedness in a unique
setting and hope to shed light on the boundary conditions of the theory of
embeddedness. An important theoretical contribution of my study is to bring the
theory of embeddedness in the nonprofit sector up to par with the well-established
theory of embeddedness in the business sector.

My work should also have important policy implications, enabling policy
makers to be better informed about the structural implications of cross-sector
collaboration. Appropriate policy and funding decisions can then be made to develop
networks that operate more efficiently. The findings of this study will also help build
a greater understanding of how nonprofit agencies work together when their activities
are monitored and funded by a for-profit corporation. This cross-sector knowledge is
becoming increasingly important as more and more nonprofit agencies must work
closely with for-profit organizations, especially in health and human services. This is
an area that has received considerable attention in recent years, but one that has not
yet been the focus of much empirical research.
CHAPTER TWO
BACKGROUND

This chapter will provide the background knowledge needed to understand the context in which this dissertation takes place. I will present an overview of historical developments in three specific areas of interest: mental health policy and history, managed care and behavioral health, and contracting out. In the section on mental health policy and history, I focus on the important developments in policy and treatment that have occurred since World War II in the United States. It is within this context that the other two sections of this chapter must be understood. The trends that occurred on a national level have had a direct impact on the state and local service delivery level. The second section, managed care and behavioral health, briefly traces the history and ascent of managed care as a delivery and financing mechanism for health care in the United States. It then examines the adoption and evolution of managed care in public behavior health in the last decade. This section is important because managed care is the empirical setting of this dissertation. The last section presents a discussion of contracting out, which is a policy tool various levels of governments in the U.S. have increasingly chosen to accomplish many of their tasks. A consequence of governments contracting out is that a wide assortment of third parties are delivering publicly financed services and pursuing publicly authorized purposes. This development constitutes the hollowing out of the state and an elaborate system of third-party government emerges from the hollow state. I then draw from the organizational economics framework and Stinchcomb’s thinking on hierarchical elements in a contract to explain the complex combination of market and hierarchy
relationships in managed behavioral health contracts in the public sector. I argue that in a thin market of mental health, hierarchy is a more efficient form of organization than competitive contracting because hierarchical arrangements in a community mental health system will incur much less transaction costs than competitive contracting. The contracts between managed behavior health organization and service providers become the functional substitutes of a hierarchy to the extent that such contracts contain the same key elements as essential for the functioning of an organizational hierarchy (i.e., incentive system, authority system, conflict resolution system, administered pricing, and standard operating procedures).

MENTAL HEALTH POLICY AND HISTORY

People living in the colonies of North America in the 17th and 18th centuries generally explained bizarre or deviant behavior as God’s will or the work of the devil. Influenced by the British poor law, which established the principle that society had a corporate responsibility for the poor and dependent, early colonial laws required local communities to make provision for various classes of dependent persons, including the mentally ill. Some people with mental illnesses received care from their families, but most were jailed or confined in local almshouses with the poor and infirm. Given the decentralized governance and rural character of the colonial society, the main carriers of the responsibility for the mentally ill were family or community. They constituted an informal solution to the problem posed by mental illness.

By the mid-19th century, however, urbanization and industrialization had redefined the nature and the responsibilities of the family. The separation of home from workplace—a characteristic of the nineteenth century industrial society where
work was often centralized in factories or other commercial workplaces-led to a diminution of the educational and welfare functions of the family, both of which were transferred to public or quasi public institutions (Grob, 1994). The care of the insane proved far more complex in the emerging urban-industrial society than it had been in the rural areas and villages of seventeenth and eighteenth century America. Dramatic growth of population, high rates of geographical mobility, and dense population in urban areas made the informal response to mental illness by families and communities inadequate.

The solution was so called insane asylums-- eventually called state mental hospitals-- which were primarily an institution designed to serve more densely populated areas and to assume functions that previously had been the responsibility of the family. Patients entered state hospitals, where they were fed, drugged and treated in one building, and kept under lock and key for years, if not for life. The policy of warehousing the mentally ill continued unabated after World War II (Barrett, Greene, & Mariani, 2004).

Lessons from World War II

At the outset of World War II, the armed services incorporated a psychiatric examination into the induction process. Between 1942 and 1945, among the 15 million men examined for induction into the armed forces, twelve percent of those screened were rejected for neuropsychiatric reasons (Weiss, 1990). Of all the reasons for rejection, mental health problems were by far the most common. Furthermore, mental illness or mental deficiency accounted for 37 percent of all discharges from
the armed forces during the war. After the war, more than 100,000 veterans needed psychiatric care (Weiss, 1990).

Such a large-scale population with mental illness, coupled with the front line successes of brief interventions in the treatment of “war neurosis,” stimulated renewed interest in mental health and a new optimism for the treatment of mental illness (Tessler & Goldman, 1982). The policy implications of the lessons learned on the battlefield were obvious. A military psychiatrist noted,

“Treatment in the battle zone was of crucial importance in providing the atmosphere of expectancy for recovery and return to combat duty. Forward, brief simplified treatment clearly communicated to patients, treatment personnel, and the combat reference group that psychiatric casualties were only temporarily unable to function. Conversely, evacuation of psychiatric casualties to distant medical facilities weakened relationships with the combat group and implied failure in battle for which continuation of the sick role was the only honorable explanation.”


If such innovations as rest periods, rotation policies, and measures encouraging group cohesion and social relationships had reduced psychoneurotic episodes in the military, a logical conclusion followed: treatment in civilian life, as in the military, had to be provided in a family and community setting rather than in a remote, isolated, and impersonal institution (Grob, 1994).

The wartime experiences of 2,400 psychiatrists created an alluring model and left many psychiatrists who returned to civilian practice after the war convinced of the need for fundamental changes in the ways the needs of mentally ill were addressed. At the end of the war, conditions appeared propitious for dramatic changes in the nation’s entire health care system. The New Deal and World War II had dramatically
broadened the scope of federal authority and there was an increasingly pervasive recognition that national problems required national solutions.

The passage of first major piece of legislation in July of 1946 that specifically addressed the problem of the mentally ill in America, the National Mental Health Act (Public Law 79-487), signaled the initial attempt to make the federal government a significant participant in mental health policy. The Act created the National Institute of Mental Health (NIMH) and empowered NIMH to provide technical assistance and consultations to states mental health authorities, to establish research and training grant programs, and to establish a National Mental Health Advisory Council (Cutler, Bevilacqua & McFarland, 2003).

Although Congress provided little guidance and few resources for NIMH officials, NIMH pursued a number of innovative policies to turn the vision of community–based mental health services into a reality. Those policies included encouraging behavioral sciences and non-medical mental health professionals to work in mental health activities. Those policies also stimulated and supported innovation in state government and mental institutions through the awarding of research grants, sponsoring of demonstration projects, and technical assistance; and by educating professionals, policy makers, and the public about the treatment of mental illness (Weiss, 1992). NIMH’s success in reorienting the attention of state mental health officials was evident in a modest redirection of state and local funds into community–based services in many states. Between 1948 and 1965, state and local expenditures for community–based services increased from $2.4 million to $119.9 million, an increase attributed to the stimulating effect of federal funding (Weiss, 1992).
Deinstitutionalization Policy

The discovery of chlorpromazine in 1954 launched a revolution in the treatment of severe mental illness. Previous pharmacological treatments consisted of nonspecific agents that sedated patients and reduced agitation but did not specifically ameliorate their symptoms or treat their illnesses. With chlorpromazine, many patients became free of symptoms entirely and returned to functional lives in the community. In 1956, two antidepressants, imipramine and iproniazid, were developed (CQ Researcher, 2004). In the years since the introduction of chlorpromazine, medications used in the treatment of many psychiatric disorders have become more efficacious, and have had relatively favorable safety and side effect profiles.

The discovery of these new psychiatric medications, together with major investments by the federal government in training mental health professionals and a subsequent dramatic rise in the number and types of mental health practitioners and facilities in the community, led to a sharp decrease in the population of American state mental hospitals. The number of persons residing in the nation’s public mental health hospitals decreased from 559,000 in 1955 to 215,000 in 1974 and to 146,000 in 1976 (Rapson, 1980). In their report on Governing Magazine’s year-long study of health care in all 50 states, Barrett et al (2004:9) estimates that there are now approximately 50,000 people still residing in mental institutions. By 2000 states had closed 115 of 350 hospitals and dramatically reduced bed capacity in most of the others. Table 2.1 illustrates the drastic reduction in number and rate of 24-hour hospital and residential treatment beds in state and county mental hospitals over a thirty-year (1970-2000) period. This is known as the deinstitutionalization policy.
The policy was intended to prevent the unnecessary admission to and retention in highly restrictive mental institutions and to restore people with mental illness to normal life in the community with the help of community facilities. Despite the soundness of the policy objectives, the policy has been beset by problems. For one thing, community mental health policy was predicated on several key assumptions: (1) patients had a home, (2) patients had a sympathetic family or other person willing and able to assume responsibility for their care and constitute a natural social support system, and (3) there were readily accessible community-based mental health services to help the family and the patient. However, these assumptions appear to have been based more on wishful thinking than facts. For example, in 1960, 48 percent of the mental hospital population was unmarried, 12 percent were widowed, and 13 percent were divorced or separated. A large proportion of patients, in other words, may have had no families to care for them (Grob, 1997).

The results have been tragically predicable. Thousands of mentally ill patients have returned to local communities only to encounter the hostility of the general public (due to stigma of mental illness), the absence of family and friends, and the neglect and unresponsiveness of agencies. Mental patients have remained unsupervised, unmedicated, exploited, and sometimes a threat to neighbors and most often, the prey of criminals (Wegner, 1990). Even early in the process of deinstitutionalization, it became apparent that something needed to be done for
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<tbody>
<tr>
<td>Number of 24-hour hospital and residential treatment beds</td>
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</tr>
<tr>
<td>All organizations*</td>
<td>524,878</td>
<td>274,713</td>
<td>272,253</td>
<td>290,604</td>
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<td>156,482</td>
<td>98,789</td>
<td>81,911</td>
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</tr>
<tr>
<td>24-hour hospital and residential treatment beds per 100,000 civilian population</td>
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<td>All organizations</td>
<td>263.6</td>
<td>124.3</td>
<td>111.6</td>
<td>112.1</td>
<td>76.8</td>
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<tr>
<td>State and county mental hospitals</td>
<td>207.4</td>
<td>70.2</td>
<td>40.5</td>
<td>31.6</td>
<td>21.2</td>
</tr>
</tbody>
</table>

Source: Mental Health, United States, 2002.
* refers to state and county mental hospitals, private psychiatric hospitals, non-Federal general hospitals with separate psychiatric services, VA medical centers, Federally-funded community mental health centers, residential treatment centers, and all other mental health organizations (psychiatric outpatient clinics, partial care organizations, and multi-service mental health organizations).
these severely mentally ill and disabled persons now in the community if they were no longer to be cared for in the traditional hospital setting. Under these circumstances, the United States Congress passed the Mental Health Study Act (Public Law 84-192) in 1958. The act provided the basis for the historical study conducted by the Joint Commission on Mental Illness and Health.

As a result of the commission’s findings, published in 1962, Congress passed the Community Mental Health Centers Act of 1963, which authorized the construction of Community Mental Health Centers (CMHC) throughout the country. President Kennedy signed it into law on October 31, 1963. The federally funded CMHCs were initially required to provide five basic services: inpatient care, outpatient care, partial hospitalization, emergency care, and consultation/education. Federal funding for staffing these centers would be phased out in a sliding scale over four years. The hope was that CMHCs would develop alternative sources of funding (e.g. the savings from reduced state mental institution expenditure) and become self-sufficient. This expectation for financial solvency gave CMHCs strong disincentives to serve poor SMI clients released into the community. Although these indigent clients had a full array of needs (housing, income support, job training, psychosocial rehabilitation, and advocacy) in addition to their need for medical-psychiatric care, the financial pressure for self-sufficiency compelled CMHC to focus on prevention and early treatment services, rather than treating the SMI clients, and develop a new clientele -- paying clients with less serious mental illness, also known as the worried well. In their formative years, most CMHCs
were unable and unwilling to care for the SMI clients (Grob, 1994; Morrissey et al., 1994).

On another front, there was increasing judicial activism in the mental health arena. This activism was largely the result of the broadened concern of the postwar civil rights movement to include the consideration of the rights of the mentally ill. During and after the 1960s, federal and state courts began to take up legal issues relating to the mentally ill, brought to the court by public–interest lawyers representing mentally ill clients. In a series of landmark decisions, the courts affirmed the rights of the seriously mentally ill. In Lake v. Cameron (1967), the court in the District of Columbia held on statutory grounds that the patients in St. Elizabeth’s Hospital, the District’s equivalent of a state mental hospital, were entitled to be treated in a setting that was “the least restrictive alternative”. Lawyers seized on this ruling to bring suit in almost every state to force psychiatric hospitals to discharge patients to community facilities (Torrey, 1997). The classic case that established that foundation for the right to treatment was Wyatt v. Stickney (1974). The Alabama court ruled that hospitalized psychiatric patients have a right to treatment and that the state must provide adequate staff and resources to provide such treatment. In 1975, Dixon v. Weinberger provided the breakthrough in defining the state’s responsibility to develop a community-based continuum of care (Rapson, 1980). The court ordered the government to develop a spectrum of community based programs and facilities that would allow the establishment of the least restrictive principle to come to fruition.
Although the above noted court decisions have been instrumental in promoting and protecting the civil rights of people with serious mental illness residing in state mental hospitals and the community alike, in some cases the immediate effect of court rulings has been damaging to patients’ best interests. For example, in the landmark right-to-treatment case in Alabama, Wyatt v. Stickney, the court ruling defined minimum standards of care and stated that unless a hospital could provide specific treatment for a patient's condition, it could not hold that patient against his will. Considering that the provision of such treatment would have required the expenditure of large sums of money, the Alabama state legislature chose not to appropriate the additional funds, thus, in effect, mandating the release of thousands of patients (Bassuk & Gerson, 1978).

Emergence of a Fragmented System

At about the same time, the creation of federal entitlement programs provided further financial incentives to states to move patients out of state mental institutions. In 1965, Congress passed a series of far-reaching amendments to the Social Security Act of 1935. Title 19 (Medicaid) provides financial assistance to the states to furnish health and psychiatric care to indigent persons. Title 18, Part A (Medicare) deals with hospital insurance for the aged, and Part B provides insurance for physicians’ services. Both Medicaid and Medicare include psychiatric benefits. The limitations on the use of Medicare and Medicaid funds for aged patients in state hospitals encouraged states to send such individuals to nursing homes because of the far more generous federal
payments. This movement of mentally ill patient from state mental hospitals to nursing homes was labeled as re–institutionalization.

Under these circumstances, responsibility for care of SMI living in the community was slowly subsumed under the jurisdiction of federal entitlement programs. The 1956 amendment to the Social Security Act established Social Security Disability Insurance (SSDI) to enable eligible persons aged fifty and over to receive disability benefits. Mentally disabled persons became eligible for income support in the subsequent expansion of SSDI coverage. The 1972 amendment to the Social Security Act established the Supplemental Security Income (SSI) for the Aged, the Disabled, and the Blind program to provide a minimally adequate income to those whose age or disability made them incapable of holding a job. In addition, public housing programs and food stamps added to the resources of mentally ill persons living in the community. Although these federally funded support programs were not designed to promote deinstitutionalization of the mentally disabled, states accelerated their pace of deinstitutionalization to shift the fiscal responsibility to the federal government.

In the mental health system prior to deinstitutionalization, care and treatment were all organized and delivered inside the walls of state mental hospitals. Imperfect as they were, they constituted an integrated and comprehensive service delivery system. In the new community-based mental health system, however, there was a widespread diffusion of responsibility in the care of people with SMI. While the state mental hospital’s centrality in the system was greatly diminished, there was no single organization that
accepted longitudinal responsibility for patients’ needs and no single authority that had overall responsibility to provide them with services.

Bassuk and Gerson (1978) observed that bureaucratic fragmentation, diffusion of responsibility, and lack of coordination began at the federal level and extended through the state and local mental health apparatus. He noted that by the time of his article’s publication (1978) eleven major Federal departments and agencies shared the task of administering 135 programs for the mentally disabled. At the state and local level there was a similar fragmentation of roles. In particular, there was a lack of coordination, as well as competition for funds and even enmity between the administrators of the old state hospital systems and the managers of community programs.

At the very time that unified, coordinated, and integrated medical and social services were needed to deal with the growing SMI patient population in the baby-boomer generation, the policy of deinstitutionalization had created a decentralized and uncoordinated system of care, treatment, and financing. While Table 2.2 shows a more than two-fold increase in the number and rate of less than 24-hour care additions in a ten-year period (1969-1979), Table 2.3 presents an almost five-fold increase in the number of less than 24-hour care episodes in a ten-year period (1965-1975). More importantly, Table 2.3 reveals the reversal of the ratio of 24-hour hospital and residential treatment care to less than 24-hour care episodes in the forty-five-year period: from 77.4/22.6 in 1955 to 21.7/78.3 in 2000. Evidently, the bulk of mental health care is provided in the community, rather than in the state and county mental hospitals. In this situation, state or local mental health authorities had little fiscal incentive to provide follow up care. If
TABLE 2.2.

Number and Rate of Less Than 24-Hour Care Admissions, by Type of Mental Health Organizations

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<tr>
<td>Number of less than 24-hour admissions</td>
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<td></td>
</tr>
<tr>
<td>All organizations*</td>
<td>1,202,098</td>
<td>2,807,058</td>
<td>3,298,473</td>
<td>3,516,403</td>
<td>4,048,115</td>
<td>4,615,125</td>
</tr>
<tr>
<td>State and county mental hospitals</td>
<td>174,737</td>
<td>91,727</td>
<td>48,221</td>
<td>41,759</td>
<td>64,079</td>
<td>55,124</td>
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<tr>
<td>Less than 24-hour care admissions per 100,000 civilian populations</td>
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<td></td>
</tr>
<tr>
<td>All organizations</td>
<td>603.8</td>
<td>1,236.6</td>
<td>1,352.4</td>
<td>1,356.8</td>
<td>1,504.4</td>
<td>1,646.7</td>
</tr>
<tr>
<td>State and county mental hospitals</td>
<td>87.8</td>
<td>40.4</td>
<td>19.8</td>
<td>16.1</td>
<td>23.8</td>
<td>19.7</td>
</tr>
</tbody>
</table>

Source: Mental Health, United States, 2002.

* refers to state and county mental hospitals, private psychiatric hospitals, non-Federal general hospitals with separate psychiatric services, VA medical centers, Federally-funded community mental health centers, residential treatment centers, and all other mental health organizations (psychiatric outpatient clinics, partial care organizations, and multiservice mental health organizations).


**TABLE 2.3.**

Number and Percent Distribution of Hospital and Residential Treatment Care and Less Than 24-hour Care Episodes in Mental Health Organizations: United States, Selected Years, 1955-2000.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Episodes</th>
<th>24-hour hospital and residential treatment care episodes</th>
<th>Less than 24-hour care episodes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>2000</td>
<td>10,741,243</td>
<td>2,335,771</td>
<td>21.7</td>
</tr>
<tr>
<td>1994</td>
<td>9,584,216</td>
<td>2,502,166</td>
<td>26.1</td>
</tr>
<tr>
<td>1986</td>
<td>7,885,618</td>
<td>2,055,571</td>
<td>26.1</td>
</tr>
<tr>
<td>1975</td>
<td>6,857,597</td>
<td>1,817,108</td>
<td>26.5</td>
</tr>
<tr>
<td>1965</td>
<td>2,636,525</td>
<td>1,565,525</td>
<td>59.4</td>
</tr>
<tr>
<td>1955</td>
<td>1,675,352</td>
<td>1,296,352</td>
<td>77.4</td>
</tr>
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</table>

Source: Mental Health, United States, 2002
people with SMI relapsed in the community setting, they could simply be readmitted to
the psychiatric ward of a general hospital where the federal government would pick up
the bill. Alternatively, the SMI patients entered the prison mental health system where the
Department of Corrections paid the bill. Without integrated and comprehensive mental
health services, the fate of deinstitutionalized SMI clients were predictably tragic.

Homelessness and criminalization of people with SMI are some the most visible
unintended consequences of deinstitutionalization. A recent CBS News report
(CBSNEWS.com, 2004) estimated that there are now 300,000-400,000 people behind
bars with serious mental illness. The quality of life of the deinstitutionalized SMI patients
who became homeless or were reinstitutionalized in nursing homes or prisons is worse
than that in a state mental hospital. It is evident that relying on antipsychotic drugs alone
cannot guarantee an acceptable quality of life in the community for the SMI clients. Basic
human needs (food, clothing, shelter, recreation, employment, legal services, and
transportation) need to be met. In addition, the consequences of the illness (i.e.,
dysfunction, disability, and disadvantage), rather than just the illness per se, need to be
treated (Anthony, 1996).

Emphasis on Recovery and Service Integration

Under these circumstances, there has been a notable shift in community mental
health philosophy from the symptom control and community maintenance goals of the
1960s and 1970s, to an emphasis on psychosocial rehabilitation during the 1980s (Drake
et al, 2003). The psychosocial rehabilitation approach to the treatment of SMI is based on
a new understanding of the etiology of mental illness. While the 1950s and 1960s were dominated by the emphasis on biological determinants and reliance on anti-psychotic drugs, the 1970s saw the emergence of the stress-diathesis model positing that psychopathology is produced by an interplay of factors, a genetic or biological vulnerability combined with stress in one’s environment (Mowbray, 2002). It follows that the treatment of SMI should focus on the combined effect of psychiatric and psychosocial interventions.

Proponents of psychosocial rehabilitation emphasized that SMI not only causes mental impairments or symptoms but also causes significant functional limitations, disabilities, and handicaps, such as lack of work adjustment skills, social skills, unemployment, homelessness, discrimination and poverty (Anthony, 1996). Focusing on improving the individual’s functioning and quality of life rather than reducing the symptoms of illness, psychosocial rehabilitation helps the client to build skills in daily life and establish supports needed to function as well and as independently possible in normative adult roles (employee, student, parent, or spouse) and to develop a satisfying life in the community. In the 1990s, the ideology of community mental health shifted to the theme of recovery with the goal to help people pursue independence, self-management, personally meaningful activities, and a better quality of life. It is in this context that several models for outpatient psychiatric care that integrate most of the clinical, housing, and rehabilitation needs of the mentally ill have emerged. The most notable of them are the Madison model of Program in Assertive Community Treatment (PACT) (Grob, 1994; Torrey, 1997). Based on a experimental program that developed in
Madison, Wisconsin, in 1972, PACT program used continuous treatment teams to provide 24-hour, 7-day-a-week, on-call coverage by a team member with attention to clinical, housing and rehabilitation needs. A more significant development was the National Institute of Mental Health’s Community Support Program. This program was developed in 1977 to assist states in the planning and implementation of comprehensive, community-based services for the estimated 1.5 million people with SMI in the community. The goal of the program was to promote the development of local "Community Support Systems (CSS)” so that a natural support system, bolstered by a network of services, can ameliorate the stress of adjustment to community life for people with SMI.

Several distinct models of CSS emerged from the states’ effort to adapt the CSS to local conditions. In a “linkage model” CSS in Alabama, a core agency subcontracted for services it did not provide directly and coordinates overall service through case management. In a “monopoly model” CSS in Maine, a core agency (a CMHC) maintained a monopoly over the provision of direct services to the SMI. The core agency in a “social service model” CSS in Minnesota consisted of a social service program not targeted specifically to mental health. In a “state psychiatric center model” in New York, a state mental hospital services as the core agency in the community.

CSP contracts were established with 18 states and the District of Columbia (Wegner, 1990), and the evidence is clear that the 3.5 million patients covered by the CSP program have benefited (Tessler & Goldman, 1982). The ten services defined by the NIMH were actually in use; and those with the greatest needs were the beneficiaries
(Grob, 1997). Despite these encouraging results, the program was unpopular in the Reagan administration, which was preoccupied with reducing both taxes and federal expenditures. Under President Reagan’s vision of “New Federalism”, the administration reversed the decades-long federal leadership in health care and sought to return both the administrative and fiscal responsibility to the state and local level. It not only implemented a 25 percent cut in federal funding for community mental health services, which includes the CSP program, it also called for the conversion of federal mental health programs into a single block grant to the states carrying few restrictions and without policy guidelines. In the summer of 1981, the Omnibus Budget Reconciliation Act was signed into law by President Regan. It combined federal mental health programs and substance abuse programs into a block grant to states for mental health services and substance abuse. In addition, it drastically cut funding for the NIMH, forcing it to eliminate all of the 10 federal regional offices of NIMH and resulted in a complete lack of federal capacity to provide technical assistance to state mental health authorities.

In the ensuing decade, the focus of policy and funding shifted back to the states and local communities. In some way this transfer and decentralization of authority restored in part the tradition that prevailed until World War II. The big difference is that what the states inherited from this transfer of authority is a fragmented and decentralized system that was grossly inadequate to take care of the multiple needs of the people with SMI living in the community.

By the mid-1980s the call for service integration became urgent. Building on the CSP program’s accountability model, researchers were calling for centralizing
administrative, fiscal, and clinical control under a regional mental health authority model (Dill & Rochefort, 1989). The claimed advantages of this regional mental health authority are that it not only eliminated the financial incentive to cost-shifting, it will also accelerate the development of other alternatives to expensive hospitalization and service integration of clinical, housing, and rehabilitation needs of the SMI clients (Torrey, 1997). In other words, the more integrated a service delivery system is, the more effective and efficient it will be in meeting the needs of its SMI clients.

Several important studies have examined the impact of service integration through a network administrative organization (regional mental health authority) on client outcomes and mental health service system performance in the U.S. Those studies include Morissay and his associates’ (1994) evaluation of the Robert Wood Johnson Foundation (RWJF) Program on Chronic Mental Illness (PCMI), Provan and Milward’s (1995) study of four cities’ mental health delivery systems, Bickman’s (1996) study of the Fort Bragg Child and Adolescent Mental Health Demonstration, Morissay and his associates’ (1998) study of ACCESS (Access to Community Care and Effective Services and Supports) demonstration program for persons who are homeless and mentally ill. In these important studies, system design (the presence or absence of a central network administrative organization) is the independent variable. Changes in client outcome, system outcome, and the pattern of inter-organizational linkage as compared to that of control sites are dependent variables.

Although these important studies of service integration produce mixed findings regarding the utility of centralized coordination in improving system and client outcomes,
a shared finding emerging from them is that network centralization promotes system efficiency under certain conditions but a possible tradeoff is that network centralization may reduce local autonomy and horizontal connections among service providers.

MANAGED CARE AND MANAGED BEHAVIOR HEALTH CARE

While service integration as an appealing theory is gaining momentum in the mental health research and policy making circle in the last two decades, mental health policy was also affected by the contemporary development in national health care policy. Most notably, the runaway national health care expenditure reached a historical proportion in early 1990s, and cost containment became a top priority for privately-funded and publicly funded health care alike. Table 2.4 illustrates the national health expenditures trends in public versus private funding over selected calendar years in the period spanning 1965-2001. The 36.4% growth rate in national health expenditures as measured by percent of gross domestic product (GDP) over the 10 year period from 1980-1990 is shocking, given the 25.7% growth rate of the previous decade (1970-1980). The introduction of managed care into privately-funded and publicly-funded health insurance marked a turning point in the attempt to stop the national health care expenditures from growing out of control. What follows is a brief description of the history of managed care, its ascent in the U.S. health care market, and its adoption and evolution in public behavioral health in the past decade.
TABLE 2.4.
National Health Expenditures Trends in Public versus Private Funding
Selected Calendar Years

<table>
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<tr>
<th>Calendar Year</th>
<th>Percent of GDP</th>
<th>Private funds Amount in billions</th>
<th>Per Capital</th>
<th>Public Funds Amount in billions</th>
<th>Per Capital</th>
</tr>
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<tbody>
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<td>1970</td>
<td>7.0</td>
<td>$45.4</td>
<td>216</td>
<td>$27.6</td>
<td>131</td>
</tr>
<tr>
<td>1980</td>
<td>8.8</td>
<td>140.9</td>
<td>612</td>
<td>104.8</td>
<td>455</td>
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<tr>
<td>1990</td>
<td>12.0</td>
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Managed care refers to various financial incentives for providers and techniques of managing care, e.g. capitation and risk-sharing, case management, and utilization review. It is also used to represent the organizations that perform the various techniques of managing care (Fox, 2003). Health maintenance organizations (HMOs) are one of the most visible types of organization that implement managed care techniques (Wagner, 2003). The philosophy behind managed care is that it is better for the patient and more cost effective to focus on preventing illness or to treat an illness in its early stages than to treat an illness in advanced stages (Nielson, 2004). Thus, managed care focuses on preventive care, such as immunizations and physical examinations, and providing care in an outpatient setting to avoid the high costs of expensive patients care in hospitals.

Some of the managed care techniques, such as case management and integrated provider networks, were pioneered in public mental health services. For example, the CMHC movement in the 1960s envisioned CMHC as the hub of an integrated mental health service system for a catchment area, and the CSP initiative in the late 1970s went a long way toward defining the components of an integrated community service system and promoting the critical role of case management for ensuring clients’ continuous access to a variety of services. Despite these promising early beginnings, the large-scale implementation of these techniques has been thwarted by the fragmented nature of the mental health system and the devolution of administrative and fiscal responsibility to the state and local level in the early 1980s. It is only in a time of runaway national health expenditures (early 1990s) that the
private sector managed care practices became widely adopted in public behavioral health (mental health and substance abuse [BH]). The savings realized by managed care in the commercial insurance market in the 1990s proved to be the decisive factor in motivating government agencies to adopt managed behavioral health care (Anderson, 2003; Croze, 2000; Fox, 2003).

The first prepaid group practice, or HMO as it was known since early 1970s, is the Western Clinic in Tacoma, Washington. Starting in 1910, the Western Clinic offered lumber mill owners and their employees, exclusively through its own providers, a broad range of medical services in return for a premium payment of 50 cents per member per month (Fox, 2003). Although there were only a few prepaid group practices in the country in the midst of the Great Depression, they were fiercely opposed by organized medicine, which favored traditional indemnity-type (fee-for-service) insurance. In some cases, the founders of prepaid group practices were stripped of their membership in state and local medical societies. Such opposition to prepaid group practice was encouraged by the American Medical Association’s (AMA) strong stance against prepaid group practices in 1932 (Fox, 2003).

The enactment of the federal HMO Act of 1973 gave a major boost to the HMO movement. The term health maintenance organization was coined as an appealing substitute for prepaid group practice (Fox, 2003). Most important among the main features of the HMO Act were the "dual choice" provision, which requires that employers with 25 or more employees that offer indemnity coverage also offer two federally qualified HMOs (Fox, 2003). This provision gave HMOs access to the
employer-based insurance market. The desire to foster HMOs reflected the perspective that the fee-for-service system, by paying physicians based on their volume of services, contained the wrong incentives. In this light, managed care plans were created, in part, to address health insurers’ concern with the moral hazard of unnecessary utilization.


“In 1988, insurance based on fee-for-service was the predominant method of financing health care. But in the ensuing decade, various management techniques were added such that insurance that used “unmanaged fee-for-service” as its payment mechanism plummeted from 71 percent to 15 percent (HayGroup, 1998). Managed care arrangements (HMO, PPO, or POS plans), which fundamentally alter the way in which health care resources are allocated, now cover the majority (56 percent) of Americans (Levit & Lundy, 1998).”

The ascent of managed care in the U.S. health care market drastically changed the way health services are dispensed. Specifically, managed care organizations
(MCOs) employ a wide variety of strategies to reduce unnecessary utilization and control the costs of health care. MCOs control demands by imposing higher co-payments and deductibles, limiting benefits, and delaying access to treatment. In addition, MCOs control supply by discounted provider fees, risk-sharing, gatekeepers, utilization review and case management, the latter referring to the coordination of services for persons with expensive conditions, such as cancer and AIDS. Under the HMO arrangement, enrollees must use a primary care physician (PCP) gatekeeper to access specialty services. PCPs provide the needed treatment to a visiting patient or decide that the condition warrants referral to a specialist. Thus, the PCP’s professional judgment of the presence or absence of medical necessity, coupled with the financial incentives to providers for controlling costs in the HMO arrangement, such as assumption of risk by providers and pre-paid capitated payment for services, reduces the moral hazard of unnecessary utilization and cut out waste in the system.

Managed care has proved successful in containing the costs of health care in the commercial indemnity plans in the 1990s (Levit et al, 1998). This success was evident in the decline of national health spending as a share of gross domestic product (GDP) to 12.5 percent in 1997, the smallest claim of health spending on the nation’s resources in the past five years. More importantly, health spending growth rate was only 4.8 percent in 1997, the slowest rate in more than three and a half decades (Levit et al, 1998). Despite these impressive accomplishments in controlling overall health spending, it became clear that general managed care techniques were far less effective
in controlling behavioral health costs than other medical benefit costs (Anderson, 2003).

A major obstacle to the effectiveness of managed care in controlling behavioral health costs is the failure of PCPs to recognize and appropriately treat persons with depression and other psychiatric problems (Anderson, 1997; Mechanic, 1998). Research studies show mental health specialty professionals do much better than PCPs in correctly detecting and treating persons with mental illness. PCPs lack the time, interest, training or skills to provide sensitive and meaningful care to time-consuming and difficult mentally ill patients, particularly when the effective treatment of mental illness calls for a broader and more diverse continuum of social supports and clinical programs and services than the general medical-surgical realm (Anderson, 2003; Mechanic, 1998).

Under these circumstances, the carve-out strategy -- the separation of both financial risk and management of behavioral health benefits from those of general health benefits -- emerged in late 1980s as a major innovation in the practice of managed care. Under the carve-out arrangement, BH benefits are covered in a separate contract between the payer and the specialized BH carve-out vendor. The carve-out arrangement created an eager market for the development of a niche industry of specialized managed behavior health organizations (MBHOs), which contract directly with HMOs, indemnity insurers, and self-insured employers. The at-risk contract between a MBHO and a payer transfers insurance risk to the MBHO through capitation; that is, the MBHO is paid a fixed fee per member of a defined
population for a fixed period of time to provide a defined scope of BH services. The risk, in this situation, is the possibility that BH care expenditures will exceed a specified amount of revenue for the MBHO (i.e., the capitation amount).

By the mid-1990s, the private-sector carve-out of mental health benefits was the rule rather than the exception, and there was little new business for managed mental health care vendors in that market. These vendors have demonstrated in the commercial insurance market that considerable savings associated with reductions in utilization and in fees were possible and they were looking at the public mental health programs as the next sales frontier (Essock & Goldman, 1995). Meanwhile, government behavioral health agencies, confronted with constricted budgets and the responsibility to provide care to persons who are uninsured or underinsured (Anderson, 2003; Essock & Goldman, 1995), became purchasers of managed behavioral health services.

A set of statistics will illustrate the rapid market gains achieved by managed care in public behavioral health. At the federal level, by November 2003 more than 5.3 million Medicare beneficiaries were enrolled in 270 Medicare contracts with prepaid organizations, and 4.6 million Medicare beneficiaries were enrolled in HMOs having “Medicare Advantage” contracts, that is, capitation contracts from the Centers for Medicare & Medicaid Services (CMS), the federal agency that administers Medicare and Medicaid (http://www.cms.hhs.gov/researchers/pubs/datacompendium/2003/03pg61.pdf, accessed on 08/31/04). At the state level, Arizona, Utah, and Massachusetts initiated
behavioral health carve-outs in 1991 (Croze, 2000); half of the states (27) are using managed care practices to provide behavioral health services (State Mental Health Agency Relationship to Medicaid for Funding and Organizing Mental Health Services: 2002-2003, http://nri.rdm.org/Profiles02/14Medicaid.pdf, accessed on 09/02/04)

State Medicaid programs, the single most important source of revenue for community-based mental health service providers, have turned to managed care, and many are removing the fee-for-service option. As of June 2003 25.26 million Medicaid beneficiaries were enrolled in managed care, representing 59.11% of the total Medicaid population, an increase from 11 percent in 1992 (Fox, 2003; Centers for Medicare and Medicaid Services, http://www.cms.hhs.gov/medicaid/managedcare/trends03.pdf, accessed on 08/29/04).

States’ experiences with MBHOs have been mixed. On one hand, managed care brought entirely new products and services into the public system in the form of utilization management, care management, quality management, consumer protection, performance and outcomes measures, and information system technology. Public purchasers benefited from the higher standards for access, quality and performance, and states have been able to predict, control or reduce future financial liabilities through the initiation of risk sharing managed care contracts. On the other hand, the risk of profit-motivated cost containment to public sector mental health services is that it can lead to under-treatment. The Surgeon General’s Report (1999: Chapter 6, 9-10) cautions that:
“Excessively restrictive cost-containment strategies and financial incentives to providers and facilities to reduce specialty referrals, hospital admissions, or length or amount of treatment may ultimately contribute to lowered access and quality of care. These restrictions pose particular risk to people on either end of the severity spectrum: individuals with mental health problems may be denied services entirely, while the most severely and persistently ill patients may be under-treated.”

CONTRACTING OUT

Public behavioral health is not the only public sector program which saw large-scale contracting with for-profit entities to provide publicly-funded services. As new public management and government reforms gain currency in political circles, governments and agencies across the country are being asked to do more (and better) with less (Walters, 2004). In response, many governments have moved from directly providing services to contracting out as a method for providing services to constituents and clients. While in-house delivery of public goods and services remains the primary modus operandi for U.S. governments, contracting occupies a secure second position and continues to grow in frequency and scope (Goldsmith & Eggers, 2004; Salamon, 2002).

According to the April 2003 GAO Report: Federal Procurement Spending and Workforce Trends, Federal agencies procured more than $235 billion in goods and services during fiscal year 2001, reflecting an 11 percent increase over the amount spent 5 years earlier. Overall, contracting for goods and services accounted for about 24 percent of the (federal) government’s discretionary resources in fiscal year 2001(
documents a similar pattern of increasing state and local procurement in the 1990s, noting that the state and local procurement accounted for a higher percentage of state and local discretionary budget than did the federal procurement. The latest estimate puts states and localities spending on contracts at approximately $400 billion a year (Walters, 2004).

New Public Management Reform

Underlying this sweeping contracting-out movement in the U.S. is the theory of New Public Management (NPM), which contends that public administration--and generally, the state--have become isolated from and out of touch with the rest of society. While corporate actors, under severe pressure from market competition, have developed sophisticated models of management and resource allocation, the public bureaucracy has long remained insulated both from market forces and from effective citizen pressure and, therefore, free to serve the personal and institutional interests of bureaucrats instead. The result has been organizational slack, widespread inefficiency, an obsession with due process; and indifference to clients’ needs (Peters & Pierre, 1998).

Thus, NPM views the public-private dichotomy as essentially obsolete. The general argument is that just as the public-private border has protected the public bureaucracy from extra organizational pressures to modernize and increase efficiency, it has now become an obstacle to public sector reform. Such reform must focus on bringing in private-sector managerial strategies and objectives. In a similar vein,
Osborne and Gaebler (1993) argue that governments should focus more on steering and less on rowing. The separation of the policymaking and regulatory roles of a government agency (steering) from its service delivery and compliance roles (rowing) allows the steering organization to concentrate on setting direction and frees the rowing organization to concentrate on achieving one or two clear missions. Under this vision, a new generation of elected officials--top-level executives, in particular--is making no secret of its conviction that government should not only "be run like a business, but also, in many cases, be run by businesses" (Walters, 2004). This had led to a new aggressiveness in what cash-strapped states such as Texas and Florida are looking to contract out. For example, Florida action on the outsourcing front has included everything from collecting tolls to investigating allegations of child abuse.

A consequence of governments contracting out is that a wide assortment of third parties--commercial banks, social service agencies, private hospitals, religious organizations, for profit business firms--are delivering publicly financed services and pursuing publicly authorized purposes (Salamon, 2002). Thus, an elaborate system of third-party government emerges from such complex collaborative systems. The sharing of the exercise of public authority as well as the spending of public funds with a host of nongovernmental actors have become a major cause of concern (Salamon, 2002, Milward & Provan, 2003). In the eyes of some researchers, this new development constitutes the hollowing out of the state and poses acute question about the accountability of third-party government (Milward & Provan, 2003).
For example, in the area of mental health services, especially to individuals with serious mental illness (SMI), the involvement of for-profit entities is often seen as problematic, in part because clients are so vulnerable, but also, because the provision of mental health services requires the cooperation and integration of a broad range of agencies (Dill & Rochefort, 1989; Provan & Milward, 1995), most of which are nonprofit entities. Thus, there is the possibility that a community may have services to some of its most needy and vulnerable citizens being funded by government (primarily state and federal), monitored and controlled by a for-profit corporation, and delivered by nonprofits. In this situation, it is not simply that all three sectors participate in the process, but it is likely that the principal organizations involved in these three sectors will have different and sometimes conflicting goals and values. This situation means that the full and cooperative integration of services to clients may be difficult to achieve.

A Political Economic Perspective

The relationship between government purchasers and MBHO contractors and the relationship between MBHO contractors and nonprofit service providers defy the traditional conception of market/hierarchy dichotomy. Organization theorists argue that while a spot market transaction, in which a one-shot transaction between two total strangers is purely driven by price considerations, epitomizes a market relationship, a hierarchy such as the one in corporate organizations represent the opposite to a market relationship. Ownership by employment contracts and administrative fiat are the hallmarks of a hierarchy. The relationship in a hierarchy is asymmetrical, rather than
symmetrical, as in a spot market relationship in that in the latter relationship either party has ample freedom to switch exchange partners without incurring significant costs.

Mental health contracting, however, poses an interesting challenge for the traditional conception of market/hierarchy dichotomy. On the one hand, contracts between states and MBHOs are typically long-term ones. Four-year and five-year contracts are not uncommon between the state and MBHOs. Although the contract is awarded periodically through an open competitive bidding process, the contract’s long duration makes the relationship between MBHOs and states a unique stable market arrangement. Meanwhile, there is also a certain element of hierarchical control in the contract between states and MBHOs, since states try to actively monitor and review the performance of MBHO contractors to hold them accountable to their commitment in the contract. On the other hand, the MBHO that wins the contract becomes the principal of the mental health system. Under the auspices of state mental health agencies, it has the exclusive authority to organize and purchase services from a set of community-based nonprofit service providers. The relationships between the MBHO and nonprofit service providers are more hierarchical than those among nonprofit themselves.

To explain the complex combination of market and hierarchy relationships in managed behavioral health contracts in the public sector, I draw from the organizational economics framework (Miller, 1992, 2000; Williamson, 1985), particularly the concept of market failure and transaction costs, as well as
Stinchcomb’s (1986) thinking on hierarchical elements in a contract. I argue that under some circumstances long-term contracting relationships are superior to competitive contracting relationships. Long-term contracting, if designed correctly, can also be an effective tool of hierarchical control. I will develop my argument in the context of mental health contracting. My discussion proceeds as follows. First, I will identify the prospective problems with competitive contracting in the mental health market. I will then explain why hierarchical control is better than competitive contracting in meeting the special challenges of mental health services. Lastly, I will use Stinchcomb’s thinking on hierarchical elements in a contract as an organizing framework to argue that long-term contracting in mental health can be designed in such a way that it is a functional substitute of hierarchical control.

Problems with Competitive Contracting

Organizational researchers suggest that high transaction costs (search costs, negotiating, and enforcement costs) can lead to market failure when there are information asymmetries (private information), difficulty in measuring individual outputs or outcomes (e.g., teamwork), and acquisition of market power by a small number of participants on one or both sides of a market (Williamson, 1985). These problems are so accentuated in the mental health market that competitive contracting is not a good option (Milward & Provan, 2003; Schlesinger, 1986). First, competitive contracting requires that the selection of providers reflect the adequacy of their performance. This assumption is highly questionable in the thin market of mental health. To the extent that the measurement of the performance of organizations
providing health and social services is still an unresolved issue, government has a limited capacity to effectively evaluate the performance of contracted providers. In addition, when government agencies shift contracts to alternative potential providers, the resulting disruption of services creates conflicts with the goal of system stability and service continuity. Under such circumstances, competitive contracting may not be superior to a monopoly arrangement.

Second, a prospective consequence of competitive contracting is that it reduces the tradition of collaboration among mental health services, which may be the key to the overall effectiveness of the mental health service system (Milward & Provan, 2001). Provan and Milward (1995) argue that the mental health service has a joint production function. For clients with multiple needs, the services they receive will not be effective unless clients have easy access to a continuum of care, including psychotherapy, day treatment, legal assistance, vocational training, supportive housing, and residential treatment. Thus, service providers often collaborate with each other, either formally or informally, to strive to provide a complex array of services to meet clients’ needs. There is a certain public goods element in this collaborative spirit in that the local community, not the service providers themselves, will ultimately benefit from the effective provision of SMI services, e.g., reduced homelessness and violent crime committed by SMI, better quality of life for SMI clients and their families (Provan & Milward, 2001). The corollary to this observation is that competitive contracting, while encouraging each organization to look out for its own interests, may ruin the spirit of collaboration among service providers and drive
organizations indifferent to the public goods aspect of mental health services. Third, specialized providers, without competition in a market, pose a serious problem in the bargaining situation. They can set prices for their services well above the cost of production to take advantage of the monopsony situation (the state is the only buyer). The state has no way of knowing their real cost and is at a serious disadvantage in the bargaining situation.

The Need for Hierarchy

In such a thin market of mental health, an alternative form of organization is to establish a hierarchy to provide services in house. Although hierarchy is usually used to represent the asymmetric relationship between two people, it is equally useful to describe the asymmetric relationship between two organizations. The advantage of hierarchy over competitive contracting in mental health is that hierarchy overcomes the barriers to efficient markets (e.g., teamwork, measurement difficulty, monopsony). First, transaction costs will be less in hierarchies than in markets because there is an employment contract between service providers and the purchaser. The master purchaser has the authority to specify who will do what in future situations when they arise. In contrast, many contracts in the market must specify the rights and responsibilities of various parties in a variety of contingencies. The costs of negotiating contracts with more and more contingencies are likely to increase. Second, unclear or nonexistent property rights (who owns the surplus of a mental health system) and distributional ambiguities (uncertainty about who will get the surplus) can greatly impede negotiation for an efficient bargain. In the mental health
service market, for instance, unclear property rights and distributional ambiguities may mean that the state may take advantage of its ability to redistribute the future surplus of the mental health system generated by efficient service provision. The state may cut its mental health budget to the minimum level that is required to sustain efficient service provision and apply the savings to its general fund. In Gary Miller’s (2000:230) words, “An attempt by the king to squeeze the last surplus out of the kingdom for his own use will induce his subjects to hide their gold rather than to invest and to shirk rather than work productively to produce revenue that the king will only take away”. Unless there are credible commitments to property rights and distributional outcomes, the king’s subjects lack the incentive to maximize their productivity and wealth.

The long-term feature of state mental health contracts, together with the risk-based capitation arrangements, represents states’ credible commitments to property rights and distribution outcomes. The financial outcome of the contract, be it profits or losses, is off-limits for the state and depending on the MBHO’s performance, it either makes money or loses money. Milward and Provan (2003) suggest that an example of lack of credible commitment to property rights is the state government’s frequent rebidding the contract for mental health services. Such property rights uncertainty puts the winning bidder at a serious disadvantage. Not only might the winning bidder suffer from “the winners curse” – agreeing to the job for too little in an effort to undercut the competition’s bids – but it lacks the necessary time frame to project the shadow of repeated interaction in the system to induce cooperation, which
is necessary to establish trust, mutual commitment, and leadership in the system. At the same time, the providers, some of them losing bidders or potential future bidders, have a strong incentive not to cooperate with the MBHO in the hope that that state will rebid the contract and they will have another chance to win the contract or at least get a more pliable principal (Milward & Provan, 2003). In addition, the winning bidder may not have any real incentive to invest in long term projects because by the time the benefits of such projects can be reaped, the principal of the system may already have changed hands as a result of frequent rebidding.

Contracts as Substitutes for Hierarchy

After an MBHO wins the bidding and becomes the agent of the state and the principal of the mental health system, the contractual relationships between the MBHO and service providers embody a more political and hierarchical relationship to the extent that one party (service providers) in the contract has no low-cost alternatives to the relationship and must accept a contract that grants broad discretionary authority to the other (Miller, 1992). In the long-term contracting scenario, the state contracts out the contracting of services to the MBHO, which becomes the only buyer of services and nonprofit agencies have little choice but to accept the contract on the terms of the MBHO. In other words, service providers are under direct hierarchical control of the MBHO through contracts. Stinchcombe’s (1986) argument regarding hierarchical control elements in a contract sheds new light on the contractual relationship between the MBHO and contracted service providers. He notes that while the idealized spot market contract offers a sharp contrast with
organizational hierarchy, it obscures the fact that hierarchical elements can be arranged through contracts, such as those of automobile franchises and weapons procurement. To the extent that a contract contains the same key elements as essential for the functioning of an organizational hierarchy (i.e. incentive system, authority system, conflict resolution system, administrated pricing, and standard operating procedures), contracts become functional substitutes for hierarchy.

Applying this logic to the mental health services contracts, I will attempt to map out these key elements in the mental health contracts to illustrate the hierarchical control in these contracts. Specifically, the incentive system in the contract between states and MBHOs is the capitated at-risk arrangement. Given the profit motive, MBHOs will have a strong incentive to provide the specified services within the limits provided in capitated at–risk contract. The financial risk in the system is analogous to the reward and punishment tied to performance in an employment contract. Similarly, the incentive system in the contracts between MBHOs and service providers can also be risk-based contracting, although the more common form of incentives are the discounted rates, which gives service providers strong incentive to cut costs and reduce unnecessary over-utilization. The authority system is obvious in the contracted out mental health system in that MBHOs are carrying out their business of running the mental health system under the auspices of the state government, which delegates decisive authority of contracting to the MBHO through the master contract. This decisive authority enables the MBHO to negotiate discounted rates from service providers, which is tantamount to administered pricing (an authoritative way of
determining the market price). On the other hand, the MBHO can also employ its subsidiaries to run the more lucrative businesses for the mental health system (e.g., pharmacy, case management, information system). In such a scenario, the rates for these services may be higher than that in an open market. This is another form of administered pricing.

Contracts can also provide a system for resolving disputes between the MBHO and the contracted service providers. The mental health system may be organized under a federalist regime, in which the core agency may consist of members from the contracted service providers and serve as the forum for resolving disputes between parties to the contracts. Alternatively, the mental health system may be organized under a principal-agent model. A local mental health authority (a MBHO) is the principal, which acquires this status through its master contract with the state, and the network of service providers is the agent of the mental health authority. Collectively, the principal and the agent (and the principal's principal--the state agency awarding the master contract with the mental authority) constitute the mental health regime. Under such a configuration, the principal’s view usually prevails in disputes between the principal (MBHO) and the agent (service providers). The standard procedures in the mental health contracts between the MBHO and the service providers involve managed care techniques (centralized case management, prior authorization, utilization review, billing and claim, medication prescribing rule). Such standard procedures are deemed as infringing on the autonomy of service providers but are necessary for cost containment and increased accountability.
Thus, the contracts between MBHO and service providers can be designed in such a way that the contracts constitute the functional substitutes of a hierarchy. In my view, this is the structural advantage of mental health contracting out to the states. They will benefit from the hierarchical control in a thin market of mental health, without incurring the ownership costs and administrative costs of the hierarchy.
CHAPTER THREE
LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This chapter provides the theoretical background needed to understand the research question this dissertation seeks to answer. I present a literature review of three specific areas of interest: the rise of networks as a unique organizational form in U.S., network analysis applied to organizational studies, and organizational embeddedness in network structure. In the section on the rise of networks in U.S., I focus on the motivations and environmental factors behind the surge of interest in organizational networks in the business and nonprofit sectors. Although the antecedents of this network movement vary across sectors, its undeniable consequence is that organizational networks have become an essential part of our society. The second section summarizes the important developments in the research tradition of network analysis, focusing on its origins and application in organizational research. To address skeptics’ claim that a good network theory is still wanted in organizational studies, I draw from the latest network research to argue that organization researchers have made solid progress in building network-based organization theories and empirically validating them. Consistent with these latest efforts to build network-based organization theories, this dissertation proposes a network-embeddedness-based model of organizational social performance. In the third section, I conduct a comprehensive literature review of antecedents and consequences of organizational embeddedness in network structures. The embeddedness literature points to similarity in the organizational motivations and
social performance of being embedded in network structures in business and nonprofit sector.

Most of the existent embeddedness research, however, has focused on decentralized homogeneous organizational networks, particularly for-profit organizational networks in competitive markets. Little attention is paid to public and nonprofit service providers’ embeddedness in centralized networks, particularly centrally governed mixed-sector organizational networks comprising public and nonprofit service providers and for-profit NAO. In such networks, the funding network is likely to be centralized (and thus administration is centralized), but the client-centered networks (e.g., information sharing and referrals) may be decentralized. It is not clear to what extent the social performance implications of network embeddedness can be generalized across types of networks; namely, from decentralized networks to centralized networks and from business organizational networks to public sector organizational networks. This dissertation seeks to fill this knowledge gap by investigating the research question: To what extent is the embeddedness of public and nonprofit service providers in a network structure related to their social performance in a centrally governed network? I draw from organization theory literature to develop a model of the hypothesized relationships between nonprofit service providers’ embeddedness in network structure, at the dyad and clique level of social exchange, and organizational social performance (trust, reputation, and influence) in a centrally governed network.
THE RISE OF NETWORK ORGANIZATIONS

Rational system perspectives on organizations, including Taylor’s (1911) scientific management, Weber’s (1946) theory of bureaucracy, and Simon’s (1947, 1958) theory of administrative behavior, assumed that organizations are self-contained rational systems with the goal of improved efficiency and performance. In contrast, the open-system theory argued that interdependence of organizations and environment are inevitable and uncertainty associated with dependence on the environment is an important part of organizational life. Organizations need to adapt to the environment in order to survive and/or prosper. Efforts to apply this open-system perspective to organization theory (Thompson, 1967) quickly led to recognition of the importance of the options available to organizations for increasing their control over the uncertainty of environmental exigencies. Chief among these options is the development of collaborative inter-organizational relationships (IORs) (Whetten, 1981).

This concern with collaborative IORs has guided much of the research and theorizing over the past forty years in organizational theory. Early analyses of IORs were overwhelmingly oriented to the delivery of human services such as health care, employment service, youth-serving organizations, welfare organizations, and the like (Laumann, Galaskiewicz, & Marsden, 1978; Agranoff, 1991). The reason for this focus on IORs in the public sector was the belief that inter-organizational coordination would lead to improved service delivery and lower costs (Hall, 2002). In the last two decades, the focus has shifted to IORs in the business sector (Smith-Doerr
Although inter-firm collaboration has been widely assumed to thwart the natural forces of competitive markets for the gain of a few powerful organizations (Whetten, 1981), there is a general consensus among organizational researchers that business firms often compete intensely yet collaborate with each other through informal communications, collaborative projects, and common ties to other organizations, such as universities and professional service firms (Alter & Hage, 1993; Saxenian, 1994; Smith-Doerr & Powell, 2003; Suchman, 2000).

A major form of IORs is organizational networks. In a now classic treatise on network forms of organization, Powell (1990:303) described network forms of organization as non-market, non-hierarchical modes of exchange, one in which

“The basic assumption of network relationships is that one party is dependent on resources controlled by another, and that there are gains to be had by the pooling of resources. In essence, the parties for a network agree to forego the right to pursue their own interests at the expense of others. Thus, network forms of organization represent a particular form of collective action, one in which norm of reciprocity, trust, reputation, and normative rather than legal sanctions maintains the spirit of collaborative goodwill within the lateral or horizontal modes of collaboration.”

Powell argued that network forms of organization are particularly apt for trust, flexible production, and transfer of know-how. He noted that compared to hierarchy and market, the information flowing through networks is richer in detail and more trustworthy because of its embeddedness in the social relationship. This social embeddedness of information transmission makes networks especially useful for know-how, technological capability and learning, which are not easily traded in markets nor communicated through a corporate hierarchy. Thus, networks are “lighter
on their feet” than traditional hierarchies. These advantages are critical in the proliferation of network forms of organization in what Nohria (1992:2) called the new competition:

“This (refers to) the competitive rise over the last two decades of small entrepreneurial firms, of regional districts such as Silicon Valley in California and Prato and Modena in Italy, of new industries such as computers and biotechnology, and of Asian economies such as those of Japan, Korean, and Taiwan... If the old model of organization was the large hierarchical firm, the model of organization that is considered characteristic of the New Competition is a network of lateral and horizontal inter-linkages within and among firms.”

Nohria’s observation reflects a changed reality in economic life. Stunned by the enormous competitive advantages (e.g., joint problem-solving within the network, profit and cost-savings sharing between assembler and suppliers, commitment to high quality and innovation ) of the Japanese lean production networks in the automobile industry, American businesses began to move away from the large, vertically integrated firms toward inter-organizational networks of production that are smaller, decentralized, and based on strategies of cooperation and horizontal relationships among clusters of organizations to coordinate their efforts to produce a product or service (Powell, 1990). Alter and Hage (1993) argued that “Fordism”—large-scale standardized production in hierarchical command-and-control organizations—was not adequate to meet the demands of a volatile environment. In such an unstable environment, customer needs change rapidly, which demand increasingly customized, rather than standardized, products; product life cycles shorten, and the pace of technological change quickens.
Networks offer a more flexible, innovative, and efficient production system to meet those new market challenges. Particularly in technology-intensive industry, network forms of organization represent a fast means of gaining access to know-how that can not be produced internally (Powell, 1990). Since much sophisticated technological knowledge is embedded in unwritten, intangible firm-specific knowledge (Nelson & Winter, 1982), such tacit knowledge cannot be easily traded in the market and can only be accessed in collaborative arrangements between and among organizations. Thus, inter-organizational networks increasingly replaced hierarchies as a governance mechanism in auto, aerospace, bio-tech, chemical, information and computer technology, and new materials industries (Alter & Hage, 1993; Miles & Snow, 1992; Powell, 1990). This movement to collaborative relations among competing firms was boosted by the passage of the National Cooperative Research Act in 1984, which clarified the application of U.S. antitrust laws to joint research and development and joint production activities, allowing collaborative research among competing firms (Powell, 1990).

In the public (government) and nonprofit sectors, a similar movement away from vertical integration to network forms of coordination has been ongoing for quite some time. An important issue in the delivery of publicly funded health and human services at the local-community level is the integration and coordination of service provider organizations into service-delivery networks (Agranoff, 1991; Dill & Rochefort, 1989). Researchers have documented the service integration/program coordination movement in many service areas (e.g., mental retardation, mental health,
vocational rehabilitation, homelessness) that took place in the 1960s and 1970s (Agranoff, 1991). The importance of service integration/coordination between public and nonprofit organizations in health and human services stems partly from the inability of clients in so-called vulnerable populations (e.g., the frail elderly, abused children, people with AIDS, people with physical disabilities, individuals with serious mental illness or other chronic diseases) to articulate all of their problems and navigate the maze of human service systems, and partly from a host of barriers preventing such clients from accessing needed services, including incompatible federal and/or state eligibility standards or other rules, funding limitations, professional dislike of working with certain clients, restrictive agency operating policies, geographically dispersed agency locations, and lack of available services.

Under these circumstances, many cities have established public-private networks of integrated provider organizations as a solution to the problem of fragmented services (Agranoff, 1991; O'Toole, 1997). The goal is to create a continuum of services to meet the multiple needs of clients and move clients toward independence and full community participation. It is notable that while some of the organizations involved in community-based health and human service delivery networks are public entities, most are not-for-profit organizations (Agranoff, 1991; Salamon, 2002). Since much of the funding that is received by participating agencies is public, most of the networks themselves can readily be viewed as public-sector networks.
The research literature suggests two main reasons to explain these public-sector networks. First, Americans have a long-running tradition of fear of big government. This tradition can be traced back to the founding fathers’—notably Thomas Jefferson and James Madison—concern with the threat of abuse of power and tyranny. On one hand, Americans demand responsive, high-quality, and innovative public services to address the problems facing their community. On the other hand, they are concerned that the growing power of the government will inevitably infringe upon individual liberty and freedom (Kettle, 2002). As O’Toole (1997:46) suggested, preferences for limited, liberal government in the context of widespread support for action encourages complex, networked mechanisms for service delivery and management--extending the reach of government programs while loosening the immediate managerial grasp. Recent trends, including privatization, reinvention, tax cuts to shrink the government, and both Bush administrations’ aggressive pursuit of public-private partnerships will catalyze further networking through government contracting and webs of public, non-profit, and business organizations in crosscutting configurations that share the task of delivering public services (Goldsmith & Eggers, 2004; Kettle, 2002; O’Toole, 1997).

It is instructive to note that the U.S. federal government has a rather paradoxical history with human service coordination and integration. On one hand, it has aggressively advocated service integration reform in the 1960s through a wide range of programs such as Community Action, Community Mental Health Centers (CMHCs), Model Cities, Comprehensive Health Planning, and Service Integration
Programs (Agranoff & Pattakos, 1979). Despite the innovative approaches (consolidation of funding streams, comprehensive community planning, joint programs and collaboration, task integration), the first evaluations of these programs were disappointing. In the early 1970s the Vietnam War dominated the government agenda and human service improvement was largely forgotten. On the other hand, although collaboration and cooperation are the normative requirement among public sector service providers, the last decade has witnessed a conscious government effort to introduce competition in the public sector. The theory is that competitive contracting, which puts organizations in competition with one another, is the way to improve the performance of government (Milward & Provan, 2001).

The second reason for public-sector networks is that the policy problems (such as community mental health, disaster relief, and economic development) are so complex in nature that no single hierarchical organization can solve such problems (Agranoff & McGuire, 2001; O’Toole, 1997). While a hierarchical organization assumes that complex tasks can usually be divided up into small, relatively independent components that can be treated separately by subunits, complex policy problems cannot be divided up into simple pieces in near isolation from each other. This creates an apparent mismatch between complex policy problems and the capacity of a hierarchical bureaucracy. Under these circumstances, alternative forms of organizing (i.e., networks) must be more suitable (O’Toole, 1997). This point is best illustrated in the diagram of a cloud-like figure with irregular boundaries, labeled “Policy Problem” intersected by four triangle-shaped figures
labeled respectively “O”, which represent organizations that address part of the policy problem (Hjern, 1992:4). The problem in figure 3.1 could be labeled “patients with AIDS” and the organizations could be labeled “outpatient care”, “emergency housing”, “emergency food” and “legal and vocational counseling”. Each organization addresses a piece of the AIDS problem, thus, they share common interests with regard to the policy problem. Yet the overall needs of AIDS patients are greater than what each organization can handle. Although each organization is responsible for part of the problem, no organization is held accountable for the overall performance of the aggregated efforts of these organizations, i.e., meeting the multiple needs of AIDS patients. This creates an interesting collective action problem. Markets and state bureaucracies are ill equipped to solve such collective action problems because markets tend to not produce or under-produce public goods and state bureaucracies lack the localized knowledge and flexibility to deliver responsive solutions.

Advocates of networks argue that centralized networks, in which a lead agency or an independent network administrative organization (NAO) is vested with the power to integrate and coordinate the activities of member organizations to achieve a collective goal, are often the only governance form that is able to deal with such collection action problems (Dill & Rochefort, 1989; Provan & Milward, 1995). O’Toole and Meier (2004) suggest a more self-serving motivation for the government’s choice of networks to address the AIDS problem. Networks of community-based mostly nonprofit organizations allow political authorities and the
FIGURE 3.1
The Need for Network Collaboration

agencies that report to them to distance themselves from controversial policy efforts such as HIV/AIDS service provision and family planning services. In the early years of the HIV/AIDS epidemic, for example, working with marginalized target groups such as gay communities and intravenous drug users was contentious and the public education aspects of the HIV/AIDS campaign was very controversial. Thus, the offloading of the controversial aspects of the direct-service provision to a network of primarily nonprofit, community-based organizations shield the state from the direct local visibility and challenge from the “wicked problem” aspects of the issue. In this sense, the state’s choice of networks as solutions to complex issues may be motivated as much by self-interest as public-interest. It is instructive to note that the network form of organization is used in the public sector to deliver public goods (community mental health, caring of elderly and abused children, housing, economic development) as well as to fight dark covert networks of more sinister motivations (Al Qaeda terrorist network, illegal diamond and weapons trade network, and drug trafficking networks) (Raab & Milward, 2003).

NETWORK ANALYSIS: ORIGINS AND APPLICATION

The preceding discussion of collaboration and cooperation in business and public sectors suggests that organizational networks are pervasive phenomena in our society. In the field of organization theory, the study of networks started from the analysis of dyadic organizational relations and sets of such transactions centered on focal organizations (which have been called “egocentric” networks). In the 1970s and 1980s there was a notable shift to consideration of the total network of inter-
organizational transactions occurring between all pairs of organizational actors (Lauman, et al, 1978; Whetten, 1981). In the 1990s, this line of research on “global”, or multilateral networks, evolved into studying networks as governance structures that are legitimate alternatives to bureaucratic hierarchies (Galaskiewicz, 1996; Poldony & Page, 1998; Powell, 1990; Saxenian, 1994). Since organization researchers use the network approach frequently to study collaboration among a set of organizational actors, it is instructive to provide a brief overview of the network approach.

Network analysis has been one of the major innovations in the social sciences in the last 30 years, although the origins of network approaches for the social sciences can be traced even further back to three main sources. First, a group of German researchers (most notably, Kurt Lewin, Fritz Heider and Jacob Moreno), influenced by developments in field theory in physics, transferred the network idea to the examination of social interaction and brought this new approach to the USA during the 1920s and 1930s. Although the Hawthorne studies first used network configurations to analyze social behavior, Jacob Moreno (1934) developed the sociometric models in the 1930s, which used the sociogram -- representing groups as collections of points connected by lines--to diagram relationship networks among people and to identify patterns of interaction, cliques, and small group dynamics. Furthering Moreno’s work, Cartwright and Harary (1956) applied graph theory to sociograms and showed the link between individuals could be given positive or negative signs (indicating, for example, like or dislike) and directional arrowheads. Thus, relations within triads can be shown as either balanced or unbalanced, and this
enabled researchers to study how strain leads to changes in relationships. More significantly, they used triads as the building blocks to model larger networks in which, for example, conflicts exist between subgroups while consensus exists within each of the subgroups.

Second, the current mathematical approach to structural analysis emerged toward the end of the 1960s, when a later group led by Harrison C. White at Harvard University achieved a major breakthrough, i.e. the development of block-modeling, which clusters groups of actors in increasingly homogeneous blocks by an iterative succession of Pearson product moment correlations from the columns of an adjacency matrix. The blocks of individuals identified through this process are said to be structurally equivalent—that means they are relatively similar to each other in their relations to all others in the network.

Third, Granovetter’s early writing (1973, 1974) examined the role of weak ties (acquaintances who travel in different social circles) as applied to an individual’s employment prospects. He found that weak ties lead to jobs more rapidly than did strong ties among friends and family. He theorized that strong ties provide redundant information because they have access to the same contacts and information and everyone communicates with everyone else. In contrast, acquaintances are valuable in finding employment because they live in different social circles and are more likely to supply new contacts and information to the job seeker. Another significant development in network analysis is that Linton Freeman (1979) developed various positional measures of individual centrality, such as degree centrality, betweenness
centrality, and closeness centrality; and to examine the relationship between such measures of individual centrality and that individual’s power and outcomes within the network.

As an analytical tool network analysis focuses on the pattern of relational structure of networks and seeks to find explanations of human behavior from the structure of relationships in which an individual is embedded in. Thus, a network perspective differs from the traditional perspective, which attempts to explain human behavior or social processes solely in terms of categorical attributes of actors. Network analysis focuses on the relations between social entities, rather than on the qualities possessed by them, stressing that the pattern of relationships provide opportunities and constraints on the behavior of the occupant of a node as well as influences others (Borgatti & Foster, 2003).

Although the interpersonal and inter-group levels of analysis are very important venues of network research, such research has focused on affective relationships (e.g., advice, trust, kinship, marriage, socializing). As Galaskiewicz (1996) suggested in his review article, “The “New Network Analysis” and its application to organization theory and behavior”, the biggest change in the organizational field over the past 15 years (1981-1996) is the shift away from studying social networks as informal social structures (i.e., interpersonal and inter-group networks) inside a hierarchical organization to studying social networks as a governance structure, one widely regarded as a legitimate alternative to bureaucratic hierarchies (i.e., organizational networks). The organizational level of network
analysis is primarily concerned with social relationships of an instrumental character. Some of the most visible linkages among organization actors include subcontracting relationships, research consortia, strategic alliances and partnership, joint ventures, joint programs, agency sponsorship, federations, industrial districts, and relational contracts (Oliver, 1990; Powell, 1990; Powell & Smith-Doerr, 2003; Provan, 1983).

While social network analysis is often used as a method to study IORs, critics of the network approach argued that instead of capitalizing on opportunities for applying its increasingly sophisticated analytical methods, network researchers should construct network theories of organization to explain how structures of interaction enable or disable organizations to achieve collective and individual interests (Galaskiewicz 1996; Kilduff & Tsai, 2003; Salancik, 1995). For example, Salancik (1995) argued that network analysts often take the patterns of interaction among a set of actors as given, paying scant attention to questions such as why interactions exist and how do networks evolve over time. Galaskiewicz (1996) and Salancik (1995) shared the concern that when questions about network effects are asked, the sources of the questions are usually other theories, e.g. resource dependence theory (Burt, 1983; Pfeffer & Salancik, 1978; Provan et al, 1980; Wiewel & Hunter, 1985), theories of social influence or social comparison (Tolbert & Zucker, 1981), collective action theory (Laumann & Knoke, 1987; Ostrom, 1990), transaction cost economics (Granovetter, 1985; Uzzi, 1996), and institutionalism (DiMaggio & Powell, 1983).

For example, networks ideas and relational analysis were central in Pfeffer and Salancik’s (1978) formulation of resource dependence theory. In particular, they
identified two network-based mechanisms that organization can use to structure their resource linkages in order to buffer themselves from the organization’s environment: 1) by network extension organizations can seek to increase the number of exchange alternatives by creating new network links, and 2) by network consolidation they can decrease the number of exchange alternatives for others by forming a coalition with other resource providers. Similarly, in DiMaggio and Powell’s (1983) classic statement on institutional theory, network imagery and relational ideas were prominent but were used by the theory to explain isomorphism in organizational fields.

Although some organizational researchers were quite assertive about the need for a good network theory of organization, other researchers’ assessment of the issue is more upbeat. Galaskiewicz (1996) noted the shift from detailed formal descriptions of network structures to research using network variables either as independent or dependent variables and operationalizing such variables in substantive theory development and hypothesis testing. In a similar vein, other researchers pointed to multiple streams of theoretical research in social network field: imported theories from mathematics and social psychology, such as graph theory, balance theory and social comparison theory (Kilduff & Tsai, 2003); the indigenous social network theories, including homophily, structural hole, and social capital (Monge & Contractor, 2003); and the aforementioned exportation of such theories into existing organizational theories.
ORGANIZATION EMBEDDEDNESS

The foregoing discussion of the methodological and theoretical development in the study of social networks illustrates that researchers have made solid progress in their efforts to understand what networks are and how they operate. It is instructive to note that some of this line of research has been done in the business sector, and other works have been conducted in the public sector. This section will summarize what we know about organizational networks in the business and public sector. The focus of this literature review will be on the antecedents and consequences of organizations’ embeddedness in network structure. Based on this literature review on organizational embeddedness, I will identify what we do not know about organizational networks and introduce the research question that addresses the knowledge gap. I will then draw from organizational networks literature to build a model of hypothesized relationship to answer the research question. Before I conduct a full-blown review on organizational embeddedness in networks, it is instructive to clarify the concept of embeddedness.

Granovetter is widely believed to be the most important writer on embeddedness. Granovetter (1985) argues that actors do not behave or decide as atoms outside of a social context, and transactions of all kinds are embedded in social connections. In particular, embeddedness of economic transactions in concrete personal relations and structures (or networks) of such relations play a critical role in generating trust and reputation to deter malfeasance. According to Granovetter’s initial formulation, embeddedness refers to the degree to which an actor—individual
or organization—is involved in a social system and how, in turn, this level of involvement affects (and is affected) by its behavior. It is important to note that Granovetter developed the concept of embeddedness in an attempt to set a middle ground between over-socialized (role-based) and under-socialized (purely instrumental rational actor) approaches to explaining economic behavior, hence, his focus on economic action. Granovetter also differentiates between relational and structural embeddedness. Relational embeddedness is the effect on a focal organization that derives from its direct relationships with other organizations, while structural embeddedness refers to the influence of the whole network structure on the focal organization. In this dissertation, I adopt the latter definition of embeddedness, focusing on network structure, rather than on specific dyadic ties that comprise the structure.

Ever since Granovetter discussion of the embeddedness concept, it has had fad-like success among organizational scholars and became an enormously popular area of studies for organizational scholars. A central theme in embeddedness research is that a set of social control mechanisms (trust, reputation, norms of reciprocity) emerge from repetitive market relations and the linking of business activities with social relationships. Under conditions of uncertainty, organizations rely on these social control mechanisms, which are also indicators of organizational social performance, to coordinate and safeguard exchanges. For example, opportunistic behavior by one party in a transaction might bring the party a bad reputation among those indirectly or directly connected to the party that was taken advantage of.
Consequently, the opportunistic actor might find its promises and intention less trusted by those in the know. In this sense, these social mechanisms govern the exchanges in embedded relationships. To differentiate such informal social systems of governance from the formal governance mechanisms (legal contract and authority) in arms-length market relations and a corporate hierarchy, I call this informal governance the social governance of exchanges in embedded relationships.

Network researchers have found that there is a strong association between organizational embeddedness in network structure and organizational social performance (trust, reputation, and influence) in a decentralized network; that is, networks formed voluntarily in the business and nonprofit sector. (Benjamin & Poldony, 1999; Galaskiewicz, 1979, 1995; Gulati, 1995; Oliver & Montgomery, 1996; Podolny, 1993; Stuart, Hoang & Hybels, 1999; Uzzi, 1996, 1999). However, we know very little about the relationship between organizational embeddedness and organizational social performance in centrally governed networks; that is, networks governed by a strong network administrative organization (NAO), particularly when the NAO comes from a different sector than the network members.

Although there is no doubt that organizational social performance matters in public sector networks, the presence of a dominant power center in the network may change the pattern of interaction among participating organizations. At a minimum, the value differences between a for-profit NAO and those nonprofit service providers that comprise the network introduce a dose of heterogeneity into the formerly homogeneous nonprofit service provider networks. In addition, the formal power of
the NAO adds a new dimension to the informal, social control mechanisms operating in the network. Some network researchers have also documented the changes of patterns of interaction in a centrally governed network following the introduction of a dominant NAO (Alter & Hage, 1993; Isett & Provan 2004; Morrissey & Calloway, 1994; Shrum & Wuthnow, 1988). However, little is known about how organizational embeddedness in network structure is related to organizational social performance in a centrally governed mix-sector network. This will be the research question of my dissertation: **To what extent is the embeddedness of nonprofit service providers in a network structure related to their social performance in a centrally governed mixed-sector network?** What follows is a literature review building up the logic and rationale behind the research question.

Antecedents of Organizational Embeddedness

Business strategy scholars (e.g., Gulati, Nohria, & Zaheer, 2000:23) argue that inter-organizational ties such as strategic alliances, joint ventures, and long-term buy-supplier partnerships allow firms to achieve strategic objectives, such as sharing risks and outsourcing value-chain stages and organization functions. In addition, networks of loosely linked, but spatially clustered firms working in the same or related industries can create collective benefits to all the organizations involved, such as regional competitive advantages like innovation and learning in Silicon Valley (Saxenian, 1994), niche cities in China’s giant specialty apparel manufacturing industries, e.g. socks city, button capital, underwear city (Barboza, Dec 24 2004), and the reputation for high quality products in the Bologna shoe industry (Brusco, 1982).
It is notable that these regional advantages are not the products of centralized design or planning. Rather, they are the by-products of the convergence of local business culture, informal professional networks, and thick institutional infrastructure. These factors promote and support extensive collaboration, while curbing some of the destructive aspects of intensive competition.

Similarly, researchers of nonprofit organizations found that under conditions of resource scarcity, nonprofit organizations build extensive ties among themselves to exchange information and coordinate their activities and strategies (Topping & Calloway, 2000), affiliate with prominent and resource-filled community elites to gain resources and power (Provan et al, 1980; Wiewel & Hunter, 1985;), and forge network ties to legitimate symbols in the organizational field (e.g., government entity or church) to enhance their survival chances (Baum & Oliver, 1991; Singh, Tucker, & Meinhard, 1991).

While many organizational ties in the business and nonprofit sector are formed voluntarily, i.e., organizations work together out of their free will to achieve mutual gains; some organizational ties in both the business and public sector are formed as a result of outside intervention. In the business sector, government agencies, foundations or industry leaders attempt to build networks among organizational actors when they lack compelling motives to collaborate or when they are concerned that the costs and benefits of collaboration will be shared fairly. Miles and Snow (1992) noted that upstream stable networks linking suppliers to a core firm are common in the automobile industry and downstream networks often link computer hardware
manufacturers and value-added retailers. Human and Provan (2000) studied how network brokers or administrators helped to build networks and network legitimacy among small manufacturing enterprises in the U.S. wood products industry. Doz, Olk, and Ring (2000) studied the formation process of R&D consortia in the U.S. and found that some R&D consortia were the product of an engineered process, one in which a triggering entity actively recruits potential members to join in the consortium.

In the public sector, a service integration approach has been widely adopted in community health networks since the RWJF AIDS Health Services Program and earlier projects serving the mentally ill demonstrated that case management systems were effective in improving service provision to vulnerable populations (Mor et al, 1994; Banaszak-Holl, Elms, & Grazman, 2003). This service integration movement was rooted in the normative commitment of the nonprofit health and human service field that interagency collaboration, rather than “the invisible hand of competition”, will be more effective to promote collective goals. For example, in mental health circles and in the human services generally there is a pervasive belief that service systems are fragmented and need to be integrated to keep clients of human service systems from "falling through the cracks" (Bassuk & Gerson, 1978; Grob, 1994; President’s New Freedom Commission on Mental Health, July 22, 2003). The prevailing assumption among practitioners in health care and human services is that an integrated network of service delivery is the most likely approach to succeed in providing vulnerable clients a seamless continuum of care, including psychotherapy, day treatment, vocational training, legal assistance, and residential treatment (Dill &
Rochefort, 1989; Provan & Milward, 1995). Nonprofit organizations face not only the normative pressure to collaborate, they often are required by federal and state government policies and mandates to collaborate with each other. For example, federal and state programs increasingly require agencies receiving funds to collaborate with other community organizations (Snavely & Tracy, 2002). Also, grant applicants must demonstrate how they will work cooperatively with community organizations and are often required to file grant applications jointly with other service providers. Although mandates cannot guarantee true collaborations, government policies and mandates lend credibility and legitimacy to the process of collaboration within the nonprofit organizational field and may facilitate the formation of productive collaborations. On the other hand, government agencies increasingly use stringent financial and evaluation requirements to hold grant recipients personally accountable for program outcomes and expenditure of funds. This creates a disincentive for organizations to share financial and human resources because doing so make the organizations more vulnerable to the performance of others.

It is important to note that this is not to say that all interagency collaboration in the public sector is altruistic. There are both self-interest and moral commitments involved in the rational choices of public organizations, e.g., desires to gain more resources and to accomplish public-good goals (Alter & Hage, 1993; Weiner & Alexander, 1998). Some researchers suggest that because of the absence of the profit motive in the public sector, the potential downsides of cooperation, such as reduced
autonomy, shared resources, and increased dependence, are less likely to be viewed as a threat to survival in the public sector than in the private sector (Provan & Milward, 2001).

Other researchers argue that despite the non-distribution constraint (nonprofits are barred from distributing their residual surplus to anyone, and any surplus can only be retained in its entirety for the sole purpose of financing further production of services or goods), nonprofit organizations divest resources from service provision to pay high executive salaries and employee perks (Frumkin & Keating, 2002; Frumkin, 2001). Financial scandals at the United Way, NAACP, Adelphi University, and the Red Cross are clear examples of bad stewardship of nonprofit organizations. Also, the lack of the bottom line means that nonprofit organizations have little incentive to economize but have every incentive to simply increase revenues to match increases in costs (James, 1986). In this respect, nonprofits are more like households than firms. They maximize consumption and thus seem to always need more resources. In summary, nonprofit organizational embeddedness in network relationships may be motivated as much by public interest considerations as self interest.

Consequences of Organizational Embeddedness

Organizational researchers not only made solid progress in understanding the motivation of organizational embeddedness in network relationships, they also advanced theories of the consequences of organization embeddedness in the structure of inter-organizational networks and empirically tested those theories.
In the business sector, researchers found that the embeddedness of a focal firm in dense exchange relations with its competitors and suppliers generates tangible performance benefits, e.g., more rapid product development, access to information and resources, and greater innovation and learning. For example, the biotechnology industry is rife with a wide variety of inter-organizational collaborations, and the firms more centrally located in the industry networks are more scientifically capable and the first to introduce new medicines (Baum, Calabrese & Silverman, 2000; Powell et al, 1996). Ingram and Roberts’ (2001) study of hotels in Sydney found that friendship ties with competitors increased revenue per available room because competing managers embedded in a cohesive network of friendships (i.e., one with many friendships among competitors) can verify the information culled from the network, eliminate the structural holes faced by customers, and develop tacit norms against aggressive competitive behavior and thus mitigate the effects of price-cutting on the hotel industry.

Embeddedness of business organizations in network structure not only improves their economic performance, it also enhances their social performance, which often translates into economic payoff. Powell’s (1990) discussion of network forms of organization as an alternative to market and hierarchy and Uzzi’s (1997) study of the embedded relationship among women’s apparel manufacturers in New York City all point to the central role trust plays in reducing transaction costs of business dealings and promoting learning in networks, thus generating competitive advantages for organizations involved in high-trust relationships. The important role
of reputation in the competitive business world is also widely noted. For instance, University of Kansas professors examined the relationship between market value, book value, profitability, and reputation for all the firms rated in Fortune magazines’ “most admired companies” survey between 1983 and 1997. They reported that a one-point change in reputation was associated with an average of $500 million in market value (Fombrun, May 2001).

Galaskiewicz (1995) suggests that reputations are subjective evaluations of some underlying trait of an actor – not a documentation of some exact behavior. Typically the quality being evaluated, e.g., whether a company is socially responsible, trustworthy, or has integrity is difficult if not impossible to directly measure. Thus, observers often rely on certain indicators to come to some conclusion about the underlying traits or character of a performer, e.g., performance measures or past behaviors. However, these indicators do not always provide enough information for evaluators to make definitive judgments, and organizational actors will try to augment their performance with enhanced visibility and/or references of prestige.

Shrum and Wuthnow’s (1988) investigation of reputation status of organizations in technical systems discuss the strategic importance of being in the center of inter-organizational networks. They suggest that an organization occupying a central positions in an inter-organizational network is more likely to have a high degree of visibility and may affect reputational status positively or negatively (familiarity may breed contempt). Podolny’s (1993) examination of pricing behavior among investment banks in the underwriting of corporate securities illustrates how
references of prestige enhance an organization’s competitiveness in a market. Their research suggests that when visible network ties (a producer’s relations with prominent buyers) are interpreted as a signal of quality that confers status on a firm, those ties increase the price of its products or services. Benjamin and Podolny (1999) argue that since it is often easier to observe affiliations than it is to observe differences in quality, claims of quality (either implicit or explicit) made by firms with high-status affiliations are more likely to be considered credible and trustworthy than similar claims made by firms with low-status affiliations. Market participants are willing to pay a premium on that credibility and trustworthiness stemming from affiliations. They analyzed affiliation decisions made by 595 wineries in the California wine industry and found empirical support for their argument.

In the nonprofit sector, researchers have documented similar relationship between organizational embeddedness in the network structure and organizational social performance. Provan, Beyer and Kruytbosch’s (1980) study of power relations in an inter-organizational network consisting of one United Way organization and 46 of its affiliated human service agencies suggests that agencies that had relatively many joint programs with other agencies and low costs per client were more successful in budget requests and in obtaining increased funding from United Way. Wiewel and Hunter (1985) argue that similar organizations that are nominally competitors for resources may aid the genesis of a new organization in important ways. They found that being connected to a well-established organization in a community organizational network enables a new neighborhood development
organization to trade in a dense resource exchange network on the credit of this older
organization and acquire resources necessary for its survival and growth. Similarly,
Banaszak-Holl et al (1998) found that central organizations, which are often well-
regarded large nonprofit organizations, diffuse monetary funds and patients outward
to peripheral members in a community health network.

More recently, Derryck and Abzug (2002) found in their study of New York
City nonprofits in the wake of September 11 terrorist attack that the attack itself and
the ensuing economic downturn hit nonprofits in New York City very hard,
particularly those unaffiliated small and medium-sized organizations. Most of
nonprofits suffered from loss of revenue, loss of fee-for-service, decreased ability to
fundraise, and delays in funding and checks. Although the September 11th Fund made
grants and loans for nonprofits providing services available relatively quickly, these
resources were not highly publicized. Knowledge of such pools of funds became a
critical factor in gaining access. Those nonprofits connected to those groups in the
know—often umbrella and other intermediary organizations such as foundation
granters—received phone call, fax, and email notification of this pot of relief money
and additional funding opportunities. Those unaffiliated nonprofits were left in the
dark about these opportunities and had to face crises alone. Thus, a significant cost of
non-affiliation may be delayed or no access to recovery resources—including funding
and extra staffing in a time of crises.

Association with central members of the network not only provides peripheral
members easy access to resources, this upward linkage may also offer junior members
the benefits of positive reputational spillover (Banaszak-Holl et al, 2003). Relatedly, Doreian (1999) suggests that through daily interaction among member organizations in social service delivery networks, staff and directors of these agencies form assessments of the quality of working with other agencies. Some working arrangements succeed while others fail. Organizations build histories of which ties work for them and which ties do not work. Contingent upon the valence of other organizations’ assessment, organizational reputation can be social capital and social liability.

Thus, embeddedness of nonprofit actors in exchange networks not only generates tangible benefits, it also allows nonprofit organizations to achieve a measure of social legitimacy/capital, which is a critical resource in itself in the nonprofit sector. Institutional theorists argue that when technologies are poorly defined and outcomes are ambiguous and hard to measure, social legitimacy/capital is critical to an organization’s chance of survival. This idea can be readily applied to the nonprofit sector. Due to the lack of objective measurement of outcomes and the degree of separation between third-party payers (e.g., government purchaser, donors, and funding agencies) and service recipients, the quality of services provided by nonprofit organizations is often hard to observe for third-party payers. Faced with this uncertainty, third-party payers often use such social performance indicators as reputation, trustworthiness, endorsement, and community influence to help them make resource allocation decisions. A logical consequence of this reliance on social performance indicators is that the more centrally embedded a focal organization is in
the network structure, the more favorable assessment it tends to receive from the
network members and non-network members alike. Consequently, more resources
and information will flow to centrally located network organizations. A good case in
point is the widespread adoption of Drug Abuse Resistance Education (DARE)—the
largest school-based drug prevention partnerships between local schools, law
enforcement, and the nonprofit sector in U.S. Frumkin and Reingold (2004) suggest
that coercive pressures resulting from legislative mandate—the Drug-Free Schools
and Communities Act (DFSCA) of 1986—was only part of the explanation for the
rapid diffusion of DARE. A more important factor was that DARE was endorsed by
numerous federal government agencies involved in the war on drugs, including the
Department of the Interior, the Bureau of Indian Affairs, the National Park Service,
and the Department of Defense. DARE’s high visibility, coupled with the lack of
objective evaluation research on the effectiveness of substance abuse prevention
programs, made DARE the obvious choice for more than 80 percent of U.S. school
districts.

The foregoing discussion mainly focused on the benefits of organizational
embeddedness in network structure; however, it is also important to note that
embeddedness can become a liability under certain circumstances. At the dyad level,
Podolny (1993) offers the provocative proposition that stronger ties between actors
actually give rise to more inaccurate evaluations of performance because actors who
have strong ties to one another don’t have the social distance needed to make
objective comparisons among actors in the field. This positive bias in one’s evaluation
of friends or long time associates probably stems from the natural tendency to avoid the unpleasant dissonant cognition that the quality of your friend’s products or services is not high.

At the network level, Uzzi (1996) observed that although network organizations’ embeddedness in network structure gives such organizations important competitive advantage (e.g. trust, higher decision-making speed, and fine-grained information transfer), over-embeddedness can stifle economic action if the social aspect of exchange supersedes the economic imperatives. He suggested three conditions that turn embeddedness into a liability: (1) there is an unforeseeable exit of a core network player, (2) institutional forces rationalize markets, or (3) over-embeddedness characterizes the network. Thus, the optimal network structure to link to is a mix of arm’s length ties and embedded ties: embedded ties enrich the network, while arm’s length ties prevent the complete insulation of the network from market demands and new possibilities.

Although Uzzi’s argument was developed in the context of a study of a women’s better-dress firms in the New York City apparel industry, this liability of embeddedness argument can also be applied to the nonprofit health and human service sector, particularly when the health and human service field is now characterized by strong heterogeneous institutional forces (strong market forces prescribing efficiency and competition and traditional institutional logics prescribing the importance of access to care and quality of care) (Alexander & D’Aunno, 2003). In other words, strong market forces are imposed on a health and human service
sector strongly embedded in the tradition of collaboration ostensibly in the interests of clients. Some researchers questioned the wisdom behind the tradition of collaboration in service delivery, arguing that extensive inter-agency collaboration often contains redundancy and can lead to duplication of services and waste of precious resources (Banaszak-Holl et al, 1998). For example, widespread adoption of Drug Abuse Resistance Education (DARE) among school districts in U.S. has created a complex web of organizations and institutions across the nation around the issue of drug use prevention that have an interest in the continued operation of this program (Frumkin & Reingold, 2004). Although later on a substantial research literature has consistently found the program to be ineffective at reducing drug use and may backfire by encouraging drug use among participants, only a few police departments and city governments withdraw support for this program. A large majority of school districts still operate the program. For those school districts, the continued operation of the program itself carries a strong symbolic normative signal to government funding agencies, parents, and other interested parties that schools are allies in the war on drug, not advocates of drug legalization. In this situation, over-embeddedness in the normative commitment associated with DARE results in large-scale waste of resources.

Given this concern with over-embeddedness in the sector, the introduction of market forces in the normatively embedded sector may not be as threatening as it seems if we adopt Uzzi’s position that a mix of embedded ties and arm’s length ties is the optimal network structure for an organization to link to.
Indeed, researchers found that nonprofit organizations rely on both social control and formal mechanisms to sustain collaboration relationships with other organizations. Snavely and Tracy (2002) note that nonprofit leaders in southern Illinois and the Mississippi Delta, faced with the rural service-delivery challenges (e.g., geographical dispersion of clients, higher unit costs for services, inadequate number of service providers in rural communities), not only relied on trust formed in the process of engagement among partners but also signed memoranda of understanding with each other in which they clearly articulate procedures for referring clients and pledge organization resources to providing services to clients they mutually service. Trust is central to successful collaboration because trust facilitates constructive resolution of turf issues (Weiner & Alexander, 1998) and the sharing of knowledge and know-how in the interests of clients among health and human service professionals (Banaszak-Holl, Elms & Grazman, 2003). It is notable that in this case interaction-based trust and institution-based trust (based on formal procedures and credible commitment) work hand in hand.

Similarly, Isett and Provan (2004) argue that the presence of contract ties is not necessarily incompatible with informal interaction-based trust relationships in nonprofit organizational networks. In almost subversion of the logic of Gulati’s (1995) familiarity-breeds-trust argument, which proposes a graduate shift from formally structured partnerships (based on contract) to less formally structured and increasingly social and informal relationships as trust builds from repeated contractual ties, Isett and Provan (2004) stress that in public sector networks contracts
may be used so that both funders and service providers can be assured that clients with multiple needs will have a full range of services available, or when government regulations mandate the use of contracts among service providers. In such circumstances, the presence of contract does not preclude interaction-based trust relationships. Their study of evolution of inter-organizational relationships in a network of publicly funded nonprofit agencies reveals that informal ties (e.g., referrals, information sharing) were often added to contractual ties, instead of replacing them. These added informal ties strengthened the bond between agencies despite the existence of a formal contract, thus enhancing the inter-organizational trust.

In summary, nonprofit organizations rely primarily on social performance indicators, such as affiliations, reputation, trust, and influence to signal worthiness for receiving societal resources necessary for survival. These social performance indicators emerge from the organizational embeddedness in mostly horizontal, egalitarian inter-organizational relationships within an exchange network. Since business organizations rely on the same social performance indicators to gain competitive advantages in the market setting, it is fair to say that social control mechanisms (trust, reputation, and influence) based on embeddedness in network structure operate in decentralized organizational networks, regardless of the sectoral affiliation of member organizations. It is also important to note that the social control mechanisms may penetrate different sectors in varying degrees. Nonprofit organizations may compete more intensely in terms of organizational social
performance than business organizations because nonprofit organizations do not have other ways of measuring outcome or consensus about goals and technology.

RESEARCH QUESTION

From the perspective of the New Public Management (Hood, 1995; Kettle, 1997; Osborne & Gaebler, 1993), social governance of organizational networks does not accord well with other normative goals of public management; namely, outcome orientation, accountability, responsiveness, and transparency. While organizational networks can offer flexible solutions to complex policy problems that cumbersome bureaucracies are not able to address efficiently, the issue of democratic accountability stands out as a major challenge to public management of organizational networks. For example, urban revitalization networks, such as those studied by Hula (1990) in Baltimore, have circumvented cumbersome city hall bureaucratic procedures, overcome public procurement rules, leveraged private investments with public dollars, and ignored political criticism from neighborhood and other citizen groups. Although these networks made the Inner Harbor development possible during Mayer William Schaefer’s administration, serious questions have been raised about the propriety and accountability of the administration’s procedure, specifically, their failure to operate in public, their circumvention of standard public procurement rules, and their lack of public responsiveness.

In this sense, network governance is neither democratic nor accountable. Decisions are often made in a rather opaque way by actors who are prominent and
influential in the network but not necessarily democratically legitimate. This lack of transparency may create ample opportunities for the powerful actors to advance their own self-interests at the expense of other member’s interests and the network’s collective goal. For example, Ford, Wells and Bailey (2004) found that in the Care Partners Network (CPN), a nonprofit NAO designed to enhance communication and referral patterns between primary and mental health care providers, there is a large discrepancy between resource control and information exchange in the network: while the Plains County mental health department (the recipient of the state’s integration grant) controlled the coalition resources (the grant and county mental health services), two care coordinators from a local Medicaid managed care plan and a local Independent Practice Association (IPA) respectively were central conduits of information and advice seeking in the network. In contrast, CPN has very little influence in the resource and information exchange network. Although the county mental health department engaged in information exchange with the two care coordinators, there was no direct communication between the mental health department and the people who had authority to change how mental health care was provided (e.g., CPN’s CEO and the IPA’s associate medical director). The failure of the county mental health department to communicate with key policy players in the system after it gained control over all of the resources resulted in the coalition’s failure to integrate mental health and primary health care providers. Interviews with providers suggested that the grant was only serving to further enrich the county health department and interviews with country mental health department confirmed this
suspicion. The state was unwilling to intervene in a dysfunctional situation because the state believed that local problems should be resolved at the local level.

In this situation, all local participants appear to be accountable, but none is absolutely accountable. Agranoff and McGuire (2001) argue that this lack of concern with accountability, which is generally framed in oversight and reporting arrangements, obfuscates issues of effectiveness and performance. Public managers should redirect their network management efforts on accountability for results, accountability for setting wise priorities, and accountability for system modification and design.

An interesting question then becomes: are there certain collaborative structures, such as hub-and-spoke structures that are more accountable for results and performance because there is a single point organization? Berry and Brower (2003) suggest that over-embeddedness and network organization’s pursuit of private ends in the name of public interest are two types of undesirable consequences from network activities. Agranoff and McGuire (2001) raised the important question: How do we know if a network is shirking its responsibility if we don’t know what the network is doing or how well it is doing it? The lack of pressure from market competition and bottom line, nonprofit organization’s self-interests to maximize control and resources, and the heavy reliance on social control mechanisms such as reputation, influence, and affiliations to signify social legitimacy are important causes for inefficiency in nonprofit sector, making the hub-and-spoke network structure all the more appealing. The groundbreaking work of Provan and Milward (1995) in this regard is very
important. They measured the outcomes and effectiveness of mental health service networks in order to assess how accountable a particular network is to its stakeholders and for achievement of its stated goals.

This need for accountability for outcomes and results calls for outside intervention in the operation of organizational networks in the public sector. In the ideal situation, a strong network administrative organization (NAO) may inject into the nonprofit system new blood of accountability, outcome orientation, and cost consciousness. Chaskin et al (2001) also emphasize the efficiency advantage of the broker organization, namely, it acts as a central point of contact and clearing house for external and internal actors, streamlining communications and simplifying distribution of resources.

Apparently, this call for the insertion of a powerful NAO into a preexisting organizational network represents an attempt to impose the managerial logic of control and administrative oversight on a socially governed organizational network. As the previous section on organizational embeddedness in network structure suggests, we know a great deal about the relationship between organizational embeddedness and organizational social performance in decentralized networks; that is, naturally occurring networks in which organizations come together mostly out of their own will. We also know that the relationship between organizational embeddedness and organizational social performance are mostly consistent across organizational networks in business and nonprofit sector. What we know very little about, however, is the relationship between organizational embeddedness and
organizational social performance in a centrally governed networks; that is, networks
governed by a NAO, particularly when the NAO comes from a different sector than
the network members.

While it seems that centrally governed networks would be more accountable,
the fact that the technology and the outputs associated with SMI services are so
plagued with uncertainty and ambiguity makes uncertainty in the measurement of
service provider performance an ever-present challenge for both the NAO and
network organizations. Hence, I argue that trust, reputation, and informal influence
are going to be important in networks, whether they are centrally governed or not.

Wuthnow and Shrum (1988) investigated the reputation status of research
organizations in multi-sectoral, centrally coordinated “technical systems”. They
suggest that in a centralized technical system, the dependence on external sources of
support may make contacts with researchers less important than contacts with
government program managers. Subjective global assessments of performance
reputations by researchers reveal that contact with other researchers has no effect on
research performance; only contact with government appears to have a positive effect.
This finding begs the question: Is the relationship between organizational
embeddedness and organizational social performance in a centralized system the same
as that found in a decentralized system.

Researchers have discussed the impact of centralized network structure on
organizational autonomy and organizational engagement in informal lateral
relationship. Provan (1983) suggests that voluntary federations are formed when a
large number of interdependent organizations find themselves faced with tasks for which they are ill-suited, e.g., promotion of the industry, political activity, and fund raising. While federation management organizations (FMO) take care of these tasks, federations tend to reduce the number of direct ties between organizations substantially while increasing the number of indirect ties between organizations through the FMO. Also, when the FMO have exclusive control over resources critical to affiliated organizations’ survival, the FMO has the power to control and legitimize the activities of affiliates. For example, in most communities United Way not only provides resources to its affiliated agencies, it also controls, monitors, and sometimes sanctions their activities. Relatedly, Tsai (2002) notes that there are two generic types of organizational coordination (integrating or linking together different parts of an organization): formal hierarchical structure (centralization, formalization, specialization) and informal lateral relations. In the context of multi-unit organization, centralization prevents a unit manager from exercising greater discretion in dealing with the relevant task environment. Thus, centralization may reduce the initiatives that a unit can take in inter-unit exchanges, those that comprise a more voluntary and personal mode of coordination.

Perrone, Zaheer and McEvily’s (2003) work provide empirical support for this concern with the impact of centralization on social exchange relations. They argue that in a buyer-supplier context, purchasing managers will be trusted to a greater extent by supplier representatives when purchasing managers are free from organizational constraints. Role autonomy allows purchasing managers opportunity to
demonstrate their trustworthiness by meeting the expectations of supplier representatives. When organizational constraints are high, it is more difficult for purchasing managers to make and consistently uphold obligations and commitments made to supplier representative. The test of the relationship between role autonomy and trust on a sample of 119 buyer-supplier relationships confirmed the authors’ reasoning. Although the researchers developed this argument in the context of organizational constraints on boundary spanners, I argue that this reasoning is equally applicable to the situation in which network organizations are subject to tight control of the NAO. Inter-agency collaboration is likely to be more effective under low-control accountability relationships based on professional norms and politics than under high-control relationships that employ legal or hierarchical authority (Radin & Romzek, 1996; Page, 2004)

Indeed, several important studies have examined the impact of service integration in a centralized delivery system on patterns of collaboration among service providers in the U.S. and documented the reduced organizational autonomy and horizontal connections among network members. Those studies include Morrissey and his associates’ (1994) evaluation of the Robert Wood Johnson Foundation (RWJF) Program on Chronic Mental Illness (PCMI), Provan and Milward’s (1995) study of four cities’ mental health delivery systems, Bickman’s (1996) study of the Fort Bragg Child and Adolescent Mental Health Demonstration, Morrissey and his associates’ (1998) study of ACCESS (Access to Community Care and Effective Services and Supports) demonstration program for persons who are homeless and
mentally ill. Although these four important comparative network studies produce mixed findings regarding the utility of service integration in improving system and client outcomes, one common finding was that while network centralization promotes system efficiency under certain conditions, network centralization may reduce local autonomy and horizontal connections among network members. Since voluntary horizontal relationships are important means to establish organizational social performance/capital in an inter-organizational network, therefore, the first general research question to be addressed in this dissertation is:

*Research Question 1: To what extent is the embeddedness of a nonprofit service provider in a centrally governed network related to its social performance?*

This research question is somewhat broad and I will focus on three specific research questions that derive from the general research question.

*Research Question 1(a): To what extent is the embeddedness of a nonprofit service provider in a centrally governed network related to its trustworthiness?*

Trustworthiness is the most important indicator of organizational social performance in network relationships. Zucker (1986) outlines three different ways trust—“a set of expectations shared by all those in an exchange”—is produced. Process-based trust emerges from recurrent interactions, characteristics-based trust rests on social similarity, and institution-based trust is tied to formal social structures. While we know that repeated informal, social interaction builds trust between and among partner organizations, formal governance relationships (contracts, case management) between the NAO and member organizations may introduce uncertainty
in the relationship between organizational embeddedness and organizational trustworthiness. As some researchers found, network centralization is usually associated with reduced horizontal connections among network members. This reduced opportunity to interact may mean less opportunity to build trust between partner organizations.

Alternatively, the NAO may act as a fair and rigorous promoter of cooperation between partner organizations, establishing clear and transparent reward criteria to reduce mistrust among partners. Tsai (2002) argue that an intracorporate network such as multiunit (or multinational) companies is a social structure of coopetition, in which units cooperate with each other to realize economies of scale and knowledge transfer and compete with each other to acquire resources within the organization and achieve status and reputation. Under such circumstances, Inkpen and Tsang (2005) suggest that it is important that headquarters establish clear and transparent reward criteria so that units will not worry about unfair appropriation, under-the-table transactions or favoritism. Consequently, units will have reduced mistrust of each other.

In a related vein, Campbell and Wilson (1996) argue that a value-creating network emerges when a key firm builds relationships with other independent firms along a value-added chain to create strategic advantage for the entire group. Relationships in such a network can be regarded as a hierarchy, one that is based on each partner’s contribution to the total value-creating abilities of the network. Sincere there are a small number of major partners, minor second-tier alliances, and niche arrangements developed for a focused purpose in the relationship hierarchy, it is
essential for the major partners to distribute gains resulting from a network’s competitive advantage in a way that all participants feel to be fair and that fosters loyalty. This will promote trust among members of the value-creating network.

A common theme in the literature on hierarchical networks is that shared goals and interaction logic are critical to building trust among member organizations. It is notable that although there is a sizable power asymmetry between the NAO of a hierarchical network (e.g., the headquarter of a MNC, a core firm in a value-adding network, lead firm in a R&D consortium) and the member organizations, the hierarchical network may be considered a homogenous network to the extent that the NAO and member organizations share the same collective goal. This homophily makes it easy to reach goal consensus and build trust in inter-member collaboration. However, when the NAO comes from a different sector and has a different set of values and motivations than member organizations, it is more likely that member organizations will not trust the NAO. Does the relative lack of trust between member organizations and NAO mean higher level of trust between member organizations? Uzzi’s argument that a mix of arm’s length tie and embedded ties may be optimal for an organization may provide some initial clue to the answer of the question. Nonprofit researchers also found that contract ties do not necessarily decrease trust among partner organizations. On the contrary, a combination of contract ties and embedded ties may enhance the trust among partners. Thus, it is an empirical question to examine the relationship between organizational embeddedness and organizational trustworthiness in a centrally governed network.
Research Question 1(b): To what extent is the embeddedness of a nonprofit service provider in a centrally governed network related to its reputation?

Organizational reputation has a signaling quality, one that indicates organizational past performance, trustworthiness, and integrity. We know that performance indicators can be used to directly measure the underlying qualities reputation stands for. Given nonprofit organization’s ambiguous goals, hard-to-measure outcomes, and lack of consensus about appropriate technology, however, direct measurement of underlying qualities is often not feasible. Thus, past interactive history, network visibility, and affiliations are the means by which organizational embeddedness in network structure shapes other organization’s assessment of the focal organization. We know that affiliation boosts an organization’s reputation because of the reputation spill-over effects from the focal organization’s relationships with well-regarded organizations. Stuart, Hoang and Hybels (1999) posited three possible social mechanisms that may lead to reputation spill-over effects: (1) relationships have reciprocal effects on the reputation of those involved. The collapse of Enron and the subsequent collapse of its accounting firm—Arthur Anderson— is a good case in point. (2) the evaluative capabilities of well-known organizations are perceived to be strong, and (3) relationships with prominent organizations signal a new venture’s reliability. Extending the network visibility proposition and Stuart and his associates’ thinking to a centrally governed network, I argue that although the NAO may not be a well-regarded member of an organizational network, particularly when the NAO comes from a different sector than member organizations, the NAO is
located at the center of the network structure and thus has high visibility. Enhanced visibility may affect reputation positively or negatively because familiarity may breed admiration or contempt (Shrum & Wuthnow, 1988). For example, Fombrum & Van Riel (2004) found that high media visibility tends to hurt the reputations of companies such as Philip Morris and Microsoft.

Thus, the presence of a heterogeneous NAO may have negative reputation spill-over effects on member organizations’ reputation, which may be established by member’s affiliations with well-regarded member organizations and past performance. Under these circumstances, it is not clear whether the relationship between organizational embeddedness in network structure and organizational reputation will hold in a centrally governed network.

Research Question 1(c): To what extent is the embeddedness of a nonprofit service provider in a centrally governed network related to its influence?

Network literature suggests that in a decentralized system, an organization located at the center of the social exchange network enjoys great influence because the structural centrality gives it information and resource access advantages (Freeman, 1979). Similarly, Galaskiewicz (1979) argue that an organization’s resources and interest can indicate only how powerful it is relative to other organizations. For an organization to be perceived as influential in the community it must occupy key coordinative positions in resource exchange networks.

In resource dependence terms, one organization’s influence over another organization is rooted in the other’s dependence on the resources controlled by the
former (Emerson, 1962) and lack of countervailing resources or access to alternative sources (Cook, 1977; Pfeffer & Salanick, 1978). In a centrally governed network, the resource dependence relationship between member organizations and the NAO and its associates introduce uncertainty to the relationship between organizational embeddedness and attributed organizational influence. For one thing, organizations in the network may no longer need to turn to the center of the decentralized informal exchange network for information or resource since they have a clear and straightforward alternative (the NAO and its associates).

Research Question 2: To what extent does the embeddedness of nonprofit versus for-profit organizations in a centrally governed network depend on the nature of the social ties being considered?

This second general research question examines the relationship between organizational embeddedness in network structure and the specific content of the network ties. While research on embeddedness of business organizations in network structures has focused on repetitive market relations and the linking of social and business relationships (Macaulay, 1963; Gulati & Gargiulo, 1999; Ingram & Roberts, 2000, Uzzi, 1997, 1999; Uzzi & Gillespie, 2002), research on nonprofit organizational networks has stressed organizational embeddedness in administrative and client-centered relations (Bolland & Wilson, 1994; Oliver & Montgomery, 1996; Provan & Milward, 1995; Banaszak-Holl et al, 1998, 2003; Isett & Provan, 2004). Administrative relations such as contracts, the transmittal of funds, and joint planning are means of formal coordination by which long-term resource dependencies between
agencies are established to guarantee future cooperation. Client-centered activities such as sharing client information or referring clients rely on frequent but informal contact among first-line service personnel (e.g., case managers, agency staff), who, motivated by their professional commitment to clients well-being, build these informal relationships to help their clients navigate a fragmented community service system (Banaszak-Holl et al, 1998; Snavely & Tracy, 2002).

Research on community service systems has found that inter-organizational administrative activity occurs much less frequently than client-oriented activity (Bolland & Wilson, 1994; Oliver & Montgomery, 1996; Provan et al, 2003). Resource dependency theory provides a nice explanation of this disparity. Banaszak-Holl et al (1998) argue that administrative relationships, such as funding or contracting, are critical to an agency’s long-term survival, and an agency is typically cautious about becoming highly dependent on any other agency for its financial or administrative resources (Oliver, 1990). In addition, there is usually an element of hierarchical control in public sector contracting or funding relationships. Government contracting or funding often have strings attached, e.g. client eligibility requirements, categorical programs, and reimbursement criteria. Like business organizations, nonprofit organizations value organizational autonomy and dislike encroachment of their decision-making autonomy by external actors. Thus, nonprofits seem to be more embedded in informal lateral relationships than administrative relationships. It is important to note that most of the research on community service systems is conducted on decentralized community service systems.
In a centrally governed network, a powerful NAO has the exclusive authority to organize and purchase services from a set of nonprofit human and health service providers. The embeddedness of nonprofit organizations in administrative relationships may be more centralized, that is, the NAO becomes the network center that has much more contractual links to other organizations than any other organization in the network. It is likely that this administrative network may be a classic hub-and-spoke structure. In client-centered network structures, although the NAO may become a significant player since its dominance in administrative relationships requires information exchange, monitoring, and feedback with the network members, the embeddedness of nonprofit organizations in dense client-centered ties may remain prominent because they are initiated and sustained by first-line service personnel, who see client-centered inter-agency collaboration as an expression of their value commitment to clients’ well-being. This loose coupling between organizational embeddedness in administrative and informal lateral network structure may be more pronounced in a mixed-sector centrally governed network. If we view relationship formality on a continuum, administrative relationships such as funding and contracts will be the more formal and hierarchical relationships and client-centered relationships such as information sharing and referral will be the more informal lateral relationships. I suspect that as the formality and power asymmetry of relationships increases, there may be a simultaneous increase in network centralization in a centrally governed network, meanwhile, there may be a simultaneous decrease in network connectedness in a centrally governed network.
I plan to address the first three research questions by systematically analyzing the relationship between organizational embeddedness at two levels of analysis (dyad and clique) and organizational social performance in a single, centrally governed mixed-sector mental health service delivery network. The answer to the second general research question can only be obtained via multi-network comparison. Since the research setting of my dissertation is a single, centrally governed mental health service network, the second general research question cannot be answered definitely. However, some tentative clues can be gleaned from the network structure of administrative and informal lateral relationships within the centrally governed mental health network. I will present the structure description of network relationships as a part of the following methods chapter. The next section will draw from the research literature on organizational theory to develop hypotheses about the relationship between organizational embeddedness and organizational social performance in a centrally governed network.

The proposed contribution of this undertaking is three-fold. First, I hope to contribute to the theory of network forms of organization by answering the question of whether the relationship between organizational embeddedness and organizational social performance in a centrally governed mixed-sector network is the same as that observed in decentralized networks. This will advance theory of a specific type of organizational network --namely, centrally governed, mixed-sector networks. Recently scholars have called for more attention to define the boundary conditions of the generalizability of findings based on one network type to another (Inkpen &
Tsang, 2005; Isett & Provan, 2004). Inkpen and Tsang (2005) posit that the effects of social capital on knowledge transfer vary across different types of networks (hierarchical networks such as intracorporate network and government-sponsored technology programs vs. nonhierarchical networks such as strategic alliances and industrial districts). Inkpen & Tsang (2005) further suggest that generalizability of research findings across network types may be limited, calling for increased efforts to apply a contingency approach to network study. My examination of the relationship between embeddedness and organizational social performance in a centrally governed mixed-sector network is in the spirit of recent attempts to discern the boundaries conditions of the generalizability of findings based in homogeneous nonhierarchical networks to centrally governed networks. Second, I hope to contribute to an understanding of the cross-sector relationships between nonprofit and for-profit organizations. The results of this study will be able to answer part of the question: What is the impact of cross-sector formal and informal collaborative relationship on organizational embeddedness? This may have important policy implications since policy makers will be better informed about the structural implications of cross-sector collaboration and they can develop appropriate policy and funding decisions to develop networks that operate more efficiently. Third, it informs the managers of nonprofit organizations about what will happen to their organizational embeddedness and social performance/capital in a centrally governed network. Using this information, nonprofit managers can make better strategic choices to manage their inter-organizational relationships.
HYPOTHESIS DEVELOPMENT

The model presented in Figure 3.2 depicts the overall, hypothesized relationship between an organization’s structural embeddedness in network structure, organization social performance, and organizational task performance.

Adopting Granovetter’s (1992:33) proposition that “Embeddedness refers to the fact that economic action and outcomes … are affected by actors’ dyadic (pairwise) relations and by the structure of the overall network of relations”, I posit in the organizational embeddedness box that the fundamental components of organization embeddedness in network structures are embeddedness in dyadic relationships (between two actors) and embeddedness in clique relationships (among a minimum of three mutually connected actors who are not mutually connected to any other actors in the network). At the dyad level of organizational embeddedness, multiplexity refers to the extent to which there are multiple types of relationships between two actors. There may be only one type of relationship (uniplexity) or multiple types of relationship (multiplexity) between two organizations. Centrality describes the extent to which an organization is located in a core position in a web of exchanges (Diana, 2002). The reason centrality is posited at the dyadic level is that whether a researcher is concerned with local centrality (degree centrality) or global centrality (closeness centrality), s/he is counting the number of dyadic ties directly or indirectly connected to the focal actor. Although there is a general consensus in the network research community that the dyadic relationships among two actors are the.
FIGURE 3.2
Hypothesized Model of Relationships between Organization Embeddedness and Social Performance
fundamental constituents of a network structure, there is also a growing awareness among network researchers that dyadic relationships between two actors, if viewed as stand-alone structures, do not make a network structure, which requires at least three actors either directly or indirectly connected to each other (Madhavan, Gnyawali & He, 2004). Balance theory argues that actors (individual or organization) will tend to form transitive triads as a by-product of their preference for balanced relationships. A transitive triad can be viewed as a clique of three members if the arrows indicating the directional flow of relationships (such as liking) are removed from the transitive triad. Therefore, cliques are an inevitable structural component of organizational embeddedness from a balance theory perspective (Kilduff & Tsai, 2003). Network researchers have noted that transitive triads or cliques occupy an intermediate level in network analysis, strategically located between the single dyadic relationship and higher-order network structure such as the ego network and the overall network (Coleman, 1990; Wasserman & Faust, 1994). Thus, cliques are an important elements in the “local” environment within which organizations embedded in dyadic relationships interconnect to form overall network structures (Nohria, 1992). One important way through which cliques interconnect with each other is clique overlap—the extent to which members of a clique interact with members of other cliques (Provan & Sebastian, 1998; Kilduff & Tsai, 2003).

The social performance box in the diagram identifies three key indicators of organizational social performance in a network: trustworthiness, reputation, and influence. These three social status attributes are also the key social governance mechanisms found in decentralized networks of exchange in business and public sectors.
(Lin, 2001; Powell, 1990; Putnam, 1993; Stuart et al., 1999; Uzzi, 1996). Trustworthiness is the extent to which an organization can be depended on to honor its promises in an exchange network. Reputation refers to the perceived quality of products and services of an organization. Influence is concerned with the extent to which an organization is being taken into consideration when other organizations make important decisions. The final outcome box posits that budget growth rate and service effectiveness are key indicators of organizational task performance in a service delivery system. In this dissertation, organizational task performance will not be analyzed because of incomplete data and is included here only in the interests of completeness.

The major argument posited in the model is that although such organizational attributes as daily SMI case load and the number of SMI full-time employees may be important indicators of an organization’s resource base (Galaskiewicz, 1979) and service capacity (Alter & Hage, 1993), it is the embeddedness of an provider organization, in both dyads and cliques of exchange, that will determine its social performance in a social status order, based on trust, reputation and influence. Since these relationships will be examined in a mixed-sector context where the NAO is a for-profit firm, I suspect that nonprofit and public agencies will display different patterns of embeddedness than for-profits, depending on what type of network ties are examined. For example, public and nonprofits may have higher levels of trust and reputation in informal professional activities, but not influence in a resource exchange network dominated by for-profits. Although I do not have data to compare mixed-sector relationships with a purely nonprofit network, I will conduct a limited test of this relationship comparing network
plots of informal professional activities and formal resource exchanges. The remainder of this section develops the rationale for the proposed hypothesis about the relationship between organizational embeddedness in network structure and organizational social performance in a centrally governed mixed-sector network.

Embeddedness and Trust

In his manifesto for a new economic sociology, Granovetter (1985:490) argues that the foundations of embedded economic action in social networks rest on “the widespread preference for transacting with individuals of known reputation,” for resorting to “trusted informants” who have dealt with a potential partner and found this partner trustworthy, or even better, for relying on “information from one’s own past dealings with that person.” Consistent with Granovetter’s view of direct-experience-based trust, Gulati (1995) argues that a similar interaction-based-trust-building process unfolds in the process of organizational strategic alliances formation. It is instructive to note that Gulati’s work (1995) focused on dyadic relationships, rather than the larger network structure in which those dyadic ties are embedded. Gulati and Gargiulo’s subsequent work (1999) examined the embeddedness of dyadic ties in network structures by positing that organizations rely on information from the network of prior alliances to determine with whom to cooperate. Negative gossip by third parties about a party’s uncooperative behavior significantly reduces the likelihood of direct relations, whereas positive gossip strengthens the likelihood of direct relations. Similarly, McEvily, Perrone and Zaheer (2003) argue that breaches in trust may initiate a reorganization of the social system, e.g.,
certain ties are abandoned while others are created; some actors become more central in the social hierarchy, while others are pushed toward the margin and disconnected from the rest of the network. It follows that organizations that have extensive linkages to other organizations tend to have higher level of trustworthiness among its partners in a network. Extending this logic to the inter-organizational network of nonprofit providers, I hypothesize that:

**H1**: Provider organizations that are more firmly embedded in their network based on network centrality will experience higher levels of trustworthiness by other network members.

In a centrally governed stable network, the hierarchical relationship between the NAO and network member organizations does not necessarily mean that trust is absent. In a study of 26 residential homebuilders, Eccles (1981) found that relationships between general contractors and subcontractors were “stable and continuous over fairly long periods of time and only infrequently established through competitive bidding”. Although low levels of asset specificity makes switching subcontractors fairly easy, the presence of market prices actually facilitates the development of trust and enables the creation of stable exchange relationships. In this situation, mutual dependence between exchange partners promotes trust, not opportunistic behavior. Likewise, Grandori and Soda (1995) noted that in centralized inter-firm networks such as the textile-clothing industry reciprocal social coordination and control among firms is usually accompanied by relations of authority. For example, Uzzi’s (1997) study of the relationship between the manufacturer and a network of grading, cutting, and sewing contracting firms in the
women’s better-dress sector found trust-based cooperative contractual relationships between the core manufacturer and its subcontracting partners. In the public sector, Brown and Troutt (2004) documented similar long-term, trust-based cooperative approach to contracting between a powerful government program (a provincial government program for the prevention of family violence in Manitoba, Canada) and the program-funded nonprofit organizations.

It is not clear to what extent this trust-based hierarchical relationship argument can be applied to the hierarchical relationship between for-profit and nonprofit organization in a centrally governed network. For one thing, the value differences and the for-profit orientation of the NAO may reduce its trustworthiness in the eyes of nonprofit service providers. Meanwhile, the mutual dependence and the stable hierarchical relationship may promote trust. Under these circumstances, I expect that in the early days of the network, trust toward the for-profit NAO may be low, but it will improve over time as (a) nonprofits may build trust with the NAO from long-term direct experience, and (b) in the process of sustained interaction, nonprofits may learn to accommodate hard-to-ignore market and technical pressures for greater efficiency and effectiveness in a heterogeneous institutional environment (Oliver, 1990), in which strong market forces emphasizing efficiency have emerged as a formidable challenge to the traditional institutional logic prescribing the importance of access to care and quality of care (Alexander & D’Aunno, 2003).

An organization’s trustworthiness is not only indicated by its centrality in a network, the multiplex/uniplex nature of the relationship between the focal organization
and its partners also plays a critical role in the formation of trust between partner organizations. Formally, multiplexity is the number of relations within a given link (Galaskiewicz & Wasserman, 1993). In the business sector, Uzzi (1997) found that embedding economic exchange in a multiplex relationship made up of economic investments, friendship, and altruistic attachments promotes trust, fine-grained information transfer, and joint problem-solving arrangements between partner organizations. Uzzi further argues that organizational embeddedness in social relationships (e.g., supplier, friend, community member) promotes goodwill between partner organizations. While Uzzi posits that multiplexity indicates the presence of trust, McEvily, Perrone and Zaheer (2003) argue that trust creates multiplexity in ties by providing generative capacity to incorporate additional components in a relationship over time. As parties in a relationship gain confidence in each other over the course of their interaction, they may transfer the trustworthiness that is observed in one facet of their relationship to another realm of interaction.

In the public sector, it is the embeddedness of nonprofit collaborative activities (joint grant application, joint program, professional meetings, and common clients) in personal and professional relationships among nonprofit leaders and agency staff that promotes trust between partner organizations. Snavely & Tracy (2002) found that field staffs who work with clients establish trust-based personal, informal relationships with other service providers in their joint efforts to overcome bureaucratic obstacles to gain access to needed service for their clients in a poorly-integrated system. To guarantee appropriate partners’ behavior in the process of trust building, partner organizations sign
memoranda of understanding to establish contractual obligations and set up interorganizational routines through which organization members consult with each other and draw upon each other’s resources. Relatedly, Ford, Wells and Bailey (2004) suggest that funders could improve cooperation within health care networks by requiring contractual agreements among participants in addition to the shared informal ethos of cooperation. They reason that establishment of a contractually specified corporate structure will improve transparency of member motivations to all those affected and help reduce uncertainty in the cooperative relationship.

These observations about the relationship between trust and contractual ties have been empirically validated in Isett and Provan’s (2005)’s study of the evolution of a interorganizational relationships in a network of publicly funded nonprofit agencies. In their analysis of the formal contractual relationships that did not change over time, Isett and Provan (2005) found that informal ties (i.e., referrals) were often added to contractual ties, strengthening the bond between agencies despite the existence of a formal contract. This increased strength of ties between agencies indicates the presence of trust.

Thus, contractual ties may have very different meaning in the nonprofit sector. They are not purely market adversarial relationships designed to substitute for the lack of trust between partner organizations. Rather, they can be formal instruments to anchor and reinforce mutual trust between organizational partners.

In sum, nonprofit organizations’ embeddedness in informal personal and professional relationships as well as in formal administrative relationships gives new meaning to the concept of multiplexity. This concept was originally developed in
business organizations’ embeddedness in informal personal relationships in place of contractual relationships. Despite the differences in the content of ties, multiplex relationships between two organizations in business and nonprofit sector share a mutualistic orientation that promotes trust and achievement of organizational goals.

**H2**: Provider organizations that are more firmly embedded in their network through multiplex ties will experience higher levels of trustworthiness by other network members.

It is instructive to note organizational dyads’ embeddedness in the larger network structure can be as critical as organizational embeddedness in dyadic relationships in fostering trust among members in a network. Coleman (1990) argues that network closure—the extent to which actors’ contacts are themselves connected in a network structure such as a clique—facilitates the emergence of effective norms and maintains the trustworthiness of others, thus giving closed structure collective cohesiveness and facilitating the pursuit of collective goals (Putnam, 2000). Compared to dyads independent of cliques, dyads embedded in triads (a three-person clique) are more constrained in their attitudes and behaviors because triads tend to suppress individual interests, reduce individual power, moderate conflict (Krackhardt, 1999: 185), and show more consensus (Krackhardt & Kilduff, 2002). In such a closed structure, it is easy to build trust and normative consensus among members.

Organizationally, redundancy is greatest within cliques since agencies interact with other agencies that are closely tied to one another. Although this structural redundancy facilitates the formation of trust and normative consensus, dense contacts within cliques are less useful for conveying important and unique information,
particularly information that originates in distant parts of the network (Burt, 1992). It is likely that cliques may work against each other, rather than with each other, when value-homogeneous subgroups are isolated from other subgroups with conflicting values in a community in conflict or under stress (Coleman, 1957). Under such circumstances, common organizational members across cliques (clique overlap) bridging otherwise disconnected subgroups may be the key to avoiding the escalation of inter-clique rivalry and enhancing the likelihood of inter-clique cooperation. Those organizations that are embedded through clique overlap may work as informal leaders to coordinate the activities of the cliques that have common organizational members to either provide for the public good (integrated service to vulnerable clients such as those with SMI, see Provan & Sabastian, 1998) or to prevent the public bad (inter-ethnic urban violence in India, see Ashutosh Varshney, 2002). In either case, I expect that those organizations that belong to multiple cliques will experience higher level of trustworthiness.

**H3:** Provider organizations that are more firmly embedded in their network through clique overlap will experience high levels of trustworthiness by other network members.

Embeddedness and Reputation

In the business sector, the reputation-enhancing effects of organizational embeddedness in market exchange relationships such as joint venture, endorsements, and strategic alliances are extensively documented (Benjamin & Podolny, 1999; Podolny, 1993; Stuart, Hoang, & Hybels, 1999;). Under conditions of market uncertainty (e.g., lack of history of young companies, difficult-to-understand technological information
about products or services) and the high search costs of analyzing the past performance of all the similar products in the market, affiliations offer interested third-parties such as investors and consumers an easier way to arrive at subjective judgments about the performance and quality of an organization. Thus, the reputation of an organization tends to be socially constructed and is based more on people’s perceptions than the real traits underlying those perceptions (Galaskiewicz, 1995). It is instructive to note that the extent to which the judgments accurately reflect the real organization traits vary. For example, Enron’s questionable financial position and the unquestionable praise it received before its stock crashed, especially from those mainstream street-savvy Wall Street insiders, illustrates the possibility of error in subjective performance judgments (Fombrun & Van Riel, 2004).

In the nonprofit health and human service sector, the uncertainty about the linkage between past performance and perceptions of performance is even greater when service providers have different mandates and face great outcome measurement difficulty. Health organizations treat patients, judicial workers protect the public and balance the needs of the public against the needs of the client, mental health counselors alleviate mental distress and individuals in poverty agencies ascertain and provide basic necessities (Woodard & Doreian, 1998). In such a heterogeneous system, there are hardly any universally agreed standards of performance. Thus, the direct linkage between past performance and reputation may be very fragile in a service delivery network, particularly when not every agency will have the opportunity to directly interact with every other agency. Under such circumstances, an organization may be more dependent
on formal and informal communication for past performance to be translated into reputation status.

One way to enhance an organization’s capacity for formal and informal communication within a network is to be located at the center of the network. To the extent that centrally embedded organizations have a greater number of linkages to other organizations than organizations located at the peripheral of a network, centrality in a network may be tantamount to having a high degree of visibility, which often leads to more positive evaluation because (a) one assumes other’s evaluations will be high and, therefore, adjust one’s evaluation accordingly (Shrum and Wuthnow, 1988), and (b) a centrally embedded actor has plenty of partners to spread the word about its performance to the far corners of the network, which may not have direct experience with the central organization.

**H4:** Provider organizations that are more firmly embedded in their network based on their centrality will experience higher reputation by other network members.

The downside risk is that when familiarity with the central actor breeds contempt, bad reputation may travel across the network as well. In a centrally governed mixed-sector network, the dislike of the for-profit NAO may be strong and widely shared among public and nonprofit network members because of the high visibility of the for-profit NAO.

Not only does the reach of an actor in a network have important implications for its reputation in the network, the depth of the focal actor’s relationship with its partners can also be critical to how its performance is perceived. As the preceding section on
embeddedness and trust suggests, multiplex ties tend to promote goodwill, flexibility, and trust between two partners. Goodwill may bias an evaluator’s subjective judgments in favor of its partner (Podolny, 1993). Assuming that reputation is a valued resource for an actor, it is hard to imagine an actor developing multiplex ties with another actor that the focal actor holds in contempt. For one thing, being closely associated with an ill-regarded actor may cause a large amount of cognitive dissonance that motivates the focal actor to take appropriate actions to remove the source of dissonance, e.g., reduce the involvement, and/or change the valuation of the partner. Also, bad reputation of an actor tends to spill over to its associates and this may mean that the reputation of the focal actor may be at great risk. Extending these inter-personal observations to the organization setting, I expect provider organizations that are more firmly embedded in networks (through multiplex ties) will experience a higher reputation among network members.

**H5:** Provider organizations that are more firmly embedded in their network through multiplex ties will experience higher reputation by other network members.

An organization that is a member of multiple cliques has a unique advantage in terms of its access to valued information and resources (Burt, 1992; Lin, 2001). According to Burt’s structural hole theory, an organization serves as the broker between otherwise disconnected segments to the extent that information and resources in one segment will pass through it to reach other segments. Obviously, Burt’s argument applies to clique overlap as well. That is, an organization that is involved in multiple cliques can be regarded as the broker between otherwise disconnected cliques. Burt argues that organizations located in brokerage positions will use this position for their own
advantage. I argue that it is also likely that nonprofit organizations located in brokerage positions will use this position for the public good. In their study of organizational cliques and network effectiveness of mental health agencies in three cities, Provan and Sebastian (1998) found that the integrated and effective services network depends on the integrated activities of a small subset of the organization network (cliques of tightly connected providers). Their involvement with one another was critical for the overall well-being and satisfaction of their clients. Thus, organizations that belong to multiple cliques may do a better job of providing quality care for their clients and thus are more likely to develop better reputation for quality services in the network.

**H6**: Provider organizations that are more firmly embedded in their network through clique overlap will experience higher reputation by other network members.

**Embeddedness and Influence**

In organizational studies, influence has been conceptualized as an indirect measure of organizational power; namely, the extent to which an organization can influence the activity of other organizations in an organizational field (Oliver & Montgomery, 1996). Organizational power can derive from multiple sources, such as control of material resources, information, and social and political supports (legitimacy). It is instructive to note that resource dependence theory offers a cogent account of inter-organizational influence in a network. In a dyadic relationship, Emerson (1962) emphasizes that one actor’s power over another is rooted in the other’s dependence on the resources controlled by the former. The more that others organizations are dependent
upon the focal organization for the resources they need, the more likely that organizations are going to view the focal organization as being influential (Galaskiewicz, 1985). In the wider network structure, resource dependency theory views inter-organizational linkages that involve the exchange of valued resources such as clients, information, and money as the basic constituent of a resource exchange network, suggesting that organization centrality in an exchange network can be viewed as the result of the relative frequency of resource exchange within the network.

From the perspective of resource dependence, central actors exert “gatekeeper” control on valued resources in the network, thus gaining dominant influence in the network. For example, information can be an important resource for nonprofits because through information exchange they learn about the availability of resources (e.g., donors, grants), their common clients, what other organizations are doing in their work, and which organizations are not trustworthy (Galaskiewicz et al, 2003). Empirical research has validated this gatekeeper power of central organizations in an exchange network. Consistent with previous work done on community organizational networks (Galaskiewicz, 1979), Banaszak-Holl et al (1998) found that in a mixed-sector community-based disability service network large nonprofit organizations tend to be located at the center of many network activities, including client referrals, sharing client information and community-level planning efforts. These central organizations diffuse monetary funds and patients outward to peripheral members in the network, which were often the smallest for-profit providers.
H7: Provider organizations firmly embedded in the network structure based on their centrality will have higher influence among network members.
CHAPTER FOUR
RESEARCH METHODOLOGY

The research conducted for this dissertation investigates the relationship between service providers’ embeddedness in network structures and organizational social performance in a centrally governed mix-sector network. The site of the study is a network of mental health and human service providers in Maricopa County, Arizona. The data set for the project was collected in 2000, shortly after the introduction of managed care as the mechanism for cost containment in a system designed to service individuals with serious mental illness (SMI) within the publicly funded state healthcare system. Data were primarily collected using an extensive social network survey. An additional source of data was the regional administrative entity that supplied the information on contracts with each of the major service providers in the network. What follows is first a description of the history and structure of the study site, and then, a description of data collection methods.

RESEARCH SITE

With explosive mental health cost growth, largely driven by rising pharmacy cost (Mark et al., 2005:136; The CQ Researchers, 2004:105, 114), and burgeoning Medicaid enrollments (Essock & Goldman, 1995), Arizona was among the first states to make Medicaid a managed care program, called the Arizona Health Care Cost Containment System (AHCCCS). AHCCCS receives federal, state and county funds to operate, plus
some monies from Arizona’s tobacco tax. Since its adoption in 1983, AHCCCS has served a model for the nation as a way for states to control the costs of their Medicaid program (Provan & Milward, 2002).

For the purpose of mental health management, AHCCCS divided the state into six areas and contracted with Regional Behavioral Health Authorities (RBHA) through a Request For Applications (RFA) process to provide mental health services for Medicaid beneficiaries and indigent residents of each area. In essence, the state “carves out” behavioral health (mental health for adults and children and drug and alcohol treatment and prevention) from general health care funded under AHCCCS and delivers behavioral health services under a separate contract. In 1997, ComCare, the nonprofit RBHA for Maricopa County (the Phoenix metropolitan area with a population of 3.5 million), depleted its reserves and drastically cut services during a six-month financial tailspin. Comcare argued that state officials had pressured it into providing more services than it could pay for. The state argued that Comcare was poorly managed. ComCare later filed for bankruptcy protection and the state ran the system for more than a year (Steckner & Snyder, 01/14/2001). As a result of the experience with Comcare, state officials decided to allow for-profit firms to bid for the behavioral health contract for the first time, hoping that a contractor with more financial stability and management expertise would stabilize the complex and fragile system.

In August, 1998, the Arizona Department of Health Services Division of Behavioral Health Service (ADHS/DBHS) awarded ValueOptions (VO) the contract to serve as Maricopa County’s RBHA. As of 2004, VO is the country’s second-largest
provider of managed care for mental health. It serves 24 million people in 15 states through contracts with employer groups, health plans, and government agencies. The Arizona contract, valued at $170 million in its first year (1999), ran for three years, with an option of two more years based on performance. As the RBHA for Maricopa County, VO was responsible for managing services to Medicaid-eligible and indigent residents of the county that includes Phoenix. In 1997, 67,000 county residents received behavioral health care in the public sector: about 19,000 children, 13,200 persons with SMI, and more than 36,000 people seeking general addiction and mental health services (Alcoholism & Drug Abuse Weekly, 09/07/98). By December 2003, the system served 51,246 adults and children, one in 63 Phoenix-area residents (Snyder & Steckner, February 1, 2004).

Figure 4.1 illustrates the complex structure and financing of the Maricopa system. Federal sources of funding for mental health services for adults with SMI consist of Medicaid and the Community Mental Health Services Block Grant programs. Eligibility for the Arizona Health Care Cost Containment System (AHCCCS), the state’s Medicaid program, has been raised to 100 percent of federal poverty standards and the Medicaid money flows from the federal government to AHCCCS to ADHS/DBHS to ValueOptions. Clients not covered by Medicaid are covered by the State’s subvention funds (roughly $11,000 per year per client), which are dollars designated by the Arizona State Legislature for behavioral health services. Maricopa County, as subdivisions of the state, has financial responsibilities for some aspects of mental health funding, through the county court system.
FIGURE 4.1  
Funding of the Arizona Mental Health System

The state of Arizona, specifically the Arizona Department of Health Services (ADHS) and the Division of Behavioral Health Services (DBHS), is in a risk-based contractual arrangement with the RBHA (VO). What that means is that the RBHA is paid an upfront or “prospective” capitation amount for each enrolled member. If care costs less than the contracted amount, the RBHA makes money; if not, it loses money. The relationship between the RBHA and the state mental health agency is only one dimension of managed care. There is also a contractual relationship between the RBHA and the health and human service providers. In the capacity of RBHA, the for-profit firm served as the sole purchaser of mental health service for the Maricopa County region.

Specifically, ValueOptions pays public and nonprofit service providers overwhelmingly in the form of block payment, which is a combination of block grant and risk-based contract (Doctor Brint Milward's phone interview with Ron Carpio, Director of Network Programs and Services for ValueOptions, May 11, 2005). For example, ValueOptions pays a service provider $1 million, in 12 installments over the period of 12 months, to care for a designated number of patients. If a provider delivered services to more Medicaid-eligible clients than it agreed to in the contract, it can negotiate with ValueOptions to obtain more funding for next year’s service contract. Fee-for-service contracts were only used to purchase residential services (e.g., hospitalization, psychiatric rehabilitation facilities). ValueOptions’ policy is to minimize fee-for-service and use single case agreements to purchase unique out-of-network services.

This arrangement is a monopsony in that for a fixed term (at least three years in this case) the for-profit firm is given the exclusive right to organize and purchase mental
health services from a set of (mostly) nonprofit providers in the area (Milward & Provan, 2002). The CEO of VO has publicly stated that there is a recurring deficit of $20 million per year in the budget for SMI adults. He has shared this information with the state legislature and all of VO’s provider agencies; the deficit has been common knowledge in the provider community. As a result, providers have been unwilling to accept at-risk contracts (Milward & Provan, 2002). In the Maricopa system, only the crisis care service is contracted as at risk.

In addition to purchasing services from other agencies, VO has the ability (rare for a for-profit firm) to determine eligibility for Medicaid mental health services. This authority gives it control over the number of clients in the system--the demand side of the system. Another side of the system that is critical to VO’s ability to control supply is cost control. An important cost control strategy of VO is to purchase services from its sister companies (Figure 4.2). According to Synder and Steckner’s report in the Arizona Republic (Jan 15, 2001), VO has contracted with at least five of the sister companies to provide services from drug testing to printing. Alternative Behavioral Services (ABS) was paid $53.1 million for case management by VO in fiscal 2000. In the same period Virginia based RX Innovations (RxI) received $28.9 million for pharmaceutical operations. AIS was paid $1.5 million for the lease of its ABSolute Computer System for database management, which, among other things, tracks patient care. It is not clear how much the other two sister companies – Group III and First Lab – received under their contracts with VO.
FIGURE 4.2

The ValueOptions System

FHC Health Systems
(For-profit Virginia-based parent

ValueOptions
(Contracted by state to provide mental health services in Maricopa County)

Alternative Behavioral Services
(provides case management)

FirstLab
(monitors anti-psychotic medications)

RX Innovations (RxI)
(manages pharmaceutical operations)

Group III
(provides printing services)

AIS
(manages data system)

For VO and its parent company, FHC Health Systems, based in Norfolk, Va., the Arizona contract has been a consistent profit-maker. Since 1998, VO has made $84 million in before-tax profits, a 6.5 percent profit margin, and its sister companies -- Alternative Behavioral Services (ABS) and Rx Innovations—have been paid about $140 million to provide services (case management, administration, and pharmacy benefits management ) to its clients (Snyder & Steckner, 02/01/2004, The Arizona Republic).

Other mental health contracts have made and lost money in the past five years. For example, The Community Partnership of Southern Arizona, Tucson’s non-profit contractor, put 3 percent of its revenues to its bottom line last year as compared with VO’s 7 percent profit in 2003 (Snyder & Steckner, 02/01/2004, The Arizona Republic).

Overall, the Arizona contract provides 30 percent of FHC’s total revenues, even though FHC has operations across the country and public-service contracts in nine other states and Maricopa County enrollees represent only 2 percent of the number of people FHC cares for. Although there is a 4 percent profit cap on VO’s contract with the state and a limit on VO’s administrative expenses, contracting with sister companies creates the potential for the owner of VO, FHC Health Systems Inc. of Virginia, to exceed the 4 percent profit cap on VO’s contract with the state. The sister companies do not operate under the profit caps, nor are they required by Arizona regulators to release financial information. This makes it impossible to measure their profits. The state’s position is that using sister companies is a common business practice (Synder & Steckner, 01/15/2001).

In 2004, VO won the $1.3 billion contract from the state in the latest round of bidding for the public-sector carve-out of behavioral health in Maricopa County. This contract
allowed VO to continue providing services to the more than 50,000 mentally ill adults and children of the Maricopa County. The contract is one of the largest of its type in the country.

DATA COLLECTION

Network Boundaries and Sampling

One of the most difficult problems for network data collection is to identify the boundaries of the network: Where do researchers draw the line between what is in and what is out of the network? This problem is of special importance in so-called global network studies consisting of all social ties linking elements of a population to one another, because omission of pertinent elements or arbitrary delineation of boundaries can lead to misleading or artificial results (Marsden, 1990). In their review of boundary specification strategies for complete networks, Laumann, Marsden, & Prensky (1983) distinguish between realist approaches based on the subjective perceptions of actors and nominalist approaches based on the researcher’s standpoint. From a nominalistic point of view, “network closure is imposed by the researcher’s conceptual framework that serves an analytic purpose” (Knoke & Kuklinski 1982:22): the researcher identifies a set of criteria defining membership in a given network, selects the network nodes on this basis, and then proceeds to look at the interactions between those nodes. Using this strategy, researchers have examined organizations that operate in a given policy domain (e.g., Laumann & Knoke, 1987, in their study of networks in the energy and health policy domains in the United States), mental health service providers that operate in a given
community (e.g., Provan & Milward, 1995, in their study of mental health service networks in four mid-sized cities in the United States), and civic organizations that operate in a given city (e.g., Diani, 1995, in his study of environmental groups operating in Milan and the neighboring towns).

Alternatively, one may prefer a realist approach, in which “the network analyst adopts the presumed subjective perceptions of system actors themselves, defining the boundaries of a social entity as the limits that are consciously experienced by all or most of the actors that are members of the entity” (Knoke & Kuklinski, 1982: 22). One particular version of this realist approach is snowball sampling, in which the network boundaries are set via one or more name generator queries that elicit from a sample of nodes the names of all their contacts and then the latter’s contacts, until no additional actors are mentioned.

Diani (2002) observed that a combination of nominalist and realist approaches may be the only route to avoid the shortcomings inherent in each of these approaches (e.g., upper limit on network size in name generators for reasons of practicality, arbitrary membership criterion set by researchers which may be divorced from the network reality). Consistent with Diani’s (2002) suggestion, Professors Keith Provan and Brint Milward adopted a combination of these two approaches in their network data collection effort of the Maricopa mental health system. They started with a nominalist approach, but then supplemented it with a realist approach. Adopting the nominalist approach, Provan and Milward (1995) developed a “service implementation network”, one in which only those organizations that actually contributed to the network of services to SMI adults are
included in the data set. Through consulting the Directory of Human Services for Maricopa County, which lists all agencies providing health and human services in Maricopa County in the spring of 2000, the researchers identified all of the agencies that listed mental health or drug and alcohol counseling or treatment as services provided in the directory.

Professors Provan and Milward then asked the CEO of VO (RBHA of the Maricopa mental health service system) for a list of agencies serving the SMI population that had contractual and referral ties with VO. This step is consistent with the realist approach and serves as the validity check on the directory-listed mental health treatment service providers. In the end, Professors Provan and Milward identified 59 potential providers and a database was developed with information on all of the agencies named and the appropriate contact information. Contacts in each organization were the highest level administrator responsible for services to adult SMI. In most cases, this was the President or Chief Executive Officer of the organization. In other organizations, the representative was usually the director of adult SMI services, or the specific service in which the researchers were interested (e.g., housing, employment training). Telephone calls were made to each agency listed to confirm the name of the contact person and his/her suitability to receive the survey, and the mailing address of the agency. A cover letters and a network survey were then sent to each agency. The researchers followed this up with a phone call and in some cases scheduled an interview in the respondents’ offices. In the course of these phone calls and from letters and returned surveys, the researchers determined that quite a few of these agencies did not serve SMI adults. The
population of the study was thus reduced to 35 agencies. Each of these agencies were determined to be appropriate for inclusion within the network boundary based on the mixed realist and nominalist approaches the researchers have taken.

Since it is important to have information on all, or nearly all, entities in a network in order to conduct a complete network studies, each of the agencies on the list were sampled (Knoke & Kulinski, 1982; Marsden, 1990). Thus, the research population and the sample were identical. Of the 35 agencies that actually served the SMI population, the researchers were able to collect data from 32, for a response rate of 91.4 percent. The 3 non-respondents were coded as isolates in the network.

Survey

A survey instrument was used to collect the majority of the information needed for this dissertation project. Surveys and questionnaires are traditional tools to help network researchers to gather data on inter-organizational relations. Seminal researchers such as Galaskiewicz (1979) and Lauman and Knoke (1988) established the credibility of this technique for the collection of network data on inter-organizational transactions (e.g., transfers of information, resource transfers, and joint activities). Surveys are appropriate for this type of research because they tap into the participants’ subjective perceptions of interaction rather than objective measures of interaction, which in many cases are nonexistent or hard to get access to for reasons of confidentiality (Diani, 2002).

The survey instrument used in this project followed standard survey design features such as asking general information questions at the beginning, followed by more
specific questions, and finally the most probing questions at the end. For a detailed
description of the survey and how the survey items were coded, please refer to Appendix
C. Although no pretest was done specifically for this iteration of the instrument, validity
and reliability of the instrument is believed to be high because of its past use in similar
research (Provan & Milward, 1995).

The 2000 survey instrument included four broad categories of questions. The first
category of questions requested general information (questions 1-8) and provides
descriptive statistics about the responding agency. Information gathered in this section
included the number of full-time employees in the organization, number of employees
working on services to adult SMI, number of clients served (SMI and overall), number of
adult SMI service sites in Maricopa County, total budget in each of the past three fiscal
years, percentage of total budget devoted to services to adult SMI, and the importance of
adult SMI services to the overall mission of the organization.

The second category of questions is “services provided” (question 9). This
category lists typical service categories and examples of each category. Agencies were
asked to write in the percentages of resource devoted to each category. This question
provided the research team with an idea for the distribution of services provided in the
community, as well as the focus, narrow or broad, of each individual agency. The
question listed 11 specific categories of services and an additional write-in category,
labeled “other services,” in the event an important type of services was excluded from the
list.
The third type of questions focused on network linkages (questions 10 and 11). Respondents were given a grid with each of the organizations in our sample listed on the vertical axis. Respondents were asked to “Please go through the list and indicate (with a check) which agencies your organization has been involved with for the provision of services to adult SMI clients over the past 6 months or so for each of the four types of relationships listed.” The types of linkages listed were contracts, shared information, referrals sent, and referrals received. These four types of relationships are important to understanding both informal and formal ties among agencies. The contractual categories illustrate how formally connected each agency is to one another through a funding relationship. The shared information category has the potential to illustrate norms of cooperation that are not predicated on either a formal, or a service relationship. Lastly, referral ties, both sent and received, provides some insight into the patterning of service relationships and the overlap with the other two relationships (referral relationships can be either formal or informal).

Respondents were also asked to perform two additional tasks in questions 10 and 11. A fifth column was included in the grid for the respondents to indicate “the overall quality of your agency’s working relationship with this other agency.” A 4 point Likert-type scale was provided and explained with scores ranging from 1= poor relationship to 4= excellent relationship. This column indicated an agency’s overall view of the network’s relationship (by the mean score given by that agency), as well as the agency’s view of their relationships with specific agencies. In question 11, the agency was asked to return to the checks placed in each column and to indicate which linkages (up to five)
were the most critical for the agency in each linkage category. This provided a mechanism for the researchers to weight the checks that were most important for each agency and linkage type.

The last category of questions was “additional involvement information” (questions 12-23). This category of questions provided information on reasons why agencies chose to interact with others, which organizations (“list up to five”) influenced individual agency decisions, which organizations had similar professional norms, which organizations the respondent most admired for delivering high-quality adult SMI services and frequencies of meetings among agencies and with ValueOptions/ABS. These questions gave a more contextual view of the responding agency as well as provided information on the motivation behind some linkage decisions and assessments of the organizational social performance in the network. The last two questions asked responding agencies to indicate on a Likert-scale (from 1 to 5, with 1 and 5 representing “a significant negative impact” and “a significant positive impact,” respectively) how they and the overall adult SMI service delivery system in Maricopa County have been affected since ValueOptions became the RBHA in 1999, and how they expect the Value-Options system will affect their adult SMI services and the overall adult SMI service delivery system over the next two years.

The researchers focused all of the questions on mental health service delivery to adult persons with serious mental illness, rather than on other client populations (children, general population, substance abusers), for two reasons. First, although each service provider in the Maricopa County can be expected to provide services to the
aforementioned categories of individuals and be consequently linked to other agencies through more than one category of clients and more than one type of service, it would be extremely complex to investigate and interpret the overall organizational linkages in such a densely connected organizational field. The focus on a specific set of services (i.e., the adult SMI service delivery system) makes the research project manageable. Second, adult SMI services were chosen because it represents clients with the highest acuity and the largest cost of services in the public mental health delivery system; thus, having a large impact on the overall system of care.

The survey was distributed through the mail. The survey instrument (Appendix A) was accompanied by a cover letter (Appendix A) stating the purpose of the research, acknowledging the support for the project from grants provided by the Substance Abuse and Mental Health Services Administration’s Center for Mental Health Services and the endorsement of the study by the CEO of ValueOptions--the Maricopa Regional Behavioral Health Authority (RBHA). The issue of accuracy, speed and cost were considered with the mailing design (Miller, 1997). Accuracy was not an issue since our entire population was included in the sample. Since the budget for the project was small, the most cost-effective way to administer a survey was through the mail. The speed of response is lowest with this design, but an extensive follow-up procedure was utilized to ensure maximum response.

Approximately one week after the surveys were mailed, an initial telephone call was made by the researchers to each of the recipients of the survey. The purpose of the call was to confirm the receipt of the instrument and to answer any initial questions the
respondent might have. If the respondent had not received the survey, an identical package was sent out immediately. Also, if the survey had been delegated to another individual in the organization, a note was made in the contact database and all future communication was directed to the new respondent.

At this time, all respondents were asked when they could expect to have the survey completed. They were asked to return the survey through the mail or by facsimile. Follow-up calls were made every two weeks until the respondent returned the survey. The calls were made varying day and time in which they were made in order to increase the likelihood of contact with the individual. If at any time the respondent needed another copy of the survey, another instrument was sent out immediately to expedite the data collection process. Finally, if an agency had not responded or been successfully contacted, a follow-up package was sent out. The package included a new letter encouraging participation and the entire original package.

Survey Response Rate

As noted earlier, the population of the study consisted of 35 agencies. Each of these agencies were determined to be appropriate for inclusion within the network boundaries based on the mixed realist and nominalist approaches the researchers had taken. Of the 35 agencies that actually served the SMI population, the researchers were able to collect data from 32, for a response rate of 91.4 percent. This response rate was achieved through rigorous follow-up procedures as described above. Although some network researchers contend that global network studies must collect 100% of the
relationship data (Marsden, 1990), this is not a realistic expectation in empirical studies. Reasonable effort was made to obtain all survey information when possible. Statistics for the descriptive and attitudinal (non-network) survey data are presented in Appendix B.

Data Coding

The data were coded through two different techniques. First, I used standard coding schemes such as Likert, continuous, and dichotomous scales to code the descriptive and attitudinal data. Second, I used a 35x35 matrix to code the network linkage data for three types of linkage data (information sharing, referrals sent, referrals received). The horizontal and vertical axes represent each agency. The respondent was listed on the vertical axis and the target agencies for reported links were listed on the horizontal axis. This located each agency’s responses along the rows of each matrix. For the linkage information, a “1” was recorded in the appropriate column and matrix for each type of linkage a focal agency reported with another agency. A “0” was recorded for a lack of a particular type of tie. There can be no loops (self-nominations). A zero was assigned to all diagonal cells in the matrix. In the off-diagonal cells, a value of 1 represents an ongoing tie, while a 0 denotes no direct tie. For the matrix of the indicators of relationship quality, the rating given by the respondent agency (1-4, 1=poor relationship, and 4=excellent relationship) was recorded in the appropriate column of the relationship matrix. Explicit detail on the coding used for each question in the survey is included in Appendix C.
The descriptive and attitudinal data were coded and put into an Excel spreadsheet. This data consists of answers to questions 1-9 and 12-20 (See Appendix B). The first column and the first row in the spreadsheet contain agencies’ names and variables corresponding to questions in the survey instrument respectively. Then the responses of each agency were entered into its corresponding cells.

Missing data for the descriptive and attitudinal questions were omitted from the study. The characteristics of each agency in the study varied widely in both resources and service provision profiles. Thus, the estimation or averaging of existing agency data did not seem appropriate to fill in the non-response from the population. The omission of the missing data, rather than mean substitution, was determined to most appropriate for determining summary statistics and a macro profile for the overall service delivery system.

The data were maintained and manipulated using two computer programs. The first was Microsoft Excel. This format was maintained in order to easily run statistical manipulations on the data contained in each of the rows, columns, and their marginal totals. Also, it is relatively easy to transpose the matrix in Excel. The second software package used was UCINet 6 for Windows (Borgatti et al, 2002). This standard network analysis package was used to perform all network transformations and statistics within each type of linkage matrix.

Although the researchers only received 32 return surveys, I kept the 3 agencies that had not returned their survey in the linkage matrix because other responding agencies reported ties to them. To code the contractual data, I created a 36x36 matrix by adding a
row and column at the last row and column of the 35x35 matrix respectively for ValueOptions responses. The reason that ValueOptions responses were present in the contract matrix but absent from other type of linkages matrix is that ValueOptions is the RBHA appointed by the state as the administrative unit for the provision of services in Maricopa County. As an administrative entity, ValueOptions does not provide any direct services to the community. Thus, its completion of the survey instrument was not necessary. Instead, data on contracts with ValueOptions were collected through a list of contracted agencies provided by ValueOptions to the researchers.

DATA MANIPULATION

Network Confirmation

It is important to realize that these linkage matrices are unconfirmed matrices because as long as either of a pair of organizations reported a tie to be present, the cell corresponding to the linkage between the two organizations is assigned a “1”. This is a weaker standard for measuring the presence of relationships than treating a relationship as present only if it is reported by both organizations. The latter approach requires the confirmation of ties, which is a commonly used technique in network analysis. Confirmation helps researchers to identify in the self-reported network data those routinized and recurrent ties and remove those un-reciprocated ties (ties that were reported by the focal actor, but not acknowledged by alter). In this situation, researchers presume that mutually acknowledged ties are genuinely present. However, failure to reciprocate could be the result of inaccuracy or unreliability in the data or of genuine
asymmetry in the relationship under study (Marsden, 1990). For example, a small agency may consider 6 sporadic interactions with more prestigious agencies as important and report all of them in the survey, while the larger agencies do not report those interactions. One possible explanation is that the six interactions represent a larger proportion of the smaller agency’s repertoire of total interactions than that of the larger agency’s social repertoires.

There are many techniques that can be used in the confirmation of self-reported network data. UCINet 6 for Windows has 14 different options in its symmetrizing method pull-down menu. Each of the techniques uses a focal, or ego, agency. Ego’s reported ties are compared with each of alters’ reported links for ego. Depending on the chosen symmetrizing method, it transforms the network data based upon the reported links and the criteria for inclusion. For this dissertation project, the choice of confirmation criteria was guided by the researchers’ primary interest in those stable, recurrent exchange relationships (strong ties), rather than those sporadic and infrequent exchanges relationships (weak ties).

A primary concern with the latter is that it will require the confirmation criterion of maximization. This technique compares the appropriate links within a type of tie and includes all reported ties as valid, regardless of agency agreement. It transforms the data to become symmetrical. For example, if Organization A says it has exchanged information with Organization B (Cell_{AB}=1), but Organization B does not report the information exchange tie with Organization A (Cell_{BA}=0), a value of “1” is assigned to Cell_{BA} so that the two organizations now report the same information about the other.
This is the most permissive of the simple confirmation techniques because it accepts all reports as valid and maximally adds ties to the matrix. Consequently, the transformed matrix will have increased density than the original matrix.

A strong interest in stable and recurrent exchange relationships will justify the confirmation criterion of minimization. Like the maximization technique, the minimization procedure compares the ego’s reported ties to the ties reported by alter to determine whether they are in agreement. What differentiates them is that the minimization technique treats only mutually agreed ties as valid and deletes those links reported by ego but not acknowledged by alter. Following the forgoing example, if Organization A says it has exchanged information with Organization B (Cell_{AB}=1), but Organization B does not report the information exchange tie with Organization A (Cell_{BA}=0), a value of “0” is assigned to Cell_{BA} so that the two organizations now report the same information about the other. In this way, the matrix is transformed to become symmetrical by removing those weak ties from the network data. This is the most restrictive of confirmation techniques because it only accepts links that are agreed upon by both parties and maximally deletes weak links, thereby minimizing both the number of linkages in the matrix and its density.

Although network researchers acknowledge that this conservative approach possibly omits some valid weak ties, omitting unconfirmed ties from the data set should reduce the networks to those links that are typical and that accurately describe the ordinary operations of the network. It is possible that valid links are omitted because one agency forgot to report it. But it is a grave error to report findings that are not true
because of a liberal inclusion of links in a network than to report conservative findings from a restricted interpretation of valid links. This is the difference between a Type I and Type II error. Therefore, all data analysis was performed on the confirmed matrices.

The process of confirmation was performed in UCINET 6 for Windows and Excel. I obtained the confirmed matrices for information sharing and contract by symmetrizing the two matrices by product (replace cell $X_{ij}$ and cell $X_{ji}$ in information and contract matrices by $X_{ij} \cdot X_{ji}$, $i < j$). For example, if organization A reported a contractual tie to organization B ($X_{AB}=1$), but organization B did not report a contractual tie to A ($X_{BA}=0$), then both cell $X_{AB}$ and cell $X_{BA}$ will get a “0” after the symmetrizing procedure ($X_{AB} \cdot X_{BA} =1\cdot0$). The only exception to this rule is the contractual ties reported by ValueOptions. Because of its special status as the administrative unit for the whole system, ValueOptions’ reports of contractual ties with other agencies were given more weight than other agencies’ reports of contractual ties with ValueOptions. That is, those contract ties reported by ValueOptions were treated as confirmed. Operationally, if a contract tie with agency B was reported by ValueOptions, I went back to Agency B’s report about its contract tie with ValueOptions. If the agency did not report a contract tie with ValueOptions, then I changed the value of “0” to “1”. This change ensures that after the symmetrizing procedure the unilateral reports of contractual ties by ValueOptions are converted to confirmed relationships in the confirmed contract matrix.

It is important to note that for contractual and information links, the confirmed data matrices were symmetrical, because these two types of links lack directionality. Thus, a 1 was coded in both halves of the matrix when a link was confirmed, while a 0
was coded in both halves of the matrix when one side of the link reported no tie to another agency. In contrast, directionality matters for referrals, which can either be sent or received. Thus, a referral was coded 1 in both halves of the referral matrix only if the referral link between two agencies involved both types of confirmed referral activity (i.e., a reciprocated referral links). If only one type of referral was confirmed (received or sent but not both), then the coding in both halves of the matrix for that pair of agencies would not be symmetrical.

Operationally, I used a different method to obtain the confirmed referral matrix. Specifically, I generated a confirmed referral matrix by multiplying the referral sent matrix with the transpose of the received matrix in Excel (Lin, 1976; Hoffman, Stearns, & Shrader, 1990). For example, if organization A reported sending a referral to organization B (X_{AB} = 1 in referral send matrix), but organization B did not report receiving a referral from Organization A (X_{BA} = 0 in referral received matrix), then X_{AB} in the confirmed referral matrix will get “0” after the combining procedure (X_{AB} * transpose of X_{BA} = 1*0). It is notable that the confirmed referral matrix contained information about both confirmed sent and received referral linkages since the column total indicates the number of referral received ties for the focal organization (located at the top of the column) and the row total denotes the number of sent referral ties for the focal organization (located at the start of the row) (Hoffman et al., 1990). An additional matrix can be derived by running the confirmed referral matrix through the Transform/Symmetrize/Product option in UCINet 6 for Windows to yield a reciprocated
referral matrix, which will be symmetrical. However, since this information is contained in the confirmed referral matrix, this step is unnecessary. Performing this procedure merely assists the investigator in locating those referrals that flow in both directions between a dyad of providers.

Table 4.1 shows the density scores (see ‘measures’ section, this chapter) of the raw linkage matrixes and the confirmed linkage matrixes. The reason that the confirmed referrals sent and received matrices have the same density score (.06) is that the confirmed referrals matrix contained information about both confirmed sent and received referral linkages, therefore, the density scores were run on the same confirmed referral matrix.

Definitions and Operationalization

Again, the research questions and the proposed hypotheses for this dissertation are:

Research Question 1: To what extent is the embeddedness of a nonprofit service provider in a centrally governed network related to its social performance?

H1: Provider organizations that are more firmly embedded in their network based on network centrality will experience higher levels of trustworthiness by other network members.

H2: Provider organizations that are more firmly embedded in their network through multiplex ties will experience higher levels of trustworthiness by other network members.

H3: Provider organizations that are more firmly embedded in their network through clique overlap will experience high levels of trustworthiness by other network members.
### TABLE 4.1

Densities of Raw and Confirmed Linkage Matrices

<table>
<thead>
<tr>
<th>Linkage</th>
<th>Raw</th>
<th>Confirmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information sharing</td>
<td>0.32</td>
<td>0.15</td>
</tr>
<tr>
<td>Contract</td>
<td>0.07</td>
<td>0.05</td>
</tr>
<tr>
<td>Referrals sent</td>
<td>0.24</td>
<td>0.06</td>
</tr>
<tr>
<td>Referrals received</td>
<td>0.18</td>
<td>0.06</td>
</tr>
</tbody>
</table>
H4: Provider organizations that are more firmly embedded in their network based on their centrality will experience higher reputation by other network members.

H5: Provider organizations that are more firmly embedded in their network through multiplex ties will experience higher reputation by other network members.

H6: Provider organizations that are more firmly embedded in their network through clique overlap will experience higher reputation by other network members.

H7: Provider organizations firmly embedded in the network structure based on their centrality will have higher influence among network members.

And,

Research Question 2 To what extent does the embeddedness of nonprofit versus for-profit organizations in a centrally governed network depend on the nature of the social ties being considered?

To empirically answer the first general research question, this study operationalizes the concept of embeddedness in the seven hypotheses as three network measures; namely, centrality, multiplexity, and clique overlap. These network measures are the independent variables of this study. The outcome variables of this study are trust, reputation, and influence. These three variables measure organizational social performance in a centrally governed network. What follows is the definition and operationalization of control variables, independent variables, and dependent variables. Two other network-level measures (density and centralization) will also be introduced. They will be used to conduct a preliminary examination on the network structure of
administrative and informal lateral relationships within the centralized mental health network. The purpose is to illustrate the for-profit and nonprofit organizational embeddedness in networks of different types of relations in an initial attempt to answer the second general research question.

Control Variable

My control variable is specialization, which is defined as the extent to which an agency focuses its resources on SMI service provision. Theories of population ecology provide a strong justification for the moderating role of specialization in network embeddedness. According to Carroll’s (1985) resource partitioning model of niche-width dynamics, competition among large, generalist organizations in a population occupies the center of the resource space of a competitive market. This competition for the center frees peripheral resources that are most likely to be used by small, specialist members of the population. This logic can also be applied to networks of nonprofit service providers. As stated in the previous chapter, nonprofits compete intensely for the central positions in a resource exchange network since incumbents of these positions acquire visibility and legitimacy to those who control access to external resources (third-party payers, funders, and donors). This resource partitioning view of nonprofit networks suggests that specialization is an important moderating variable of organizational embeddedness in network structure. On one hand, large, generalist organizations tend to occupy central positions in a resource exchange network, and thus, tend to have more linkages to other organizations. On the other hand, specialist organizations tend to be located at the
peripheral of the resource exchange space, and thus, tend to have fewer linkages to other organizations.

Studies of nonprofit networks have confirmed this resource partitioning view of organizational locations in an exchange network (Alter & Hage, 1993; Banaszak-Holl et al, 1998; Galaskiewicz, 1979). The reason for this pattern may be that generalist organizations provide non-intensive services to many clients, thus, other organizations tend to refer their patients to generalist organizations. Consequently, they have high referral in-degree (received) centrality in the network. In contrast, specialist organizations provide specialized services to clients, thus, they need to refer their clients to other organizations. Such referral to other providers may result in higher referral out-degree (sent) centrality of specialist organizations in the network.

Researchers have found that organizational size is one of the determinants of embeddedness in network structures. Large organizations tend to have higher centrality scores in an inter-organizational network than do small organizations. As Galaskiewicz (1979) suggested, a major reason for this is that large nonprofit organizations tend to have more staff and more resources, which enables the organization to develop more communication and relationships with other organizations. Hence, large organizations are typically more embedded in network structures than small organizations. Based on research by Banaszak-Holl and colleagues (1998), it is also likely that in the health and social service sectors, organizational size will be negatively related to service specialization. These authors found that large nonprofit organizations located at the center of the service delivery system tend to be generalist organizations that either serve
more clients by offering a broad scope of services or are in charge of referring large
numbers of clients or distributing funds among more specialized agencies. It follows that
organizations located at the peripheral of network resource space tend to be small
specialist organizations. Thus, the selection of service specialization as a control variable
should account for the effect of size on organizational embeddedness.

I constructed a measure of specialization from the organizational attribute data
contained in the network survey. *SMI service specialization* gauges the extent to which
an agency devotes its total adult SMI resources to a specific service area. This is a more
refined measure of service specialization and answers the question of whether an agency
can be viewed as a specialist or generalist organization. From the agencies’ response to
question 9, which asks the respondent to give an estimate as to the percent of his or her
agency’s total adult SMI resources devoted to 12 SMI services areas, I computed a
Herfindahl index of specialization for each agency, calculated as the summation of
\( (P_i/P)^2 \), where \( P_i \) is the reported percent figures in the \( i \)th service area \( (i=1-12) \) and \( P \)
equals the sum of all the reported percent figures of an organization (Sherer, 1995). A
value approaching 1 indicates high specialization, and 0 indicates high diversification
(Sherer & Lee, 2002).

Independent Variables

This section presents the definition and operationalization of the independent
variables used in this study. First, I present definition of two global measures of network
structure (density and network centralization). These two variables will be used as part of
the structural description of the overall network to illustrate the embeddedness of for-profit versus and nonprofit organizations in networks of different types of relations (i.e., contracts, referrals, information sharing, influence, and reputation). As noted in the previous chapter, network plots and calculation of these two structural measures will be an initial step in answering the second general research question. Second, I introduce the definition of five organizational measures of network embeddedness (degree centrality, betweenness centrality, closeness centrality, multiplexity, and clique overlap).

**Network Density.** Network density measures the mean strength of connections among units in a network. Network researchers obtain a network density score by dividing the number of linkages actually in place between the network members by the number of potential linkages (Diani, 2002; Wasserman & Faust, 1994), defined as,

\[
\text{Density} = \frac{2L}{g(g-1)}
\]

where \(L\) and \(g\) are the number of lines actually present in a network and the number of nodes in the network, respectively. Density scores are generally reported as percentages. The higher the density score, the more connected the network is. A fully connected network would receive a score of 1, while a completely fragmented network, with no connections, would receive score of 0. Comparing densities across different networks is only possible if the networks are of approximately the same size. As the number of actors in a network increases, the number of possible relations between actors increases disproportionately.

**Network Centralization.** An index of centralization measures the extent to which the network is centralized around one or a few actors. According to Freeman’s (1979)
mathematical definition for network centralization, the index of centralization is represented by the ratio of the sum of actual difference between the centrality of the most central point, and that of all the other points, and the highest possible sum of differences in actor centrality, defined as,

$$\text{Centralization} = \frac{\sum_{i=1}^{g} [C_A(n^*) - C_A(n_i)]}{\max \sum_{i=1}^{g} [C_A(n^*) - C_A(n_i)]}$$

where $C_A(n_i)$ and $C_A(n^*)$ are an actor centrality index and the largest value of the particular index that occurs across the $g$ actors in the network, respectively. The value of centralization varies between 0 and 1 with higher values indicating a greater degree of centralization around a central point or points.

*Degree Centrality.* This index simply measures the number of other nodes to which the focal organization, or ego, is connected. In a directional graph, it does this by adding the number of in-stars (those connections flowing to ego) to the number of out-stars (those connections flowing from ego) and subtracting the overlap. In the case of a non-directional graph, the degree centrality of an actor is simply the number of links connected to the ego, defined as,

$$\text{Degree Centrality} = d(n_i)$$

where $d(n_i)$ refers to the degree of the node $i$. The degree centrality score is bound by the number of actors in a network other than ego (n-1) (Wasserman & Faust, 1994).

*Betweenness Centrality.* The concept of betweenness, which measures the extent to which a node is located in an intermediate position on the paths connecting other
actors, may be regarded as an indicator of social brokerage (Freeman, 1979). The betweenness centrality for an actor is simply the standardized sum of the estimated probabilities that this focal actor falls on the geodesics (the shortest distance between two points, or in my network, the fewest number of links required for any one organization to reach any other organization) linking all pairs of actors not including the focal actor, defined as,

\[ \text{Betweenness Centrality} = \frac{\sum_{j<k} g_{jk}(n_i)}{\binom{g-1}{2}} \]

where \( g_{jk} \) and \( g_{jk}(n_i) \) are the number of geodesics linking actors \( i \) and \( j \) and the number of geodesics linking the two actors that contain actor \( i \), respectively, in a network of \( g \) nodes. It has a minimum of 0, attained when the focal actor falls on no geodesics, and a maximum of 1, attained when the focal actor falls on all the geodesics (Wasserman & Faust, 1994). Monge and Contractor (2003) notes that in a communication network, a node with a high betweenness score is often interpreted as deriving power by controlling or brokering the flow of information as well as managing the interpretation of that information. Clearly, the removal or departure of a node with a high betweenness measurement would eliminate the indirect connections among many other nodes in the network.

Closeness centrality. This measure denotes the extent to which an actor is close to, or can easily reach all the other actors in the network. An actor is central if it can quickly interact with all others. In other words, central nodes in a network have “minimum steps” when relating to all other nodes. Hence, the geodesics, or shortest
paths, linking the central nodes to the other nodes must be as short as possible (Wasserman & Faust, 1994). Thus, centrality is inversely related to distance. As a node grows farther apart in distance from other nodes, its centrality will decrease. Wasserman and Faust (1994) measured actor closeness centrality as the standardized inverse of the sum of the shortest distance from the focal actor to all the other actors, defined as,

$$Closeness\ Centrality = \frac{1}{\sum_{j=1}^{g} d(n_i, n_j)}$$

where \(d(n_i, n_j)\) is the number of lines in the geodesic linking actors \(i\) and \(j\) \((j \neq i)\). This standardized index can be viewed as the inverse average distance between the focal actor and all the other actors. It equals 1 when the actor is adjacent to all other actors, and attains the value of 0 in its limit when one or more actors are not reachable; that is, when there is no path linking the two nodes. Thus, this closeness centrality index is only meaningful for a connected graph. It is meaningless for a disconnected graph (with one or more than one isolate) because the geodesics from all the other nodes to the isolate(s) are infinitely long and the actor closeness indices to the isolate(s) are all 0. This is a major drawback of this measure.

The reason that I use three conceptualization of an actor’s centrality in the network is that they focus on different aspects of centrality. While degree centrality gauges the extent to which nodes are directly connected to all other nodes in the network, betweenness measures the extent to which nodes broker communication and exchange between two other nodes through indirect ties. Closeness measures the reach of a node’s
indirect network. For an interesting illustration of the differences in degree, closeness, and betweenness measures of centrality, please see Padgett and Ansell’s (1993) analysis of the marital and business ties among sixteen families in fifteenth-century Florence, Italy and Davis and Misuhi’s (1999) discussion of three different conceptualizations of centrality in their study of an inter-corporate network.

**Multiplexity.** Multiplexity measures the extent to which two actors are linked together by more than one type of relationship. While only one type of relation between two actors is considered a uniplex relation, two or more types of relations are considered multiplex. Multiplexity is often used as measure of strength of ties (Monge & Contractor, 2003). Under this conception, uniplex ties are weak ties and multiplex ties are stronger ties because multiplexity increases the amount of time and involvement of the two parties in a relationship. Also, in a multiplex relationship, if one type of tie is broken, the relationship is still sustained.

In this study, each linked pair of agencies receive a score ranging from 1 to 4, with 1 indicating an uniplex relationship and 4 indicating all four types of relationships (information, contract, referrals sent, and referrals received) between two organizations. The higher the score, the more links of different types two agencies have, and presumably, the stronger the relationship is between the nodes. The score for each node can be expressed as an average of the number of ties between the focal node and all other nodes to which it is linked in the network. Operationally, multiplexity score for each organization was computed as the ratio of total number of ties an organization has with its partners to the number of partners, defined as,
Multiplexity = Total Number of Ties/ Number of Partners

The total number of ties was the column total of an all-linkage matrix (sum of all four 36*36 matrices), and the number of partners was obtained by an Excel counter function--COUNTIF (range, “> 0”)--from the all-linkage matrix.

*Clique and Clique Overlap.* In network analysis, a clique in a graph is a maximally complete subgraph consisting of three or more nodes, all of which must be directly connected to each other and all the nodes must have no direct common link to any other nodes (Kilduff & Tsai, 2003; Wasserman & Faust, 1994). The minimum number of nodes in a clique is 3. This minimum requirement distinguishes a clique from a dyad, which requires just two nodes.

Wasserman and Faust (1994) note that in studies of large network data sets there may be numerous, but largely overlapping cliques in the group, the study of overlap among the cliques might be more informative than a focus on the cliques themselves. Adopting this position, this study focuses on clique overlap, rather than cliques themselves. Clique overlap refers to the extent to which members of a clique interact with members of other cliques. It can be measured by the number of clique co-memberships of an actor.

In this study, two clique overlap scores for each agency were obtained for confirmed information matrix and referral matrix. The clique analysis procedure in UCINet will generate an actor-by-actor clique co-membership matrix, in which a value of k in row i column j means that the linkage between agency i and j occurred in the same
clique \( k \) times. The \( i \)th diagonal entry gives the number of cliques that contain actor \( i \). This is the clique overlap score for agency \( i \) (Borgatti, Everett & Freeman, 2002).

Outcome Variables

*Trust* measures the quality of relationship between two organizations. In this study, although respondents were asked in question 10 to report their multiple types of relationships with other organizations in the network, a global measure of relationship quality is used to measure the overall quality of the relationship(s) between two actors. Operationally, the agencies ratings of relationship quality with their partners (question 10) are organized into a 36x36 matrix of reported relationship quality. The horizontal and vertical axes represent each agency. The respondent was listed on the vertical axis and the target agencies for reported relationship quality were listed on the horizontal axis. This located each agency’s responses along the rows of each matrix. The rating given by the respondent agency (1-4, 1=poor relationship to 4=excellent relationship) was recorded in the appropriate column of the relationship matrix. The trustworthiness of an agency is calculated by the ratio of the column total of the matrix (the sums of all reported relationship quality ratings of a target agency) to the number of organizations which reported a quality rating. The Count function in Excel generates the number of partners a focal agency has.

*Reputation* is defined as the perceived excellence of organizational performance. Question 14 asks respondents to identify up to five agencies that respondents most admire for doing an especially good job of providing services to adult SMI clients. The
number of times an agency’s name is reported as most admired by all other respondents was used as the reputation score of the agency.

*Influence* is defined as the extent to which an agency is perceived to be able to influence the activities of other agencies. Question 13 asks respondents to identify up to five agencies “whose needs, goals, decisions, and/or expectations are generally taken into consideration by your agency when major decisions are made related to the services it provides to adults with SMI.” The influence score is the number of times an agency’s name is reported as being influential by all other respondents.
CHAPTER FIVE
DATA ANALYSIS

This chapter will focus on the data analysis necessary to examine the two research questions. The bulk of the data analysis uses Ordinary Least squares (OLS) regression to test the hypothesized relationships between the network measures (centrality, multiplexity, and clique overlap) and the social performance measures (trust, reputation, and influence). The statistical tests of the hypotheses will provide the answer to the first research question. I will also present comparisons of network structural data (density and centralization scores) and network plots of administrative and informal lateral relationships within the mental health network. The purpose is to provide a preliminary answer to the second research question by illustrating the embeddedness of nonprofit versus for-profit organizations in a centrally governed network.

The organization of the proceeding data analysis is as follows. First, I will address the second research question by presenting comparisons of network structural measures and network plots of contract, information sharing, referral ties, reputation, and influence. The comparisons of network structural measures and network plots serve to illustrate the embeddedness of nonprofit versus for-profit organizations in a centrally governed network. Second, I will address the first research question by presenting bivariate correlations and descriptive statistics of the independent variables, outcome variables, and the control variable, then presenting the results of regression tests of the seven hypotheses.
NETWORK STRUCTURAL DESCRIPTION

Network density and centralization scores will be used to provide a numerical description of the network structures of administrative and informal lateral ties. I will briefly summarize the definition of these two network measures and then present the comparison table of the density and centralization scores of the three network matrices.

Density

Density, as described in the previous chapter, is the ratio of the number of linkages actually in place between the network members (n) to the number of potential linkages \( \frac{2L}{g*(g-1)} \), where L and g are the number of lines actually present in a network and the number of nodes in the network, respectively. Density scores are often presented as percentages. The first column in Table 5.1 shows the density scores of the three linkage matrices. It is important to note that I used the “symmetrize by sum” procedure in UCInet 6 for the confirmed referral network in order to generate a symmetric confirmed referral network. This procedure assigns a value of 2 to those confirmed reciprocated referrals and a value of 1 to confirmed singular referrals (either referral sent or referral received). Then I replaced the 2 with 1 in the symmetrized referral matrix using Excel. The purpose of this procedure is to remove the directionality in the confirmed referral network, thus making it comparable with the confirmed information sharing and contract networks.
TABLE 5.1

Density and Network Centralization Scores

<table>
<thead>
<tr>
<th>Link Type</th>
<th>Density *</th>
<th>Centralization **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract</td>
<td>0.05</td>
<td>0.77</td>
</tr>
<tr>
<td>Referral</td>
<td>0.07</td>
<td>0.51</td>
</tr>
<tr>
<td>Information</td>
<td>0.15</td>
<td>0.27</td>
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</tbody>
</table>

*N=36

**N=35
The information sharing matrix has the highest density score (.15), and the contract matrix has the lowest density score (.05). The referral matrix has the moderate density score (.07). What this means is that there are three times as many information sharing ties than contractual ties in the network. This pattern is consistent with findings from studies of decentralized community service systems. Previous research has found that inter-organizational administrative activity (contracts, the transmittal of funds, and joint planning) occurs much less frequently than client-centered activity (sharing client information or referring clients) (Bolland & Wilson, 1994; Oliver & Montgomery, 1996; Provan et al, 2004). Client-centered activities rely on frequent but informal contacts among first-line service providers (e.g., case managers, agency staff), who, motivated by their professional commitment to clients’ well-being, build these informal relationships to help their clients navigate a fragmented community service system. Administrative relations based on contracts are formal ties.

Like business organizations, nonprofit organizations value organizational autonomy and dislike interference of their operation by external actors. The often-present element of hierarchical control in public sector contracting or funding relationships may make nonprofits cautious about becoming highly dependent on any other agency for financial or administrative resources. In a centrally funded network, this tendency to avoid encroachment of organizational autonomy may be accentuated by the focal agency’s contractual tie with the NAO (ValueOptions). To the extent that a service provider relies heavily on the NAO to provide for its critical needs, this provider may have little incentive to enter into contractual relationships with other service providers,
which also depend heavily on the NAO for critical resources. Also, the prevailing norm of collaboration among nonprofit service providers reduces the need for formal contractual ties because in informal collaboration reciprocity is the rule rather than the exception. Thus, nonprofits are likely to be more involved in informal client-centered activities with a broad range of agencies than in formal administrative relationships based on contracts.

To the extent that sharing client information is a form of informal coordination and contractual ties is a form of formal coordination, I argue that coordination mechanisms such as contracts and information sharing can be viewed on a continuum. Informal coordination mechanisms such as information sharing will be located at one end of the continuum. Formal coordination mechanisms such as contracts will be located at the other end of the continuum. Client referrals fall in the middle of the continuum because referrals can be based on both informal collaboration among professionally committed first-line service providers and formal arrangements based on contracts or memoranda of understanding.

Centralization

Centralization measures the extent to which the network is centered on one or a few actors. The value of a centralization score varies between 0 and 1 with higher values indicating a greater degree of centralization around a central point or points. The second column in Table 5.1 records the centralization score of the three linkage matrices. The contract matrix has the highest centralization score (.77). The referral matrix has a mid-
range centralization score (.51). The information sharing matrix has the lowest centralization score (.27). These scores suggest that the contract network is highly centralized, the referral matrix is moderately centralized, and the information sharing network is decentralized. Since the Maricopa service delivery network is a centrally funded network and most of the agencies rely on their contracts with the NAO (ValueOptions) for funding, the high centralization score of the contract network means that it is a network dominated by the for-profit NAO. The referral matrix’s moderate centralization score can be explained by two factors. First, ABS is the case management agency functioning as the gatekeeper of referrals. In this sense, some referrals ties are initiated by ABS, and thus, centralized around ABS. Second, other referrals can occur as a result of informal collaboration among professionally committed nonprofit service providers. Such referrals are likely to be initiated by multiple service providers, hence, decentralized. In this situation, both types of referrals are occurring, one is centralized around ABS, while the other is decentralized. These two counteracting factors are likely to result in the moderate centralization score of the referral matrix. Thus, the referral network comprises a mix of nonprofit and for-profit activities. The information sharing network is largely a product of the norm of informal collaboration prevailing among nonprofit service providers. To the extent that this network is quite dense and lacks a central gatekeeper of information, its low centralization score means it is a decentralized network.

Figure 5.1 presents centralization and density scores of three linkage matrices in a plot. As information sharing, referrals, and contract ties fall on the left, middle, and right
FIGURE 5.1

Plot of Centralization and Density Scores of Three Linkage Networks
of the coordination continuum respectively, the distribution of density and centralization scores shows an interesting pattern. The information sharing network has the highest density score, but lowest centralization scores. The referral network has the moderate density and centralization scores. The contract network has the lowest density, but highest centralization score. This pattern suggests that: (a) informal coordination based on information sharing tends to be based on dense and decentralized structure of ties, (b) formal coordination based on contracts tends to be based on sparse and centralized structure of ties, and (c) a mix of informal and formal coordination based on referrals relies on moderately dense and moderately centralized structure of ties.

Network Plots

Research Question 2: To what extent does the embeddedness of nonprofit versus for-profit organizations in a centrally governed network depend on the nature of the social ties being considered?

Density and centralization measures are primarily concerned with overall description of network interaction, rather than embeddedness of network member organizations. To arrive at some preliminary answer to the second research question, I decided to examine the embeddedness of nonprofit versus for-profit network member organizations in a centrally governed network. Network plots offer an interesting way of revealing both the structure of the network and the embeddedness of specific network organizations, but they are only useful to the extent that they complement and help to answer theoretically motivated research questions (Kilduff & Tsai, 2003). In this study,
network plots will be used for exactly that purpose. The organization of this section is as follows. First, I will present network plots based on contracts, information sharing, and referral ties to illustrate the embeddedness of nonprofit and for-profit organizations in these exchange networks. Second, I will present network plots based on influence and reputation, derived from the square matrices constructed according to the agencies’ response to the two name generator items (Question 13 and 15). These two plots are presented to demonstrate the embeddedness of nonprofit and for-profit organizations in the social outcome networks. Third, I will present a diagram that brings all these five plots together and interpret what they mean for addressing the second research question.

Figure 5.2, 5.3, and 5.4 present network plots of contracts, information sharing, and referrals. In the contract plot (Figure 5.2), almost all the other organizations have contracts with VO and very few organizations (except VO) have contracts with each other. This classic hub-and-spoke structure produces the highest centralization score (.77) among the three plots. Such a high centralization score strongly indicates the network’s vertical resource dependency on the for-profit RBHA (VO). Thus, it is a for-profit dominated network regarding financial resources. In the information-sharing plot (Figure 5.3), there are many linkages among the network members, with every organization being directly or indirectly connected to other organizations. Such a decentralized structure produces a low centralization score (.27). Although ABS was an active organization in the network, it was not in the thick of information exchange. The four most active organizations in information exchange network are TERR (TERROS), META (META
FIGURE 5.2
Network Plot – Contracts
(Centralization Score = .77, For-Profit Dominated)
FIGURE 5.3

Network Plot – Information Sharing
(Centralization Score=.27, Nonprofit-Dominated)
FIGURE 5.4

Network Plot – Referrals
(Centralization Score=.51, Mix of Nonprofit and For-profit)
Services Inc.), MHAA (Mental Health Association of Arizona), and SWBH (Southwest Behavioral Health Services). They were involved in confirmed information sharing relationships with 14, 13, 12, and 12 other organizations respectively. In contrast, ABS was involved in confirmed information sharing relationships with eight other organizations. Therefore, the information exchange network is dominated by nonprofit organizations.

In the referral plot (Figure 5.4), however, ABS is the most active organization in the referral network. ABS was involved in referral relationships with 21 other organizations. The second and third most active organizations--META (META Services Inc.) and PROB (Maricopa County Adult Probation) -- were involved in referral relationships with 12 and 10 other organizations respectively. As a nonprofit organization, META provides psychiatric crisis services and crisis recovery services to SMI clients, who may be referred by case managers, police, hospitals, and mental health courts. As a unit of Superior Court of Arizona, Maricopa County Adult Probation Department is in charge of assessing and managing offenders’ needs/risks. In the case of SMI clients, PROB refers such clients to community mental health services agencies. Given ABS’s role as the system’s primary case management agency, its central role in the referral network is entirely expected. Also, META and PROB’s prominent role in the referral network may have much to do with informal collaboration between nonprofit and government agencies because there are very few contractual ties among the public and nonprofit organizations (see FIGURE 5.2 Network Plot - Contracts). Thus, the referral network comprises a mix of public, nonprofit, and for-profit activities.
Figures 5.5 presents the network plots based on influence. I merged the influence reports VO and ABS received by adding the VO and ABS columns and rows in the influence matrix to create a separate column and row labeled VO+ABS. I then replaced the 2s in the VO+ABS column with 1s, in order to account for the factor that although an organization reported both VO and ABS as being influential, the focal organization actually reported the same organization since ABS is, basically, the case management subsidiary of VO. To treat VO and ABS as separate entities is likely to reduce artificially the centralization score of the influence matrix because UCINet will treat VO and ABS as two centers of the network. Treating VO and ABS as one organization solves this problem. This is a non-issue for the row of VO+ABS because VO did not fill out the questionnaire; thus, the VO+ABS row is identical with the ABS row.

VO+ABS was reported to be influential by 23 other organizations in the network. Since VO is the RBHA controlling all the contracts and ABS is the case management company and also a sister company of VO, it is not surprising that they emerge as the most influential members of the network. The moderately influential organizations are the state Office of the Court Monitor established as a result of Arnold vs. Sarn lawsuit, Arizona Center for Disability Law (LAW), Maricopa County Adult Probation (PROB), and META Services Inc (META), each receiving 4 reports of being influential. The centralization score of the influence network (.58), which is not as high as that for contracts, suggests that this is a system dominated by money and law.

For the reputation network (Figure 5.6), the plot is quite different. Triple R Behavioral Health Inc (RRR), Southwest Behavioral Health Services (SWBH), and Toby
FIGURE 5.5

Network Plot – Influence
(Centralization Score=.58, For-Profit Dominated)
FIGURE 5.6

Network Plot – Reputation
(Centralization Score=.30, Non-Profit Dominated)
House (TOBY) were the three most admired organizations in the network, receiving 12, 7, and 5 reports respectively of being the agencies other organizations “most admire for doing an especially good job of providing services to adult SMI clients.” In contrast, VO and ABS only received two reports of being most admired from the same two organizations, Arizona State Hospital (ASH) and Valle del Sol (VALL). The prominence of the three nonprofit agencies as the most admired organizations in the network, in contrast to the marginal role of VO and ABS in the reputation network, indicates that the reputation network is dominated by nonprofit organizations. The low centralization score of the reputation network (.30) indicates that the reputation network is a decentralized network.

My examination of the centralization scores and the key organizations (nonprofit vs. for-profit) of each of the five networks, based on contract, information sharing, referral, influence, and reputation ties, reveals differences in the embeddedness of nonprofit versus for-profit organizations in each type of network. But to answer the second research question more fully, it is necessary to compare the centralization scores and pattern of interaction (nonprofit vs. for-profit embeddedness) of all the five plots. Figure 5.7 presents the comparison of centralization scores of the networks based on each of the five types of network ties. As explained in the previous section, information sharing, referrals, and contracts can be viewed on a coordination continuum. Extending this logic to reputation and influence, I argue that reputation is an informal coordination mechanism for nonprofit service providers and influence, based on either informal or formal arrangements, falls on the middle of the coordination continuum. Adopting the
economic view of reputation, which argues that the reputation of a business organization functions as an appropriate signal of the quality (real or perceived) of its products or services (Galaskiewicz, 1995; Washington & Zajac, 2005), I posit that the reputation of the perceived service quality of a nonprofit service provider also serves a useful signaling function. This conclusion is especially likely when other forms of direct and credible information on quality are lacking (due to ambiguous technology and difficulty in measuring outcomes) in the field of SMI services (D’Aunno, Sutton & Price, 1991; Scott & Meyer, 1991). To a large extent nonprofit service providers rely on reputation for quality services to guide their search for partners in their client-centered activities (information sharing and referrals).

In contrast, influence is based on perceived capacity of an agency to affect a focal agency’s main line of business activity. To the extent that an organization’s needs and/or expectations will be taken into consideration when a focal organization makes major decision regarding SMI service provision, this organization has influence over the focal agency’s decision-making. Influence can arise from two sources: (1) formal coordination arrangements such as contracts and mandates (Oliver, 1990; Scott, 2001), and (2) informal coordination arrangements such as norms of reciprocity and shared professional commitment to clients’ well-being (DiMaggio & Powell, 1983). Thus, influence, which may be based on both formal and informal coordination arrangements, falls on the middle of the coordination continuum.

The upward sloping line in Figure 5.7 shows that informal coordination based on information sharing and reputation ties tend to have low centralization scores, hence,
FIGURE 5.7

Comparison of Centralization Scores of Five Types of Networks
decentralized network structures. The network plots based on reputation (Figure 5.6) and information sharing (Figure 5.3) are consistent with this interpretation, suggesting that nonprofit organizations are the dominant players in these decentralized networks. In contrast, formal coordination based on contracts has high centralization scores; hence, centralized network structures. The network plot based on contracts (Figure 5.2) clearly indicates the for-profit RBHA is the hub of contractual ties with all other agencies, and thus, it dominates the centralized network based on contracts. Moderate coordination based on influence and referrals have moderate centralization scores. Such networks tend to have one or two prominent actors as well as a flurry of activities among other actors. The network plots based on referrals and influence (Figure 5.4 and 5.5) show that although the for-profit organizations are central players in the network, nonprofit organizations have extensive ties among themselves. Nonprofit’s embeddedness in referrals and influence may have much to do with the history of the system: from early 1980’s till 1999 it has been a public sector system, after 1999, a for-profit RBHA took over the public sector system. Thus, referral and influence networks comprise a mix of nonprofit and for-profit activities.

In sum, nonprofits are the most active (embedded) players in informally coordinated networks based on information sharing and reputation, while for-profits dominate the more formally coordinated networks based on contracts. A mix of nonprofit and for-profit activities characterizes moderately coordinated networks based on influence and referrals. Thus, the embeddedness of organizations in a network appears to be contingent on the degree of formality of the link. While nonprofits are more embedded
when network ties are informal, for-profit embeddedness is contingent on formal ties. When ties are at the mid-range of formality, the embeddedness of both nonprofit and for-profit organizations is roughly comparable.

These findings have important implications for the study of embeddedness. I have shown, for instance, that organizational embeddedness is not an unidirectional concept. Rather, it is contingent on the degree of formality of the link and the sectoral affiliation of network organizations. Such findings appear to be consistent with conclusions reached by Uzzi (1997) that business organizations need to develop a portfolio of embedded ties and arm’s length ties with other business organizations when institutional forces rationalize market in the field. Taking Uzzi’s logic to the mixed-sector network under study, I argue that the hybrid network structures—nonprofits embeddedness in informal ties, for-profit embeddedness in formal ties, and the co-existence of the two in mid-range ties—provides new meaning for Uzzi’s notion of a portfolio of embedded ties and arm’s length ties. Relatedly, my findings show how these two can occur at the same time in the mid-range ties.

My findings also lend support to Oliver’s (1991) assertion that organizations are likely to use a balancing, or compromise, strategy to respond to conflicting institutional pressures. In this case, the cost accountability pressure comes from the for-profit RBHA and necessitates arms-length contractual arrangements (block payments), while the professional commitment to clients’ well-being and the prevailing norm of coordination prescribes informal coordination (based on information sharing and influence). Hence,
the network is both decentralized in informal coordination and centralized in its arm’s-length relationships at the network level.

My findings also modify recent conclusions reached by Uzzi (2000) that embeddedness reduces the need for formal governance mechanisms, like an NAO. Uzzi portrays the embeddedness and formal governance mechanisms as countervailing mechanisms in a network. Uzzi’s argument is supported in the case of informally and formally coordinated networks. Informally coordinated networks rely heavily on decentralized, extensive nonprofit embeddedness in network structures. Formally coordinated networks rely on the hub-and-spokes governance structure dominated by the NAO (a for-profit organization). However, in the case of the moderately coordinated networks (based on influence and referrals), nonprofit embeddedness in network structure seems to go hand in hand with the formal coordination by the for-profit NAO. This raises serious questions about the universal generalizability of Uzzi’s argument. Network plots of referrals and influence (Figure 5.4 and 5.5) shows that for-profit organizations are obviously the center of network, but nonprofit organizations are extensively connected among themselves. To the extent that both for-profit NAO prominence and the embeddedness of nonprofits in network structures are present in moderately coordinated networks, I argue that such networks are hybrid structures, ones that feature both embeddedness and formal governance mechanisms at the network level.

Such hybrid structures may achieve an appropriate combination of the strengths of networks (rich exchange of information, responsiveness, and social capital) and hierarchy (accountability and stability), and at the same time, avoid the weaknesses of
networks (lack of accountability) and hierarchy (top-down rigidness, the lack of responsiveness toward changing environmental conditions). Organizational researchers have long noted the possibility of plural forms of organization, ones that combine any of the three major forms of organization (market, hierarchy, and networks) (Adler & Kwon, 2002; Bradach & Eccles, 1989). My findings of hybrid structures in the mixed-sector networks provide another example of the plural forms of organization, one that combines hierarchy (based on contracts) and networks (based on information sharing and referrals).

In conclusion, these findings lead me to believe that the embeddedness of nonprofit and for-profit organizations in a centrally governed network depends on the nature of the coordination networks. Whether the networks are informally, moderately, or formally coordinated makes a huge difference in the embeddedness of nonprofit and for-profit organizations in a centrally governed network. While the informally and formally coordinated networks feature the dominance by nonprofits and for-profits respectively, the moderately coordinated networks presents a fascinating picture of for-profit prominence and non-profit embeddedness, one that can be attributed to the compromise strategy the nonprofits employed to manage the conflicting institutional demands.

RESULTS OF REGRESSION ANALYSES

*Research Question 1:*

*To what extent is the embeddedness of a nonprofit service provider in a centrally governed network related to its social performance?*
**H1:** Provider organizations that are more firmly embedded in their network based on network centrality will experience higher levels of trustworthiness by other network members.

**H2:** Provider organizations that are more firmly embedded in their network through multiplex ties will experience higher levels of trustworthiness by other network members.

**H3:** Provider organizations that are more firmly embedded in their network through clique overlap will experience high levels of trustworthiness by other network members.

**H4:** Provider organizations that are more firmly embedded in their network based on their centrality will experience higher reputation by other network members.

**H5:** Provider organizations that are more firmly embedded in their network through multiplex ties will experience higher reputation by other network members.

**H6:** Provider organizations that are more firmly embedded in their network through clique overlap will experience higher reputation by other network members.

**H7:** Provider organizations firmly embedded in the network structure based on their centrality will have higher influence among network members.

Table 5.2 presents the descriptive statistics and correlations of all the 14 variables posited in the seven hypotheses. I did not include closeness centrality in the variables because as discussed in the previous chapter, closeness centrality is meaningless for a disconnected graph (with one or more than one isolate) and the network plots show that the network of information sharing and referrals are not fully connected (all the isolates are removed from these network plots). Also, I constructed an anylink matrix based on the multiplexity measure, which counts how many confirmed ties (maximum three--
information sharing, referrals sent, and referrals received) a focal actor is engaged in with its linkage partners. I simply replaced a score of either 3 or 2 in the corresponding cell of the multiplexity matrix with a score of 1, reflecting a link of any of three types measured. The corresponding cell of two unconnected agencies received a score of 0. Thus, the anylink measure is an aggregate measure of an organization’s involvement in the overall network. It is a nice complement to the activity-specific centrality measures based on information and referral ties.

Table 5.2 shows that betweenness centralities are highly correlated with degree centralities and clique measures are also highly correlated with degree centralities. The high correlations between information betweenness and information degree centrality ($r = .83$, $p < .01$), between referral betweenness and referral degree centrality ($r = .83$, $p < .01$), and between anylink betweenness and anylink degree centrality ($r = .77$, $p < .01$) provides justification from using only the degree centrality in the subsequent hypothesis testing. The extremely high correlations between information cliques and information degree centrality ($r = .95$, $p < .01$), between referral cliques and referral degree centrality ($r = .96$, $p < .01$), and between anylink cliques and anylink degree centrality ($r = .96$, $p < .01$) provide a strong rationale to exclude clique measures from the independent variables. Including clique measures as a variable would provide little additional explanatory power because the clique measures are highly correlated with an existing variable (degree centrality). Therefore, I will not test H3 and H6, both of which posit directional relationship between clique overlap and organizational social performance.
### TABLE 5.2
Descriptive Statistics and Correlations

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<td>10. Referral cliques</td>
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<td>3.03</td>
<td>-0.38*</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>11. Anylink cliques</td>
<td>6.03</td>
<td>6.37</td>
<td>-0.29</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>12. Influence</td>
<td>1.17</td>
<td>2.75</td>
<td>-0.36*</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>13. Trust</td>
<td>3.11</td>
<td>0.25</td>
<td>0.02</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Reputation</td>
<td>1.66</td>
<td>2.41</td>
<td>-0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

* n=35

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).
Table 5.3 presents the descriptive statistics and correlations of the remaining 8 variables posited in the five hypotheses (H1, H2, H4, H5, and H7). It is important to note that this table is based on the complete data set (N = 35), which includes not only the 34 public and nonprofit service providers but also the for-profit case management organization, ABS. The network plots based on information sharing, referral, and reputation (Figure 5.3, 5.4 and 5.6) show that ABS was actively involved in information and referral activities, but received low ratings for reputation. The average relationship quality rating (2.65, on a Likert scale of 1-4) ABS received from its linkage partners was also the third lowest in the network (see Appendix B: Table B.4). Given that most active members are usually the most sociable actors in a network, ABS stands as an anomaly to this maxim. ABS is very active in the network, but it is neither respected nor very trusted by other member organizations. Thus, it is an outlier in the mixed-sector dataset. Given the small sample size of the data set, this outlier may introduce unwanted biases into the correlation coefficients. To remove this potential source of biases, one solution is to remove ABS from the dataset and obtain the network dataset solely comprising public and nonprofit service providers (N = 34). To the extent that nonprofit service providers can be regarded as publicly-funded providers, I consider this second data set as a pure-public-sector network dataset. Operationally, I went back to the raw network data set (N=35) and deleted the ABS row and column from all the relevant matrixes, thus generating the raw pure-public-sector network matrix. Then I repeated all the data manipulation procedures, as described in the previous chapter, to calculate the values of the eight variables for the pure-public-sector network. Table 5.4 presents the descriptive
TABLE 5.3

Descriptive Statistics and Correlations - Mixed Sector Network $^a$

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Specialization</td>
<td>0.56</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
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<td>-.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Referral degree</td>
<td>4.11</td>
<td>4.34</td>
<td>-.32*</td>
<td>.50***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Anylink degree</td>
<td>7.37</td>
<td>5.75</td>
<td>-.31*</td>
<td>.87***</td>
<td>.83**</td>
<td></td>
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</tr>
<tr>
<td>5. Multiplexity</td>
<td>1.38</td>
<td>0.32</td>
<td>.11</td>
<td>.11</td>
<td>.32*</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Influence</td>
<td>1.17</td>
<td>2.75</td>
<td>-.36**</td>
<td>.18</td>
<td>.78***</td>
<td>.58***</td>
<td>-.01</td>
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<td></td>
</tr>
<tr>
<td>7. Trust</td>
<td>3.11</td>
<td>0.25</td>
<td>.02</td>
<td>.29</td>
<td>.08</td>
<td>.18</td>
<td>.34*</td>
<td>-.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Reputation</td>
<td>1.66</td>
<td>2.41</td>
<td>-.15</td>
<td>.36**</td>
<td>.14</td>
<td>.36**</td>
<td>-.19</td>
<td>.10</td>
<td>.24</td>
<td></td>
</tr>
</tbody>
</table>

$a$ n=35

*p<.1, p**<.05, ***p<.01
TABLE 5.4
Descriptive Statistics and Correlations - Public Sector Network

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
<tr>
<td>1. Specialization</td>
<td>0.57</td>
<td>0.29</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Info degree</td>
<td>5.03</td>
<td>4.35</td>
<td>.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Referral degree</td>
<td>3.88</td>
<td>4.21</td>
<td>.20</td>
<td>.54**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Anylink</td>
<td>6.26</td>
<td>4.96</td>
<td>.21</td>
<td>.92***</td>
<td>.75***</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5. Multiplexity</td>
<td>1.21</td>
<td>0.55</td>
<td>.10</td>
<td>.44***</td>
<td>.63***</td>
<td>.50***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Influence</td>
<td>0.79</td>
<td>1.37</td>
<td>.30</td>
<td>.18</td>
<td>.54***</td>
<td>.40**</td>
<td>-.10</td>
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<td></td>
</tr>
<tr>
<td>7. Trust</td>
<td>3.14</td>
<td>0.26</td>
<td>.08</td>
<td>.34**</td>
<td>.44***</td>
<td>.39**</td>
<td>.50***</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Reputation</td>
<td>1.53</td>
<td>2.34</td>
<td>.14</td>
<td>.38**</td>
<td>.117</td>
<td>.39**</td>
<td>-.01</td>
<td>.22</td>
<td>.27</td>
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</tr>
</tbody>
</table>

\*n=34
*p<.1, p**<.05, ***p<.01
statistics and correlations of the remaining 8 variables posited in the five hypotheses (H1, H2, H4, H5, and H7) based on the pure-public-sector network data set.

A careful comparison of the correlations between the independent variables and the three outcome variables in Table 5.3 and Table 5.4 shows that in the complete mixed-sector dataset (N = 35) influence is significantly correlated with referral degree centrality ($r = .78$, $p < .01$) and with anylink degree centrality ($r = .58$, $p < .01$). Reputation is also significantly correlated with information degree centrality ($r = .36$, $p < .05$) and with anylink degree centrality ($r = .36$, $p < .05$). Trust, however, is only marginally correlated with multiplexity ($r = .34$, $p < .1$). In the pure-public-sector dataset (N = 34), trust is strongly correlated with information degree centrality ($r = .34$, $p < .05$), referral degree centrality ($r = .44$, $p < .01$), anylink degree centrality ($r = .39$, $p < .05$), and multiplexity ($r = .50$, $p < .01$). Such strong correlations between all the four independent variables and trust in the pure-public-sector dataset contrast to the marginal correlation between trust and multiplexity in the complete mixed-sector dataset. This is the major difference between Table 5.3 and Table 5.4. The correlations between influence and the independent variables and between reputation and the independent variables are more or less the same in these two tables. The foregoing comparison suggests that there are differences between the correlations in the complete mixed-sector (N=35) and the pure-public-sector (N=34) dataset. This finding provides a rationale to test the five hypotheses in both data sets. Using two data sets to test the same hypotheses will not only increase the sensitivity of the statistical testing but also reduce the likelihood of Type II error.
Table 5.5 and 5.6 present the results of the regression analyses testing the following hypothesized relationships between the different network constructs of embeddedness and three organizational social performance outcomes:

H1a: Trust = α + β₁ Information Degree Centrality + β₂ Referral Degree Centrality
H1b: Trust = α + β Anylink Degree Centrality
H2: Trust = α + β Multiplexity
H4a: Reputation = α + β₁ Information Degree Centrality + β₂ Referral Degree Centrality
H4b: Reputation = α + β Anylink Degree Centrality
H5: Reputation = α + β Multiplexity
H7a: Influence = α + β₁ Information Degree Centrality + β₂ Referral Degree Centrality
H7b: Influence = α + β Anylink Degree Centrality

Please note that in operationalizing the concept of embeddedness I used two sets of centrality measures, first separating out information and referral degree centrality, and then in combination using anylink degree centrality. The activity-specific degree centrality measures reflect an agency’s involvement in the specific network exchange activity. Anylink degree centrality indicates an agency’s involvement in the overall network activities. Thus, these two sets of centrality measures complement each other and enable me to test H1, H4, and H7 in two ways.

Hypothesis 1 proposes a positive relationship between embeddedness (based on centrality) and trustworthiness. To support this directional hypothesis, the coefficient estimates for the information, referral degree centrality and anylink degree centrality should be positive and significant. In Table 5.5, which includes both the public and
### TABLE 5.5

Regression Analyses Predicting Organizational Social Performance - Mixed Sector Network<sup>a</sup>

<table>
<thead>
<tr>
<th>Variable</th>
<th>H1a</th>
<th>H1b</th>
<th>H2</th>
<th>H4a</th>
<th>H4b</th>
<th>H5</th>
<th>H7a</th>
<th>H7b</th>
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</thead>
<tbody>
<tr>
<td>Specialization</td>
<td>.05</td>
<td>.08</td>
<td>-13</td>
<td>-10</td>
<td>-05</td>
<td>-16</td>
<td>-13</td>
<td>-19</td>
</tr>
<tr>
<td>Information degree</td>
<td>.34</td>
<td>.32</td>
<td>-13</td>
<td>.12</td>
<td>.13</td>
<td>.06</td>
<td>.72</td>
<td>.40</td>
</tr>
<tr>
<td>Referral degree</td>
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<td>-.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anylink degree</td>
<td>.19</td>
<td></td>
<td>.35*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiplexity</td>
<td></td>
<td>.36*</td>
<td></td>
<td>-17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.10</td>
<td>.03</td>
<td>.13</td>
<td>.12</td>
<td>.13</td>
<td>.06</td>
<td>.72</td>
<td>.40</td>
</tr>
<tr>
<td>F</td>
<td>.94</td>
<td>.48</td>
<td>2.00</td>
<td>1.19</td>
<td>2.10</td>
<td>.85</td>
<td>23.22***</td>
<td>9.42***</td>
</tr>
</tbody>
</table>

<sup>a</sup> n=35. Values represent standardized coefficients.

*p<.1, **p<.05, ***p<.01

H1, H2 predicts trust; H4, H5 predicts reputation; H7 predicts influence
TABLE 5.6

Regression Analyses Predicting Organizational Social Performance - Public Sector Networka

<table>
<thead>
<tr>
<th>Variable</th>
<th>H1a</th>
<th>H1b</th>
<th>H2</th>
<th>H4a</th>
<th>H4b</th>
<th>H5</th>
<th>H7a</th>
<th>H7b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization</td>
<td>.02</td>
<td>-.01</td>
<td>-.14</td>
<td>-.09</td>
<td>-.05</td>
<td>-.13</td>
<td>-.21</td>
<td>-.21</td>
</tr>
<tr>
<td>Information degree</td>
<td>.15</td>
<td></td>
<td>.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral degree</td>
<td>.36*</td>
<td></td>
<td></td>
<td>-.07</td>
<td></td>
<td></td>
<td>.69***</td>
<td></td>
</tr>
<tr>
<td>Anylink degree</td>
<td></td>
<td>.38**</td>
<td></td>
<td>.37**</td>
<td></td>
<td></td>
<td></td>
<td>.42**</td>
</tr>
<tr>
<td>Multiplexity</td>
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<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.20</td>
<td>.14</td>
<td>.37</td>
<td>.12</td>
<td>.15</td>
<td>.02</td>
<td>.68</td>
<td>.26</td>
</tr>
<tr>
<td>F</td>
<td>2.20</td>
<td>2.30</td>
<td>7.77***</td>
<td>1.13</td>
<td>2.40*</td>
<td>.29</td>
<td>7.28***</td>
<td>4.68***</td>
</tr>
</tbody>
</table>

a n=34. Values represent standardized coefficients.

*p<.1, **p<.05, ***p<.01

H1, H2 predicts trust, H4, H5 predicts reputation, H7 predicts influence
nonprofit providers and ABS, none of the coefficients for the three centrality measures are significant. In Table 5.6, however, once ABS is excluded, the coefficients for both referral degree centrality and anylink degree centrality are positive and significant. These results suggest moderate support for Hypothesis 1.

The moderate support for Hypothesis 1 in the pure public-sector network is consistent with business network researchers’ finding that the more embedded organizations are often the more trusted organizations (Gulati, 1995; Gulati & Gargiulo, 1999; Uzzi, 1996). Business network researchers posit that direct experience and, more importantly, shared common third-party ties, can create a reputation lock-in whereby any bad behavior by either partner may be reported to common partners. Negative gossip by third parties about a party’s uncooperative behavior significantly reduces the likelihood of direct relations, whereas positive gossip strengthens the likelihood of direct relations (Burt & Knez, 1995). Gulati (1995) asserts and finds evidence that these indirect ties serve both a referral and a control function. They not only provide information on each partner’s reliability, they also represent a source of peer sanctioning.

To the extent that both parties in a dyad relationship share a common third-party tie, I argue that this view of the peer sanctioning role of the shared common third-party is essentially a clique-based closure argument. In a three-member clique, two members of the clique can join hands in sanctioning the opportunistic behavior of a third member. In a larger network structure, clique overlap provides a further disincentive for clique members to be uncooperative partners because their global reputation, rather than within-clique reputation, might be at stake. The extremely high correlations between degree
centrality and clique membership (a measure of clique overlap) (reported in Table 5.2) lend support to a clique-based argument.

In the nonprofit health and human service sector, word-of-mouth by shared common third-party ties is more important for an agency’s decision to interact with other agencies because of two factors in a health and human service system: one being the lack of organizational migration (entry and/or exit), which resulted in membership stability and familiarity; and the other being the lack of consensus about core technology and difficulty in measuring and observing outcomes in vulnerable population. In the direct experience of working with other agencies, some working arrangements are successful while others fail. Organizations build histories of which ties work for them and which ties do not work. As personnel in these agencies form assessments of other organizations, these other organizations get either good or bad relationship quality assessments. Given that the nonprofit dominated information sharing network is three times more connected than the for-profit dominated contract network, nonprofits have much more opportunity to exchange information about the cooperativeness of a prospective partner in their client-centered information exchanges than in the contract network. This creates further disincentive for partners to behave opportunistically.

Hypothesis 2 posits a positive relationship between embeddedness (based on multiplexity) and trustworthiness. The coefficients for multiplexity in Table 5.5 and Table 5.6 are positive and significant. While the coefficient for multiplexity in Table 5.5 is only marginally significant ($\beta = .36, p < .1$), the counterpart in Table 5.6 is strongly
significant ($\beta = .6, p < .01; F = 7.77, p < .01$). These strong results suggest strong support for hypothesis 2 within the public sector network.

In my study, the results suggest multiple client-centered activities (information sharing and referrals) between two agencies in a centrally governed network have strong and significant relationship with trust. This finding suggests an important modification to business researchers’ argument that a high degree of formality of the relationship between two partners often means a lack of trust in the relationship, namely; formal ties in the public sector does not mean a lack of trust. As previously noted, referrals network can be regarded as moderately coordinated network because referrals can be based on either formal arrangements (e.g., contracts, mandates) or on professional norms of collaboration and shared commitment to clients’ well-being. Thus, referral ties can be regarded as tools of both formal and informal coordination. When informal sharing is viewed as a tool of informal coordination, information sharing and referral ties between two agencies amount to a mixture of formal and informal coordination between two agencies. This situation has received little attention in business researchers’ theory of embeddedness.

Gulati’s (1995) work posits that as trust develops among equity partners, the level of formality associated their relationship should drop. Trust diminishes the attendant transaction costs associated with partnerships, thereby eliminating the need for maintaining formally structured relationships. In a similar vein, Uzzi (1997) conceptualized the integrated network as an intermediate structure between arm’s length network (based on formal contracts) and over-embedded networks (based on special and
close relationships), one that comprises both arm’s length and embedded ties. It is very important to note that in Uzzi’s illustrative plots of these three types of network (p. 60), the ties between nodes (business organizations) are either embedded (represented by thick lines) or arm’s length (represented by thin lines). There is no concurrent arm’s length and embedded ties between two organizations. Thus, Uzzi’s (1997) argument is consistent with Gulati’s (1995) work.

My finding, however, shows that formal and informal ties can not only exist concurrently between two nonprofit agencies, but that the presence of formal and informal ties together between two nonprofit agencies also strongly predicts trust. This result is in line with Isett and Provan’s (2005) work. They found informal ties were often added to contractual ties, strengthening the bond between agencies despite the existence of a formal contract. My finding contributes to the research literature on embeddedness of nonprofits by showing a cross-sectional picture of embeddedness of nonprofits in formal and informal relationships, thus, complementing Isett and Provan’s (2005) longitudinal study of the evolution of embeddedness.

A plausible explanation of such embeddedness is that formal relationships such as contracts or memoranda of understanding have a different meaning in the nonprofit sector than those in the business sector. Business organizations use formal relationships to reduce the risk of being taken advantage of by opportunism. The starting point for organizations involved in such relationships is self-interest and lack of trust in its partner. In the public sector, however, formal relationships are often used so that service providers can be assured that clients with multiple needs will have a full range of services
available, especially when access depends on the coordination of a variety of service providers (Isett & Provan, 2005; Snavely & Tracy, 2002).

Hypothesis 4 is about the positive relationship between embeddedness (based on centrality) and reputation. The coefficient estimates for anylink degree centrality in both Table 5.5 ($\beta = .35, p < .1$) and Table 5.6 ($\beta = .37, p < .05$) are positive and significant, while those for the information degree centrality and referral degree centrality are not significant. Such mixed results offer only moderate support of hypothesis 4. Hypothesis 5 proposes a positive relationship between embeddedness (based on multiplexity) and reputation. The coefficients for multiplexity in Table 5.5 and 5.6 are neither significant nor in the expected direction. Thus, hypothesis 5 is not supported.

In important ways my findings are consistent with the findings of Shrum, Wuthnow and Beniger (1985)’s study of reputation in technical systems (large-scale, multi-sectoral, centrally coordinated technological development efforts with determinate objectives). These researchers argued that in the “planned” research process, in this case, a government–sponsored nuclear waste research enterprise, the technical system’s dependence on external sources of support may make contacts with researchers less important than contacts with government program managers, particularly when the government program’s monopolistic control of funding gives the government program managers a major say over the standards of excellence in the technical system. Thus, actors closely linked to government program managers should have better reputation than actors without such close linkages. Shrum et al. (1985) found that contact with other
researchers had no effect on the reputation for research performance; only contact with government appeared to have a positive effect.

Consistent with the research of Shrum et al. (1985), to the extent that a publicly-funded health and health service network (or a government sponsored technical system) is coordinated by a NAO, the social dynamic regarding reputation in these systems should be the same. Like a technical system, a health and human service network is likely to depend to a great extent on formal and informal communication for high-quality service provision to be translated into reputation, given the size and service diversity of the system. Centrality in an inter-organization network may be tantamount to having a high degree of visibility, which may affect reputation positively or negatively (i.e., familiarity may breed contempt). Extending this logic to the centrally governed health and human service network, I would expect to see that service providers’ contacts with a NAO, instead of contacts among providers, are predictive of their reputation for quality service.

My results partly confirm this expectation. Contacts among nonprofits in information sharing and referral activities are not related to their reputation for quality service, nor is multiplexity related to reputation. One crucial difference, however, is that ABS (agent of the NAO in the network) has a very low reputation in the network. Only two out of 34 nonprofit organizations reported it as the organization “being most admired for providing quality services to SMI clients”. Thus, it is not likely that those actors closely associated with ABS will have better reputation than those without such close linkages. The reputational spill-over effects in organizational partnerships are well-
documented (Stuart, Hoang, & Hybels, 1999; Podolny, 1993). Stuart et al. (1999) posit that relationships have reciprocal effects on the reputations of those involved. Taking this logic to the health and human service delivery network, I argue that because central actors in the nonprofit network must be involved with the low-reputation ABS, given its monopolistic control over funding, those actors’ reputation may suffer from the reverse spillover effects. The low reputation of ABS may spill over to its nonprofit partner and suppress their reputation in the network, notwithstanding their centrality in nonprofit activities.

It is important to note that in the pure public sector network, anylink degree centrality is a positive and significant predictor of reputation. This reveals that after removing the low-reputation but central ABS from the network, the hypothesized relationship between centrality and reputation was confirmed empirically. Such result can be interpreted as evidence of the resilience of the embeddedness of nonprofits in their normative commitment to clients’ well-being. This interpretation can be justified by the following two factors: (1) Shrum et al (1985) observed that the greater the concentration of resources in the administrative sector of the system, the less likely it is that broad communication among actors will occur or, indeed, will matter for reputation. Contrary to this observation, my results show that referral and information sharing activity not only occurred on a much wider scale than the funding activities, but that these broad less formal methods of coordination matter for the reputation after the low-status yet central ABS was removed from the network. (2) Uzzi (1997) argue that embedded social structures entail expectations that either change more slowly or remain resistant to
changes in the purely economic features of the exchange, even those subject to different 
incentive structures, at least in the near term. I suspect this is exactly the case with the 
nonprofit’s normative commitment to clients’ well-being, which results in their close 
involvement with each other in information sharing and referral activities to a much more 
estensive degree than required by the funding arrangements. I also suspect that this is 
particularly true in the early period of the change of the system (from nonprofit 
governance to for-profit governance).

Hypothesis 7 is very strongly supported in the regression tests using both dataset. 
The coefficients for referral degree centrality ($\beta = .69, p < .01$) and anylink degree 
centrality ($\beta = .42, p < .05$) in Table 5.6 and Table 5.5 ($\beta = .9, p < .01; \beta = .55, p < .05$) 
are all positive and significant. It is notable that the coefficient estimates for information 
degree centrality are neither positive nor significant. These results indicate strong support 
for the hypothesized relationship between centrality and influence.

The strong results for referral degree centrality are consistent with prior research 
on the attributed organizational influence in community-based social service 
organizational systems (Oliver & Montgomery, 1996). Client referrals may signify 
resource flow in the system. Resource dependence theory suggests that one actor’s 
influence over another is rooted in the other’s dependence on the resources controlled by 
the former (Cook, 1977; Emerson, 1962). When client referral degree centrality 
represents an actor’s position in the resource flow network, its attributed influence should 
be predicted by its client referral centrality. The empirical results reinforce this argument.
The non-significant results for information degree centrality, however, are contrary to prior research. Galaskiewicz (1979) argued that information is an important resource that helps community organizations cope with uncertainty. For an organization to be perceived as influential in the community it must occupy key coordinative positions (centrality) in information exchange network. Galaskiewicz (1979) found strong empirical support for this hypothesized positive relationship between information centrality and attributed organizational influence in his examination of organizational networks in a medium-size Midwestern community. I suspect that the nonsignificant results for information exchange may suggest that nonprofit providers are appropriately identifying the client-referring organization (e.g. the gatekeeping organization), rather than those organizations most actively involved in the client-centered information exchange network, as the most influential in the network. The negative coefficient estimates for information degree centrality provides further evidence to support this speculation. It shows that nonprofit providers are clearly not identifying the prominent actors in information exchange network as influential actors in their operation.

The above results suggest that there is a disjuncture between the most influential organizations and the most informed organizations. This disjuncture may signal an element of the network that can be improved, since the most influential organization may not be most knowledgeable one in terms of the needs of the SMI clients.

In conclusion, my comparisons of network structural data (density and centralization score) and network plots of formal and informal relationships within the mental health network have revealed fascinating differences in embeddedness of
nonprofit and for-profit organizations. Such differences can be attributed to variation in the degree of formality of the tie. An interesting finding is that embeddedness of nonprofit in informal ties and embeddedness of for-profit organizations in formal ties concurrently exist in the mid-range ties (referrals and influence). The co-existence of both formal and informal relationships in a network represents a hybrid structure, one that combines authority relations with social relations. It also represents nonprofits’ compromise strategy to reach a balance between their professional commitment to clients’ well-being and the efficiency imperative imposed on them by external actors.

My examination of the hypothesized relationship between embeddedness and organizational social performance found that organizational embeddedness (based on centrality and multiplexity) is positively and significantly related to trust in the public sector network (N=34, after the removal of ABS, the for-profit case management entity, from the dataset). The confirmed positive relationship between embeddedness based on centrality and trust can be attributed to the high extremely high correlations between centrality measures and clique membership (a measure of clique overlap). I take the clique-based closure argument, which posits the peer sanctioning role of the shared common third-party, to clique membership and argue that clique overlap provides further disincentive for clique members to be uncooperative because their global reputation, rather than within-clique reputation, is at stake. This explanation is particularly plausible when the nonprofit dominated information sharing network is three times more connected than the contract network.
The significant relationship between embeddedness based on multiplexity and trust in the public sector network speaks to an important issue in studies of business organizations; namely, a high degree of formality of the relationship between two partners often means a lack of trust in the relationship. Contrary to this empirically verified relationship, my findings suggest that formal ties in the public sector per se do not mean a lack of trust. Rather, formal and informal ties can not only exist concurrently between two nonprofit agencies, but that the presence of formal and informal ties between two nonprofits also strongly predicts trust. This finding can be explained by the public-serving, rather than self-serving, motivation for formal relationships in the public sector.

The strong positive relationship between embeddedness and reputation in the public sector network can be interpreted as further evidence to the resilience of the nonprofits’ normative commitment to client’s well-being. Contrary to Wuthnow and Beniger’s (1985) observation (the concentration of resources in the administrative sector of technical systems is likely to reduce the need for broad communication among members and, consequently, the impact of such communication on their reputation), my results show that referral and information sharing activity not only occurred on a much wider scale than the funding activities, but that these broad, less formal methods of interaction matter for the reputation after the ill-regarded ABS was removed from the network (in the pubic sector network). In the mixed-sector network, I suspect that nonprofits may suffer the reverse reputation effect from their unavoidable linkage with the ill-regarded ABS, given its monopolistic control over funding. The low reputation of
ABS may spill over to its nonprofit partner, notwithstanding their centrality and multiplexity in nonprofit activities.

The significant relationship between embeddedness based on referral degree centrality and influence indicates nonprofit providers’ awareness of the resource dependency relationship involved in the referral ties. The non-significant relationship between embeddedness based on information sharing degree centrality and influence, however, suggests that nonprofit providers are appropriately identifying the client-referring organization (e.g., the gatekeeping organization), rather than those organizations most actively involved in the client-centered information exchange network, as the most influential in the network. Thus, there is a disjuncture between the most influential organizations and the most informed organizations.

ADDITIONAL ANALYSIS

To verify the preceding findings in a more rigorous way, I decided to include a measure of size as one of the control variables and repeat the OLS regression tests of the hypothesized relationship between organizational embeddedness and organizational social performance. The rationale for treating size as a control variable is grounded in previous sociological research that found organizational size to be one of the determinants of organizational positioning in the social status hierarchy in an exchange network. Large organizations tend to have greater influence and visibility in an inter-organizational network than do small organizations. Galaskiewicz (1979) attributed this finding to the greater amount of resources (both human and financial) a large nonprofit
organization has at its disposal. These resources enable the organization to develop more communication and relationships with other organizations, thus increasing its visibility and influence in an exchange network. Size is also likely to be a factor in explaining the extent of network involvement, since organizations with many clients and staff will typically have more total contacts with other organizations than their smaller counterparts.

Table 5.7 presents the descriptive statistics and correlations of three measures of organizational size (number of at least half-time SMI employees, daily SMI case load, number of SMI service sites) and all the 8 variables posited in the seven hypotheses. Based on the correlations of the three measures of organization size, I chose SMI daily case load as the single control variable for use in the regression equations because this variable is the one that is most highly correlated with the other two size measures. Specifically, SMI daily case load is highly correlated with both the number of at least half-time SMI employees \( (r = .80, p < .01) \) and the number of SMI service sites \(( r = .64, p < .01)\).

Table 5.8 presents the results of the regression analysis testing the hypothesized relationships between the different network constructs of embeddedness and three organizational social performance outcomes in the mixed sector network. Consistent with the results of the primary data analysis (with specialization as the only control variable), referral degree centrality \( (\beta = .74, p < .01; F = 21, p < .01) \) strongly and positively predicts influence. Anylink degree centrality \( (\beta = .33, p < .1; F = 10, p < .01) \) is a significant, but weak, predictor of influence. Thus, the hypothesized positive relationship
Table 5.7

Additional Descriptive Statistics and Correlations - Mixed Sector Network

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SMI employee</td>
<td>72.24</td>
<td>157.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. SMI cases</td>
<td>81.94</td>
<td>128.11</td>
<td>.80**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Service sites</td>
<td>4.52</td>
<td>4.76</td>
<td>.46**</td>
<td>.64**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Specialization</td>
<td>0.56</td>
<td>0.30</td>
<td>.04</td>
<td>-.16</td>
<td>-.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information degree</td>
<td>5.31</td>
<td>4.28</td>
<td>.31*</td>
<td>.28</td>
<td>.13</td>
<td>-.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Referral degree</td>
<td>4.11</td>
<td>4.34</td>
<td>.58**</td>
<td>.54**</td>
<td>.44**</td>
<td>-.32*</td>
<td>.50**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Anylink degree</td>
<td>7.37</td>
<td>5.75</td>
<td>.52**</td>
<td>.53**</td>
<td>.43**</td>
<td>-.32*</td>
<td>.87**</td>
<td>.83**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Multiplexity</td>
<td>1.38</td>
<td>0.32</td>
<td>.01</td>
<td>-.26</td>
<td>-.28</td>
<td>.11</td>
<td>.11</td>
<td>.32*</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Influence</td>
<td>1.14</td>
<td>2.75</td>
<td>.57**</td>
<td>.63**</td>
<td>.54**</td>
<td>-.35</td>
<td>.18</td>
<td>.77**</td>
<td>.58**</td>
<td>-.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Trust</td>
<td>3.11</td>
<td>0.25</td>
<td>-.21</td>
<td>-.16</td>
<td>-.17</td>
<td>.02</td>
<td>.29*</td>
<td>.08</td>
<td>.18</td>
<td>.34*</td>
<td>-.29*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Reputation</td>
<td>1.66</td>
<td>2.41</td>
<td>.10</td>
<td>.29</td>
<td>.58**</td>
<td>-.15</td>
<td>.36*</td>
<td>.14</td>
<td>.36*</td>
<td>-.19</td>
<td>.11</td>
<td>.24</td>
<td></td>
</tr>
</tbody>
</table>

*a n=35

** Correlation is significant at the 0.01 level (1-tailed).
* Correlation is significant at the 0.05 level (1-tailed).
**TABLE 5.8**

Additional Regression Analysis Predicting Organizational Social Performance - Mixed Sector Network $^a$

<table>
<thead>
<tr>
<th>Variable</th>
<th>H1a</th>
<th>H1b</th>
<th>H2</th>
<th>H4a</th>
<th>H4b</th>
<th>H5</th>
<th>H7a</th>
<th>H7b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily SMI cases</td>
<td>-.29</td>
<td>-.34</td>
<td>-.21</td>
<td>.27</td>
<td>.14</td>
<td>.23</td>
<td>.29</td>
<td>.43**</td>
</tr>
<tr>
<td>Specialization</td>
<td>.06</td>
<td>.08</td>
<td>-.16</td>
<td>-.10</td>
<td>-.05</td>
<td>-.12</td>
<td>-.12</td>
<td>-.18</td>
</tr>
<tr>
<td>Information degree</td>
<td>.35*</td>
<td>.31</td>
<td>-.16</td>
<td>-.28</td>
<td>.31</td>
<td>-.12</td>
<td>.74***</td>
<td></td>
</tr>
<tr>
<td>Referral degree</td>
<td>.08</td>
<td>-.16</td>
<td>.74***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anylink degree</td>
<td>.37*</td>
<td>.27</td>
<td>.33*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiplexity</td>
<td>.30</td>
<td>.30</td>
<td>-.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.15</td>
<td>.12</td>
<td>.17</td>
<td>.17</td>
<td>.15</td>
<td>.11</td>
<td>.76</td>
<td>.53</td>
</tr>
<tr>
<td>F</td>
<td>1.18</td>
<td>1.20</td>
<td>1.81</td>
<td>1.33</td>
<td>1.54</td>
<td>1.05</td>
<td>21.00***</td>
<td>10.00***</td>
</tr>
</tbody>
</table>

$^a$ n=35. Values represent standardized coefficients.

*p<.1, p**<.05, ***p<.01

H1, H2 predicts trust, H4, H5 predicts reputation, H7 predicts influence
between embeddedness based on centrality and influence continues to be supported, although at a reduced level, even when controlling for agency size.

The major differences between Table 5.8 and its counterpart (Table 5.5) are twofold: (1) in the primary data analysis none of the centrality measures predicts trust. In Table 5.8, however, information degree centrality (β = .35, p < .1) and anylink degree centrality (β = .37, p < .1) marginally predict trust. It is notable that daily SMI case load is negatively (but not significantly) related to trust. Perhaps this has to do with the fact that ABS had the largest daily SMI case load but received very low ratings of trustworthiness by network members. Also, ABS was an active, but not the central actor in the information exchange network. The positive relationship between information sharing and trustworthiness is consistent with business researchers’ argument that in such relationships as those between subunits of multinational corporations or between purchasing agent and suppliers, greater discretion on the part of subunits and purchasing agents (less command and control from the corporate hierarchy) allows them to demonstrate their trustworthiness to their partners by fulfilling their relational obligations and delivering on their promises (Perrone, Zaheer & McEvily, 2003; Tsai, 2002).

Likewise, it is plausible that the client-centered information exchange activities were dominated by the discretionary exchanges among the nonprofit organizations. Through these horizontal, client-oriented information exchanges, organizations were able to demonstrate and establish their trustworthiness. (2). When controlling for size, multiplexity is not a significant predictor of trustworthiness in Table 5.8. In the primary analysis, multiplexity is a significant, but weak, predictor of trustworthiness.
Table 5.9 presents the results of the regression analysis testing the hypothesized relationships between the different network constructs of embeddedness and three organizational social performance outcomes in the public sector network, excluding ABS, but controlling for agency size. The standardized coefficients in Table 5.9 and its counterpart (Table 5.6) are mostly consistent except for the relationship between embeddedness and reputation. None of the embeddedness measures are significant predictors of reputation in Table 5.9. Given the significant coefficient of daily SMI cases ($\beta = .36, p < .1$), the non-significant results are not entirely unexpected. The positive and significant relationship between daily SMI cases and reputation is consistent with other researchers’ observation that size is an indicator of visibility in an inter-organizational network. Those more visible organizations tend to receive more favorable assessment by network members.

In summary, there are some differences between the primary and additional data analysis, in which agency size is introduced as a control variable. However, these differences are not substantial enough to weaken the overall integrity of the primary data analysis. Rather, they add a more nuanced perspective to interpret the results of the primary data analysis.
### TABLE 5.9

Additional Regression Analysis Predicting Organizational Social Performance - Public Sector Network

<table>
<thead>
<tr>
<th>Variable</th>
<th>H1a</th>
<th>H1b</th>
<th>H2</th>
<th>H4a</th>
<th>H4b</th>
<th>H5</th>
<th>H7a</th>
<th>H7b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily SMI cases</td>
<td>.16</td>
<td>.08</td>
<td>.25</td>
<td>.30</td>
<td>.29</td>
<td>.36**</td>
<td>-.02</td>
<td>-.23</td>
</tr>
<tr>
<td>Specialization</td>
<td>.01</td>
<td>-.01</td>
<td>-.16</td>
<td>-.11</td>
<td>-.10</td>
<td>-.16</td>
<td>-.21</td>
<td>-.19</td>
</tr>
<tr>
<td>Information degree</td>
<td>.08</td>
<td>.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral degree</td>
<td>.40**</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.68***</td>
</tr>
<tr>
<td>Anylink degree</td>
<td></td>
<td>.36**</td>
<td></td>
<td>.29</td>
<td></td>
<td></td>
<td></td>
<td>.48***</td>
</tr>
<tr>
<td>Multiplexity</td>
<td></td>
<td></td>
<td></td>
<td>.64***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.22</td>
<td>.15</td>
<td>.43</td>
<td>.19</td>
<td>.23</td>
<td>.15</td>
<td>.46</td>
<td>.31</td>
</tr>
<tr>
<td>F</td>
<td>1.8</td>
<td>1.53</td>
<td>6.5***</td>
<td>1.48</td>
<td>2.54*</td>
<td>1.53</td>
<td>5.26***</td>
<td>3.82**</td>
</tr>
</tbody>
</table>

*a n=34. Values represent standardized coefficients.

*p<.1, **p<.05, ***p<.01

H1, H2 predicts trust, H4, H5 predicts reputation, H7 predicts influence
CHAPTER SIX
DISCUSSION

The empirical analysis presented in the preceding chapter provides a fascinating picture of nonprofit and for-profit organizations’ embeddedness and the relationship between organizational embeddedness and organizational social performance. This chapter seeks to explain the results of the primary data analysis in broad theoretical terms. The organization of this chapter is as follows. First, I will draw upon the existing theory about network embeddedness and social capital to explain the empirical results of this study. I will then explain the contribution of studying a mixed-sector centrally funded mental health services system toward understanding embeddedness in inter-organizational networks and organizational social performance. Second, I will draw implications from this study for the practice of mental health services by showing how the results of this study can inform the design of future systems of managed care in mixed-sector health and human service systems. Third, I will discuss the limitations of this study. Lastly, I will discuss future directions for this line of research.

THEORY

This study examines embeddedness in a novel context; that is, a centrally governed multisectoral network in which public and nonprofit service providers work for a for-profit network administrative organization. One of the serious challenges in running a multisectoral managed network is goal incongruence among disparate network organizations, particularly between public, nonprofit, and for-profit network
organizations (Goldsmith & Eggers, 2004). In this situation, it is not simply that all three sectors participate in the process, but that the principal organizations involved in these three sectors are likely to have different and sometimes conflicting goals and values. This situation means that the full and cooperative integration of services to clients may be difficult to achieve.

My study addressed the issue of inter-organizational collaboration by investigating public versus for-profit organizational embeddedness in different types of network relationships and the relationship between organizational embeddedness and the social aspect of collaboration in a managed multi-sectoral network. Specifically, and consistent with the two general research questions I proposed, I found the following. First, it was clear from my comparisons of network plots and network centralization scores of five types of ties that organizational embeddedness in network structures was contingent on the degree of formality of a tie as well as the sectoral affiliation of network organizations. Second, organizational embeddedness (based on centrality) was positively and significantly related to trust, reputation, and influence in the public sector network. In the mixed-sector network, organizational embeddedness (based on centrality) was only marginally related to reputation but positive and significantly related to influence. Organizational embeddedness (based on multiplexity) was positively and significantly related to trust in the public sector network, but only had a marginal relationship to trust in the mixed-sector network.

The results found in this study regarding the contingency relationship between embeddedness and degree of formality of a tie, as well as the sectoral affiliation of
network organizations, are different from the traditional view of embeddedness. This view regarded embeddedness as the linking of economic relationships with close social, personal relationships (Granovetter, 1985); and hence, contingent on the strength of multiplex ties (Uzzi, 1997). Also, there are major differences in the results for the public sector network and those for the mixed-sector network. Therefore, the question becomes, how can these divergent results be explained, and what, if anything, is fundamentally different about this managed multisectoral network from naturally occurring networks that can account for these differences?

The explanation offered here focuses on the unique organizational form and the social dynamics of the multisectoral network. Two factors help explain the contingency relationship between organizational embeddedness and degree of formality of the ties and the relationship between organizational embeddedness and sectoral affiliations. First, the hybrid nature of the structure of the network determines that organizational embeddedness in this network is contingent on the plural logic of exchange in the network, in this case, contract-based hierarchical control and informal, norm-based relationships such as reputation and information sharing. Two sets of findings support my view of this managed multi-sectoral network as a hybrid organization. First, my examination of network structure of contractual network reveals that it was highly centralized around the for-profit NAO (ValueOptions). The classic hub-and-spoke contract network supports my argument in Chapter 2 that contracts in a managed service network become the functional substitutes of a hierarchy to the extent that such contracts contain the same key elements essential for the functioning of an organizational hierarchy.
(i.e., incentive system, authority system, conflict resolution system, administered pricing, and standard operating procedures). Also, the finding that extensive informal relationships (client-centered information sharing and reputation) between public and nonprofit providers occurred in a decentralized manner can be construed as evidence of the providers’ commitment to the norm of collaboration to better serve their clients. Thus, in this network there are both contract-based hierarchy and informal social relationships (information sharing and reputation). In addition, the dominance of the for-profit case management agency (ABS) and the for-profit NAO (ValueOptions) in the referral and influence network respectively and the dense ties among public and nonprofit providers in these two networks provided further evidence of the co-existence of formal control and informal network relationship in network structures.

Second, since the managed care and case management organizations controlled the financial resources (contracts) and performed the gatekeeping function for the referral network respectively, they were the de facto centers of power in the network. The combination of the power and the for-profit orientation of the managed care organization seem to have earned the distrust and suspicion of the public and nonprofit providers, which were committed to helping their clients. As noted previously, the average relationship quality rating (2.65, on a Likert scale of 1-4) ABS received from its linkage partners was the third lowest in the network (See Appendix Table B.4). Table B.9, “Agency’s Report of Reasons for Involvement with Another Agency,” shows that public and nonprofit service providers’ commitment toward clients was very strong (service needs of clients received the highest average rating, 4.57 on a Likert scale of 1-5, with 1
and 5 indicating “almost never the reason for involvement” and “almost always the reason for involvement respectively”.

A hybrid governance structure combining hierarchy and networks, coupled with strong nonprofit commitment to clients’ well-being and distrust of the for-profit organizations, explain the finding that in client-centered relationships such as information sharing and reputation ties, the for-profit organization (ABS) played only marginal role in these networks. In resource-dependent relationships such as contract, influence, and referral networks, the for-profit organizations played prominent role due to the nonprofit providers’ resource dependence on the for-profit organizations. It is notable that in the influence and referral networks, the relationships can also be driven by norms of reciprocity and norm of client-centered collaboration. Thus, the limited inroads made by the new for-profit overseer into a historically public-sector network structure explains the observed contingency relationship between organizational embeddedness and degree of formality in the ties and relationship between organizational embeddedness and sectoral affiliation.

The juxtaposition of contract-based hierarchal control on the client-centered collaborative relationships creates a hybrid governance structure. The ideal goal for such hybrid organizations may be to create a governance structure that is both managed at the formal funding level and spontaneous at the client-centered, informal collaboration level. This hybrid governance structure combines the strength of two forms of organizations, in this case, administrative coordination and accountability in hierarchy (through contract
and case management) and trust, flexibility, and responsiveness of the naturally occurring network (through client-centered information sharing and referrals).

The combination of hierarchical arrangements and network relationships in a managed multisectoral network is a new addition to the plural forms of organization. Building on Powell’s (1990) distinction of market, hierarchy, and networks of coordinating economic activity, researchers argue that these three organization forms can be combined into plural forms in the business world. For example, Bradach and Eccles (1989) noted organizations operate franchises and company-owned units under the same trademark, and companies sometimes make and buy the same part. In a similar vein, Adler’s (2001) finding of a mix of price, hierarchy, and trust mechanisms in business arrangements (employment relationship, interdivisional relations, and inter-firm relationships) provided further evidence of the plural forms of organization in the business world. My examination of organizational embeddedness in a mix of hierarchical and informal relationships in the managed multisectoral network reinforces the argument about the plural forms of organization. It contributes to this research by suggesting that plural forms of organization happen not only in the business sector, but also across sectoral boundaries.

Although the claimed advantages of government’s reliance on the hybrid governance structure are numerous (i.e., administrative coordination, accountability, speed and flexibility, increased reach, specialization) (Goldsmith & Eggers, 2004), governing by network faces several challenges. One of the serious challenges is the previously-noted goal incongruence among disparate network organizations, particularly
between public and nonprofit social service providers and a for-profit NAO. The value differences between public and nonprofit service providers and for-profit managed care (commitment to clients’ well-being versus for-profit orientation) may mean that a well-coordinated continuum of services is not achievable to meet the multiple needs of SMI clients.

My study addresses the service integration issue by examining the relationship between organizational embeddedness and the social aspect of collaboration in a network of public service providers working as the agent of a for-profit principal. Following Putman’s (1993, 2001)’s argument that trust, norms, and reciprocity, built in civic associations and overlapping organizational affiliations, are vital signs of the stock of social capital in a community, I contend that trust, reputation, and influence are also important indicators of the stock of social capital in a public sector organizational community. In other words, if organizations trust their partners, admire each other’s work, and those highly trusted and highly reputable organizations are considered influential in a network, it is plausible to argue that the costs of mobilizing the network for collective action (in this case, service integration) will be lower than that in a network with low levels of trust, little respect for each other’s work, and no influentially leadership.

The positive and significant relationships between embeddedness (based on centrality) and trust and between embeddedness (based on centrality) and reputation in the public sector network provided evidence to demonstrate that the social capital in the public sector network was sustained despite the imposition of a for-profit organization
AMT) on the public sector network. Although most providers neither trusted nor
admired the for-profit organization (ABS) in the early days of the system, the insertion of
a powerful for-profit organization (ABS) might be a mixed blessing in disguise. Applying
Putnam’s (2000) proposition of bonding (exclusive) versus bridging (inclusive) social
capital to this hybrid governance structure, I argue that the public sector network had a
good stock of bonding social capital, as my previously noted positive and significant
relationships between embeddedness and trust and between embeddedness and reputation
indicated.

A significant contribution of Putnam’s work is that he recognized the limitations
of bonding social capital; namely, bonding social capital is inward-looking, parochial,
and only benefits those with internal access in a community. In the case of a public sector
network, there may be strong pockets of social capital here and there, but overall the
network is likely to be fragmented. Putnam (2000) called for bridging social capital in
such fragmented networks, defining bridging social capital as residing in ties that are
outward-looking and cut across social cleavages to acquire new resources or novel
information.

In my study, the sectoral boundary between the nonprofit and for-profit
organizations is equivalent to the social cleavages that bridging social capital spans.
Imposition of for-profit managed care on the public sector network is likely to have
added bridging social capital to the stock of social capital in the service provider network.
The ties to the for-profit organizations not only enabled network members to have access
to the resources possessed by for-profit organizations, but in its case management
activities, ABS was also likely to have broken the structural exclusiveness of bonding social capital in the public sector network. Although the relationships between embeddedness and organizational social performance indicators are stronger in the public-sector network than that in a mixed-sector network, such findings have to be interpreted in the context of the early stages of the newly-created managed multisectoral service network. As previously noted, the bonding social capital was strong in the pure public sector network and was likely to have contributed to the strong dislike and distrust of the for-profit organizations in the early days of the system. Frequent interaction with the for-profit organizations in a stable system over a long period of time, however, might legitimize the ties with the for-profit organizations for the nonprofits.

As Mary Robson, director of education for the Arizona Alliance for the Mentally Ill in Phoenix, was quoted in the Arizona Republic’s Feb 1, 2004 report on the $84 million profit ValueOptions made from its five-year contract with the Arizona Department of Health Services (Snyder & Steckner, Mental Health Agency $84 million in black, The Arizona Republic, Feb, 1, 2004), “If they (ValueOptions officials) are fulfilling that contract at the funding level the state is giving them, they’re doing what they’re supposed to do.” The report also noted that advocates and others, from emergency-room doctors and social-service providers, all say the system is more stable and improving. A 2002 state survey further indicates that ValueOptions has received the same patient-satisfaction rates as four other nonprofit mental health contractors in Arizona (Snyder & Steckner, Feb, 1, 2004). Under the new three-year (2004-2007) contract with a two-year renewal option, ValueOptions will provide 5 percent of its
annual after-tax net income as part of a “community reinvestment” for items such as training and scholarships. The company will be able to earn up to 1 percent of the contract’s potential value if it meets certain quality indicators (Synder & Steckner, ValueOptions wins contract for Valley mental-health care. The Arizona Republic. Feb 6, 2004).

The preceding observations about ValueOptions’ performance, although more anecdotal than systematic, and the provisions in the new contract, may signal a change of attitude toward ValueOptions in the public sector network. Adopting Human and Provan’s (2000) argument that network legitimacy, based on network as interaction, was essential for the early network evolution and success of a newly-created regional wood-products network, I suggest that when the ties with for-profit organizations are legitimized in the network, network members may work together more effectively under managed care to sustain the network advantage (trust, responsiveness, and flexibility). It is important to note that the preceding suggestion is tentative, and more research on the evolution of the network will be needed.

Another indicator of the bonding and bridging social capital in the mixed-sector network is the extensive involvement of the for-profit organization’s involvement in cliques. The for-profit ABS was involved in 3 information sharing and 13 referrals cliques, on average an agency was involved in 2 information sharing and 7 referral cliques (see Appendix Table B.8). ABS’s low trustworthiness and reputation score in the early days of the system, coupled with its extensive involvement in cliques in information sharing and referral network, may have rendered cliques no longer what Coleman (1990)
considered the closed network structures conducive to emergence of effective norm, trust, and informal sanctioning. To the extent that ABS and nonprofit clique members have different value orientations and ABS has control over nonprofit clique members in case management activities, such conditions may not be the best condition to build trust and reputation in the mixed-sector network and may have contributed to the non-significant relationships between embeddedness (based on centrality, which are highly correlated with clique memberships) and trust and between embeddedness and reputation.

Relatedly, organizational network researchers have primarily examined collaboration in naturally occurring horizontal networks (Adler & Kwon, 2002), but an increasingly important arena for collaboration research is the managed organizational networks. The differences between the two types of networks are often characterized as bottom-up versus top-down approach to collaboration. A critical issue for the success of the top-down approach is whether collaboration in a horizontal network can be facilitated by formal institutions such as government structure, legal rules, or network administrative organization. My empirical results provided preliminary evidence to show that collaboration is not necessarily antithetic to the element of hierarchical control in a managed network. For example, the dense referral and information sharing networks that are much more connected than the funding network speak volumes about the resilience of inter-agency collaboration. These results support other researchers’ belief that formal institutions such as governance structure and legal rules do play a role in facilitating or impeding the emergence and maintenance of social capital in civil society (Evans, 1996; Ostrom & Walker, 1994).
Due to the cross-sectional nature of my study, I am not able to say whether the hierarchically organized funding network facilitated or impeded inter-agency collaboration in the public network. However, my empirical findings did suggest that social capital, embodied in information sharing, referral, and influence ties, co-existed with the hierarchical elements (contracts, referral, and influence) in the network.

The co-existence of bottom-up and top-down relationships can be explained by Oliver’s (1991) argument that organizations are likely to use a pacifying, or compromise, strategy to respond to conflicting institutional pressures. An organization that employs pacifying tactics typically mounts a minor level of resistance to institutional pressures, but devotes most of its energies to appeasing or placating the institutional source or sources it has resisted (Oliver, 1991: 154). To the extent that public and nonprofit providers were subject to the normative pressure to help their clients and the resource pressure to seek cost effectiveness, I argue that those providers were faced with sometimes conflicting institutional demands because the normative pressure entails the placement of client care as a more important consideration than cost considerations and the resource pressure requires the placement of cost effectiveness at the core of client care. Consistent with Oliver’s (1991) prediction, the nonprofit organizations recognized the for-profit organization (ValueOptions) as the most influential organizations in the network, but the minor level of resistance those providers mounted was to give the for-profit organizations low ratings of the trustworthiness and reputation for service quality in the network.
My finding of public and nonprofit organizations’ extensive involvement with each other in those client-centered relationships such as information sharing, reputation, referral and influence ties demonstrate nonprofit’s normative commitment to clients’ well-being. At the same time, these nonprofit service providers were also involved with the for-profit case management agency in the same relationships. Such accommodation tactics to achieve parity between normative demands and external expectations (e.g., for-profit case management organization demands for increased efficiency versus normative pressure to meet clients’ service needs) are consistent with Alexander’s (1996) research on American museums. Alexander found that managers of large American museums, pressured by institutional funders (corporations, foundations, and government organizations) to increase popularity and accessibility of art exhibitions, did not mount masses of low-quality but popularly appealing shows. Rather, curators made the format of the exhibitions more accessible to the general public and more appealing to the funders (e.g. traveling blockbuster exhibitions, theme exhibitions) but changed little in the variety of artistic contents of these shows. Thus, museums curators maintained their professional autonomy and retained their legitimacy as guardians of houses of high culture.

Similar to the situation described above, nonprofits need to maintain legitimacy as providers of quality care in the eyes of staff, volunteers, other funders, and mental health advocates. This is the normative pressure. The coercive pressure comes from the resource dependency of nonprofit providers on the for-profit managed care organization. Although nonprofits tended to view the for-profit case management organization (ABS) with distrust and little respect in the early days of the system, it is plausible that nonprofits
accepted the central role of for-profit managed care in influence and referral relationships as a necessary step to preserve even more valuable norm-driven activities (reputation for high-quality service, client-centered information sharing), which were still dominated by nonprofit organizations. A caveat to the preceding observation is that it is purely speculative, with qualitative data such as interviews with key service providers needed to needed to verify the conclusions.

Thus, contrary to the predictions of institutional theory, which advocates environmental determinism in terms of institutional isomorphism, public and nonprofit service providers’ compromise strategy of engaging the for-profit managed care organizations in referrals and influence ties suggest strategic management of environmental pressures. This tactic buffered information sharing and reputation ties from the coercive institutional pressures (DiMaggio & Powell, 1983; Oliver, 1991) and kept the public and nonprofit service providers’ autonomy and normative commitment to client-centered collaboration. This interpretation opens the possibility that organizational actors and institutional structure interact in dialectic way: institutional pressures can be in conflict with each other, and organization actors can strategically manage external pressures to maintain their professional autonomy and legitimacy. In this case, strategic buffering may work in the early period of institutional change. Once the institutional change (for-profit managed care) gains legitimacy in the network, organizations may no longer need strategic buffering since for-profit managed care organizations are likely to play a more prominent role in the reputation and information sharing network. I do not have data to test this change, and more studies of evolution of the network located in the
middle of institutional change is needed to understand the impact of institutional changes on network dynamics.

IMPLICATIONS

My study has strong implications for public policy making and practitioners in the health and human service sectors. For practitioners, the knowledge of how organizational embeddedness is related to organizational social performance will help a nonprofit organization make better decisions in their management of inter-organizational relationships. Specifically, the imposition of for-profit managed care may not be as sinister as nonprofit organizations originally thought. This observation is supported by the sustained social capital in the public sector network. Also, since the for-profit managed care organization will manage the network for a long while, it might help nonprofit organizations to abandon some of the stereotypes, admittedly comprising half-truth and half-biases, and take advantage of the opportunity to build good collaborative relationships with the for-profit managed care company, acquiring new resources and information to improve its operation. This does not necessarily mean a nonprofit organization is co-opted by the for-profit managed care. Rather, a nonprofit service provider can use its bridging ties with the for-profit organization to improve services to clients and spread the new resources among its bonding ties to other nonprofits.

For public policy makers, the main finding of this work, the social capital is sustained in the public sector network but not in the mixed-sector network, suggests that policy makers be aware of the possible degrading of the stock of social capital in the
managed mixed-sector organizational networks after government agencies hire business firms to manage the delivery of public funded services. This knowledge may help policy makers come up with more effective regulations and monitoring of quality of the work performed by the for-profit contractor to increase its trustworthiness and reputation in the eyes of the public network organizations.

LIMITATIONS

I see three major limitations to my current study. First, the cross-sectional network data captures the dynamic of a single network at only one point in time, at a time shortly after centralized network control was established. Undoubtedly, the network structure and its social capital will evolve and may be different from this early period after the introduction of centralized control. Thus, studying the changes in network structure and organizations’ social performance over several points in time would provide a more satisfying answer to the two research questions: (1) how is nonprofit versus for-profit organization’s embeddedness affected by the nature of ties? (2) how are organizational embeddedness in the mixed sector network and in the public sector network related to organizational social performance? To answer these two research questions, it is important to know: (1) whether ValueOptions gains legitimacy and acceptance in the mostly nonprofit provider community; specifically, whether its trustworthiness and reputation scores improve over time, (2) whether its participation in the client-centered information sharing network is broadened. As noted previously, client-centered information sharing ties are largely driven by the normative pressure to
collaborate to promote clients’ well-being. The expanded involvement of the for-profit case management agency in this norm-driven network may signal the legitimation of ties with ABS in the mostly nonprofit network.

Second, the small sample size of the current study weakened the power of statistical tests, making them less likely to detect significant relationships. In the data for the pure sector network, I did find strong significant results across-the-board for the relationships between embeddedness and social performance indicators. This provided preliminary evidence to support that argument that the social capital in the horizontal network is sustained despite the imposition of for-profit managed care on the system.

Third, this study relied primarily on quantitative data to answer the two general research questions. Qualitative data such as interviews with key providers will really help explain the results and the evolution of organizational embeddedness and its relationships to organizational social performance in the managed multi-sectoral network. It also will be helpful to collect qualitative data across different time points to see the evolution in provider’s perceptions and attitudes toward the system, the network, and the for-profit managed care organization.

FUTURE RESEARCH

As suggested in the discussion and limitation sections, a second wave of data collection on the managed multi-sectoral service system will offer a wonderful opportunity to compare the second wave with the current study and study the evolution of organizational embeddedness and social capital in the network. It is also important to
move beyond the area of mental health and compare the managed multi-sectoral service system with a managed public sector system in which a public or nonprofit organization plays the role of NAO. Comparative research on multiple networks (for-profit NAO versus nonprofit NAO) conducted at multiple points in time will provide a wonderful opportunity to answer one important question: Does for-profit or nonprofit administration of a centrally governed network make a difference in terms of organizational embeddedness and social capital in the network? Will the form of social capital be different under nonprofit governance than for-profit governance?

A related future research direction is to explore the linkage between organizational embeddedness and organizational task performance effectiveness, which can be measured by client outcomes. This study only looks at the linkage between embeddedness and social performance. Organizational research on embeddedness has focused on the performance benefits of embeddedness in the private sector and in the public sector. Less is known about the task performance implications of embeddedness in a managed multi-sectoral service network. The issue of task performance is of great policy import because the ideal hybrid organization is expected to combine the strength of hierarchical control (accountability and administrative coordination) and the strength of networks (flexibility, trust, and responsiveness), which will logically lead to improved client outcomes.

In conclusion, this study found that organizational embeddedness in different types of network relationships in a centrally governed mixed-sector network was contingent on the degree of formality of the relationship as well as the ownership status
of network organizations. Based on the OLS regression analysis of the hypothesized relationship between organizational embeddedness and organizational social performance, I also found (1) organizational embeddedness (based on centrality) was positively and significantly related to trust, reputation, and influence in the public sector network. In the mixed-sector network organizational embeddedness (based on centrality) was significantly related to influence only, and (2) organizational embeddedness (based on multiplexity) was positively and significantly related to trust in the public sector network, but only had a marginal relationship to trust in the mixed-sector network. These findings indicate that organizational embeddedness and its social consequences are highly contingent on the context—degree of formality of relationships, ownership status of network organizations, and ownership status of the whole network.

Such a contingent view on organizational embeddedness raises an important theoretical question: Is a general theory of embeddedness sufficient to explain the relationship between embeddedness and social outcomes or is a contingent theory of network embeddedness needed? More research on embeddedness in different configurations of centrally governed networks (nonprofit governance vs. for-profit governance, mixed-sector networks vs. public/private-sector networks) and across multiple time points in the evolution of networks is needed to shed more light whether a contingent theory of network embeddedness would be beneficial and exactly what such a theory should look like.
APPENDIX A

DATA COLLECTION AND SUBJECT SOLICITATION INSTRUMENTS
APPENDIX A1: COVER LETTER

Date:

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

Dear:

We would like to request your assistance as part of a research project we are conducting on the system of services for adults with serious mental illness (SMI) in Maricopa County. The project has been funded from grants provided by the Substance Abuse and Mental Health Services Administration’s Center for Mental Health Services. We are the principal investigators for the grant and two doctoral students, Rachel Petty and Melissa Fry, are assisting us. Dr. Michael R. Zent, CEO of the Maricopa RHBA, has endorsed the study. Since we will need your support and cooperation, we would like to give you a brief overview of what the project will entail.

The project involves a study of the organization, management, and governance of the service delivery networks for adults with serious mental illness in Maricopa County, and how these activities are evolving. One of the reasons a study like this is so important at the present time is that, other than the crisis system, few major changes have been made to the services for individuals with serious mental illness since ValueOptions became the Maricopa RBHA. Our study will provide a baseline of where the system is now. We plan to collect data from the all of the health and human service agencies that provide a broad range of needed services to the SMI population (mental health, substance abuse, physical health, housing, vocational rehabilitation, recreation, legal/police, etc.). We then plan to conduct a follow-up study in about 18 months to see how the system has changed.

In general, we are interested in learning how ValueOptions and the providers collaborate with one another and how ValueOptions manages the provider network under conditions of financial risk. To get the agency-level data we need, we are requesting your cooperation. Specifically, we would like you, or someone in your agency who is very familiar with the services your agency provides to adult SMI clients, to complete the enclosed questionnaire. This questionnaire requests information on basic agency characteristics (types of services provided, budget, number of adult SMI clients served, etc.) as well as information on the links you have with other agencies through shared information, service contracts, and referrals. The questionnaire should take no more than 30 to 40 minutes to complete, depending on whether certain requested data is readily available. One of the members of our research team will be contacting you in the next two weeks to discuss the questionnaire and to answer any questions you may have.
We have worked with provider agencies in Pima County and in other parts of the country since the early 1990s. We have maintained good relations with these agencies and have always made a point to share our findings with them through papers and presentations. Our preliminary findings from this study should be available to report back to you and the other participants by late 2000 or early 2001.

Thank you very much for considering this request. We want to assure you that any questions that call for your judgment on how well or poorly the system is functioning will be held in strictest confidence. We hope that you will decide to collaborate with us. If we can provide any further information about this project, we would be happy to do so. If you have any problems completing the questionnaire, please don’t hesitate to call or email us using the numbers listed below. If you have questions concerning your rights as a research subject, please call the University of Arizona Human Subjects Committee office at 520-626-6721.

Sincerely,

H. Brinton Milward
Director and McClelland Professor
Phone: (520) 621-7476
Email: bmilward@bpa.arizona.edu

Keith G. Provan
Professor
Phone: (520) 621-1950
Email: kprovan@bpa.arizona.edu
APPENDIX A 2: SURVEY

Your Organization: _______________________

What is your position/job title? _______________________

General Information

To start, please indicate the size of your agency for each category listed below. It is fine to estimate if exact figures are not available.

1. What is the total number of full-time equivalent employees in your agency/organization? _______________________

2. What is the total number of employees working at least half time on services or programs for adults with serious mental illness in your agency? _______________________

3. Approximately how many adults with serious mental illness does your agency serve on a “typical” day? _______________________

4. At how many different Maricopa County sites/locations does your agency offer services to SMI adults? _______________________

5. Approximately what percent of your adult SMI clients do you also treat for drugs and/or alcohol abuse? _______________________

6. What was your agency’s total budget in each of the past three fiscal years (i.e. for programs and services in all areas, not just adult SMI)?

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<thead>
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<th>1998</th>
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7. Approximately what percentage of your total budget is devoted to the administration and delivery of services for adults with serious mental illness (SMI)? Since you may not have exact figures, please provide the best estimate you can.

   _____ % of budget for SMI services

8. Overall, how important would you say is the provision of services to adult SMI clients to the overall mission of your agency? Please use a scale ranging from 1 = very little importance, to 7 = great importance.

   Importance = _______ (rate 1 to 7)

   Services Provided

9. Following is a list of adult SMI services. Please go through the list and indicate those services that your organization has been providing to SMI adults over the past six months or so. If you provide services that are not listed, please indicate these in the “other” category. Please respond in the space to the left of each service listed by giving your best estimate as to the percent of your agency’s total adult SMI resources devoted to that service area. The percent figures should add up to 100%.

   _____ % A. Crisis Care (short-term emergency services and stabilization)

   _____ % B. Inpatient Psychiatric Care (for more than 24 hour stays)

   _____ % C. Case Management (on-going assistance and coordination services for individual clients to help them gain access to and coordinate social, medical, residential, vocational, educational, legal, and other services provided by organizations other than yours)

   _____ % D. Psycho-Social Rehabilitation (vocational counseling, training, building daily living skills, transitional employment, etc.)

   _____ % E. Residential (services that support independent living and provide residential alternatives)

   _____ % F. Clinical Maintenance (traditional clinical mental health services like counseling, medication, diagnostic/psychiatric evaluation, etc.)

   _____ % G. Community Education, Referral, and/or Consumer Advocacy

   _____ % H. Legal and Criminal Justice

   _____ % I. Non-Psychiatric Medical (diagnosis, prescription, and treatment)

   _____ % J. Substance Abuse (treatment & prevention)

   _____ % K. Social Services (Processing entitlements – foodstamps, AHCCCS, etc., and provision of basic needs – food, financial, transportation, recreation, etc.)

   _____ % L. Other Services (please list if necessary)
Links to Agencies Serving SMI Adults in Maricopa County

10. Listed below are all agencies in Maricopa County that we believe are involved in some way in the provision of services to adults (age 18 and older) with serious mental illness. Although these individuals are on the client roles of ValueOptions and are case managed by ABS, they are also served by many other health and human service agencies in the community. We would like to know what links or ties your agency maintains with the other agencies on the list when serving SMI clients.

We have listed four types of involvement your agency might have with other agencies for provision of adult SMI services. These include links through formal service contracts with another agency, through exchange of information only, or through referrals (either sent or received or both, but no formal contract). Referrals would include any routine sending and/or receiving of adult SMI clients from one agency to another. However, please focus only on referral activity that occurs with some regularity between your agency and the agency listed. Referrals can be part of a joint program you may have or a simple exchange of clients.

Please go through the list and indicate (with a ✓) which agencies your organization has been involved with for the provision of services to adult SMI clients over the past 6 months or so for each of the four types of relationships listed. If you had no involvement with an agency regarding adult SMI services, leave the space blank.

In the last column, we would like you to rate the overall quality of your agency’s working relationship with this other agency. Please circle the number that best reflects relationship quality using the following scale:

1 = poor relationship  2 = fair relationship  3 = good relationship  4 = excellent relationship

Again, if you had no relationship with an agency regarding adult SMI services, simply leave the cell blank. At the end, please add any agencies we may have missed and indicate the types of links you had with them.

<table>
<thead>
<tr>
<th>AGENCIES</th>
<th>Types of Links – past 6 months (Check ✓ the box if you had this link)</th>
<th>Relationship Quality</th>
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<tbody>
<tr>
<td></td>
<td>Service Contracts</td>
<td>Shared Information</td>
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<tr>
<td>ABS</td>
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<tr>
<td>Advocates for the Disabled</td>
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<td>AHCCMS</td>
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<tr>
<td>Arizona Alliance for the Mentally Ill</td>
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<td>Arizona Center for Disability Law</td>
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<td>Arizona State Hospital (ASH)</td>
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<tr>
<td>Behavioral Health Systems</td>
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<tr>
<td>Calvary Rehabilitation Center, Inc.</td>
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<tr>
<td>Casa de Amigas</td>
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<tr>
<td>Catholic Social Services of C/N Arizona</td>
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<tr>
<td>Center Against Sexual Abuse</td>
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<tr>
<td>Center for Behavioral Health Inc.</td>
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<td>Centro de Amistad</td>
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<td>Chrysalis Shelter</td>
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<td>Community Medical Services Inc.</td>
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<tr>
<td>Del E Webb Memorial Hospital</td>
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<td>Developmental Systems</td>
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<td>Devereux Arizona</td>
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<td>Dial-A-Ride</td>
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<td>Ebony House, Inc.</td>
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<td>Empact Suicide Prevention Center, Inc.</td>
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<tr>
<td>Family Service Agency</td>
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<td>Foundation for Senior Living DBA</td>
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<tr>
<td>Friendship Village – Partial Hosp. Program</td>
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<td>Good Shepherd Lutheran Home of the West</td>
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<td>Intensive Treatment Systems</td>
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<td>Jewish Family and Children’s Services</td>
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<td>Marc Center</td>
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<td>Maricopa County Adult Probation</td>
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<tr>
<td>Maricopa County Jail—Psychiatric Unit</td>
<td></td>
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<td></td>
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<tr>
<td>Maricopa Medical Center</td>
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<tr>
<td>Mark Allen Manor Foundation, Inc.</td>
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<td></td>
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<tr>
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<td></td>
<td></td>
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<tr>
<td>Mesa Behavioral Health Institute/Mesa Lutheran Hospital</td>
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<tr>
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<td>PREHAB of Arizona</td>
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<td>Presbyterian Service Agency</td>
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<tr>
<td>RSA – Vocational Rehabilitation</td>
<td></td>
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<tr>
<td>Safe Ride</td>
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<td>Saint Luke’s Behavioral Health System of AZ</td>
<td></td>
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<tr>
<td>Samaritan Behavioral Health Center/Good Samaritan Regional Medical Center</td>
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<td>SELFH</td>
<td></td>
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<td>Sonora Quest Labs</td>
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<tr>
<td>SOON</td>
<td></td>
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<tr>
<td>Southwest Behavioral Health Services</td>
<td></td>
<td></td>
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<tr>
<td>Superstition Mountain Mental Health Center</td>
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<td>Survivors United</td>
<td></td>
<td></td>
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<tr>
<td>Terros, Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toby House, Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TriCity Behavioral Services, Inc.</td>
<td></td>
<td></td>
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<tr>
<td>Triple R Behavioral Health, Inc.</td>
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<td>Valle del Sol</td>
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<td></td>
</tr>
<tr>
<td>ValueOptions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veterans Affairs (VA) Medical Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youth Development Institute</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Agencies:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Additional Involvement Information

11. Now, please go back through your answers to the previous question and indicate which links have been most critical to your agency. To do this, simply circle the check marks you made for those links that you believe are especially important. Please circle no more than five (5) check marks for each type of involvement (i.e. the 5 most important service contracts, the 5 most important referrals sent, etc.).

12. The following is a list of potential reasons why you and your agency might normally choose to be involved with another agency for provision of services to SMI adult clients. Please go through the list and rate each one as to the importance of that reason. Circle the number that corresponds to your reason using the following scale:
   1 = almost never the reason for involvement
   2 = seldom the reason
   3 = sometimes the reason
   4 = often the reason
   5 = almost always the reason for involvement

a. Personal friendship
b. Reputation of the agency
c. Similar beliefs and methods of treatment
d. Habit/tradition
e. Location
f. Service needs of clients
g. Required by mandate
h. Contract requirements
i. Outside pressure
j. To improve efficiency
k. Other:

13. Because most agencies are involved with other organizations in one way or another, agencies must often consider these other organizations when making decisions. Please list up to five (5) organizations within the local community whose needs, goals, decisions, and/or expectations are generally taken into consideration by your agency when major decisions are made related to the services it provides to adults with serious mental illness. If you feel that your agency’s decisions about SMI services are affected by fewer than six other organizations, list only these.

a. 

b. 

c. 

d. 

e. 

14. In dealing with adult SMI clients, which agencies in the community do you believe have professional norms, values, and methods that are most similar to yours? These agencies need not provide the same services as your agency. Rather, they are agencies that may have professional staff with similar training to yours, similar SMI treatment philosophies, etc. Please list up to five such agencies. Use the list in question 10 if it helps.

a. 

b. 

c. 

d. 

e. 

15. Next, we would like to know which agencies, other than your own, you most admire for doing an especially good job of providing services to adult SMI clients. Again, please list up to five agencies below.

a. 

b. 

c. 

d. 

e. 

We would now like to get some information about the way the system/network for provision of services to SMI adults is managed and governed.

16. Do you, or any members of your agency staff, participate in regular meetings with and sponsored by ValueOptions about SMI services?  yes  no

17. If you answered ‘yes,’ how often are these meetings with ValueOptions generally held?  times/month

18. Do you, or any staff of your agency participate in regular meetings with ABS (not counting the ValueOptions-sponsored meetings covered in the previous questions)?  yes  no

19. If you answered ‘yes,’ how often are these meetings with ABS generally held?  times/month

20. Please list and/or describe any other mechanisms or approaches that have been used by ValueOptions to manage and coordinate the adult SMI system.

a. 

b. 

c. 

d. 

e. 

21. The following is a list of issues concerning the services your agency may be providing to SMI clients. Please go through the list, and for each, indicate how you believe your agency and its services have been affected since ValueOptions became the RBHA in 1999. Then, indicate how you expect the ValueOptions system will affect your agency’s adult SMI services and operations over the next two years. For each item, circle the number (1 to 5) that best matches your answer using the following scale:

1 = ValueOptions system has had/will have a **significant negative** impact on my agency
2 = The impact on my agency has been/will be **mostly negative**
3 = The impact on my agency has been/will be **pretty much neutral**
4 = The impact on my agency has been/will be **mostly positive**
5 = ValueOptions system has had/will have a **significant positive** impact on my agency

<table>
<thead>
<tr>
<th></th>
<th>Since 1999</th>
<th>Over Next 2 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Number of SMI services offered</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>b. Number of SMI clients we can serve</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>c. Quality of our SMI services</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>d. Controlling the cost of our SMI services</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>e. Coordinating SMI care with other agencies</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>f. Stabilizing the care of our SMI clients</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>g. Ease of client access to our services</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Other areas (please list)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>i.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

22. Next, we would like your opinion about the impact that ValueOptions has had (since 1999), and is likely to have (over the next 2 years), on the overall adult SMI service delivery system in Maricopa County (i.e., not just the impact on your agency, as in the last question). Again, circle the number that best matches your answer for each aspect of the overall SMI system, using the following scale:

1 = ValueOptions has had/will have a **significant negative** impact on the overall SMI system
2 = The impact on the overall SMI system has been/will be **mostly negative**
3 = The impact on the overall SMI system has been/will be **pretty much neutral**
4 = The impact on the overall SMI system has been/will be **mostly positive**
5 = ValueOptions has had/will have a **significant positive** impact on the overall SMI system

<table>
<thead>
<tr>
<th></th>
<th>Since 1999</th>
<th>Over Next 2 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Sound financial management</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>b. Stabilizing the system of care</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>c. Communication with the RBHA</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>d. Cooperation among providers</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>e. Minimizing politics in the system</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>f. Controlling the cost of SMI services</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>g. Enhanced funding for mental illness</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>h. Increasing availability of SMI services to all who need treatment</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>i. Case management</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>j. Ease of client access to needed services</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>k. Quality of services offered</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>l. Meeting needs of dually diagnosed</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Other aspects of the SMI system (please list)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>n.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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</tbody>
</table>

23. Please use the reverse side to add any additional thoughts you may have on the ValueOptions system and how it might affect delivery of care and treatment for SMI adults in Maricopa County.
APPENDIX B

ORGANIZATIONAL PROFILES
TABLE B.1.
Provider Acronyms and Sectoral Affiliation

<table>
<thead>
<tr>
<th>Agency Name</th>
<th>Acronym</th>
<th>Sectoral Affiliation</th>
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<tbody>
<tr>
<td>ABS of Arizona</td>
<td>ABS</td>
<td>for-profit</td>
</tr>
<tr>
<td>Advocates for the Disabled</td>
<td>ADV</td>
<td>nonprofit</td>
</tr>
<tr>
<td>AHCCMS</td>
<td>AHCC</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Arizona Alliance for the Mentally Ill</td>
<td>AAMI</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Arizona Center for Disability Law</td>
<td>LAW</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Arizona State Hospital</td>
<td>ASH</td>
<td>public</td>
</tr>
<tr>
<td>Behavioral Health Systems</td>
<td>BHS</td>
<td>for-profit</td>
</tr>
<tr>
<td>Center Against Sexual Abuse</td>
<td>CASA</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Developmental Systems Inc</td>
<td>DSI</td>
<td>for-profit</td>
</tr>
<tr>
<td>Devereux Adult SMI Services of Arizona</td>
<td>DEVER</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Ebony House Inc</td>
<td>EBONY</td>
<td>nonprofit</td>
</tr>
<tr>
<td>EMPACT - SPC</td>
<td>EMP</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Family Services Agency</td>
<td>FSA</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Foundation for Senior Living</td>
<td>SEN</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Intensive Treatment Systems</td>
<td>ITS</td>
<td>for-profit</td>
</tr>
<tr>
<td>Marc Center</td>
<td>MARC</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Maricopa County Adult Probation</td>
<td>PROB</td>
<td>public</td>
</tr>
<tr>
<td>Maricopa County Jail</td>
<td>MCJ</td>
<td>public</td>
</tr>
<tr>
<td>Maricopa Medical Center</td>
<td>MED</td>
<td>public</td>
</tr>
<tr>
<td>Mental Health Assoc of Arizona</td>
<td>MHAA</td>
<td>nonprofit</td>
</tr>
<tr>
<td>META Services Inc.</td>
<td>META</td>
<td>nonprofit</td>
</tr>
<tr>
<td>New Arizona Family</td>
<td>NEWAZ</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Northwest Orgzation of Voluntary Alternatives</td>
<td>NOVA</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Phoenix Shanti Group</td>
<td>SHANTI</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Presbyterian Service Agency</td>
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<td>nonprofit</td>
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<tr>
<td>RSA - Vocational Rehabilitation</td>
<td>RSA</td>
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<td>St. Luke's Behavioral Health Center</td>
<td>LUKE</td>
<td>nonprofit</td>
</tr>
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<td>SELFff Inc</td>
<td>SELF</td>
<td>nonprofit</td>
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<td>Survivors On Our Own</td>
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<td>nonprofit</td>
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<tr>
<td>Southwest Behavioral Health Services</td>
<td>SWBH</td>
<td>nonprofit</td>
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<td>Toby House</td>
<td>TOBY</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Tri City Behavioral Services Inc</td>
<td>TRIC</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Agency Name</td>
<td>Acronym</td>
<td>Sectoral Affiliation</td>
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<tr>
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<tr>
<td>Triple R Behavioral Health Inc</td>
<td>RRR</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Valle del Sol</td>
<td>VALL</td>
<td>nonprofit</td>
</tr>
<tr>
<td>Value Options</td>
<td>VOPT</td>
<td>for-profit</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>s.d.</td>
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<tr>
<td>--------------------------------</td>
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<tr>
<td>Total # of Full Time Equivalent Employees</td>
<td>259</td>
<td>628</td>
</tr>
<tr>
<td>Total # SMI Employees (&gt;=half-time)</td>
<td>72</td>
<td>158</td>
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<tr>
<td># SMI clients per day</td>
<td>82</td>
<td>128</td>
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<tr>
<td># SMI service sites</td>
<td>5</td>
<td>5</td>
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<tr>
<td>% SMI treated for substance abuse</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total budget FY 1998</td>
<td>$10973278</td>
<td>$32680498</td>
</tr>
<tr>
<td>Total budget FY 1999</td>
<td>$13606191</td>
<td>$35230623</td>
</tr>
<tr>
<td>Total budget FY 2000</td>
<td>$14864611</td>
<td>$39273670</td>
</tr>
<tr>
<td>Percentage of total budget devoted to SMI</td>
<td>33%</td>
<td>0.33</td>
</tr>
<tr>
<td>Overall importance of SMI service to agency *</td>
<td>6</td>
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</table>

N = 35

* Scale ranging from 1=very little importance to 7=great importance.
TABLE B.3
Type of Services Provided to SMI adults in the Maricopa System.

<table>
<thead>
<tr>
<th>Service</th>
<th># Agencies providing each service</th>
<th># Agencies with significant service emphasis*</th>
<th>Proportion of overall service emphasis for all agencies**</th>
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<tbody>
<tr>
<td>Crisis Care</td>
<td>7</td>
<td>5</td>
<td>8.19%</td>
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<tr>
<td>Inpatient Psychiatric Care</td>
<td>5</td>
<td>4</td>
<td>8.23%</td>
</tr>
<tr>
<td>Case Management</td>
<td>11</td>
<td>5</td>
<td>6.24%</td>
</tr>
<tr>
<td>Psycho-Social Rehabilitation</td>
<td>13</td>
<td>7</td>
<td>7.08%</td>
</tr>
<tr>
<td>Residential</td>
<td>11</td>
<td>9</td>
<td>18.27%</td>
</tr>
<tr>
<td>Clinical Maintenance</td>
<td>14</td>
<td>6</td>
<td>9.79%</td>
</tr>
<tr>
<td>Community Education/Advocacy</td>
<td>13</td>
<td>3</td>
<td>8.11%</td>
</tr>
<tr>
<td>Legal and Criminal Justice</td>
<td>6</td>
<td>2</td>
<td>2.67%</td>
</tr>
<tr>
<td>Non-Psychiatric Medical</td>
<td>4</td>
<td>1</td>
<td>1.72%</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>16</td>
<td>9</td>
<td>15.09%</td>
</tr>
<tr>
<td>Social Services</td>
<td>11</td>
<td>1</td>
<td>3.11%</td>
</tr>
<tr>
<td>OTHER</td>
<td>7</td>
<td>6</td>
<td>11.50%</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>9.83</td>
<td>4.83</td>
<td></td>
</tr>
</tbody>
</table>

Average # of categories reported by each agency  3.37
Average # of critical categories reported by each agency  2.44

N=35

* Significant service emphasis defined as at least 10% of total resources expended in category
** Proportions are determined by the cumulative percentages reported by each agency in each category to the total of all percentages in that category.
TABLE B.4

Trust / Quality of Inter-Agency Relationships (N=36)

<table>
<thead>
<tr>
<th>Agency</th>
<th>Acronym</th>
<th>Average Quality *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Health Systems</td>
<td>BHS</td>
<td>2.33</td>
</tr>
<tr>
<td>Tri City Behavioral Services Inc</td>
<td>TRIC</td>
<td>2.50</td>
</tr>
<tr>
<td>ABS of Arizona</td>
<td>ABS</td>
<td>2.65</td>
</tr>
<tr>
<td>ValueOptions</td>
<td>VOPT</td>
<td>2.82</td>
</tr>
<tr>
<td>Devereux Adult SMI Services of Az</td>
<td>DEVER</td>
<td>2.91</td>
</tr>
<tr>
<td>SELFF Inc</td>
<td>SELF</td>
<td>2.91</td>
</tr>
<tr>
<td>Advocates for the Disabled</td>
<td>ADV</td>
<td>2.95</td>
</tr>
<tr>
<td>AHCCMS</td>
<td>AHCC</td>
<td>3.00</td>
</tr>
<tr>
<td>Center Against Sexual Abuse</td>
<td>CASA</td>
<td>3.00</td>
</tr>
<tr>
<td>Developmental Systems Inc</td>
<td>DSI</td>
<td>3.00</td>
</tr>
<tr>
<td>Foundation for Senior Living</td>
<td>SEN</td>
<td>3.00</td>
</tr>
<tr>
<td>Intensive Treatment Systems</td>
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<td>MARC</td>
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</tr>
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<td>------------------</td>
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<td>SOON</td>
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</tr>
<tr>
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<td>LUKE</td>
<td>3.55</td>
</tr>
<tr>
<td>Mean:</td>
<td></td>
<td>3.1</td>
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</table>

* 1 = poor relationship, 2=fair relationship, 3=good relationship, 4=excellent relationship
TABLE B.5

Agency Influence Score

<table>
<thead>
<tr>
<th>Agency</th>
<th>Acronym</th>
<th>Influence frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Options</td>
<td>VOPT</td>
<td>22</td>
</tr>
<tr>
<td>ABS of Arizona</td>
<td>ABS</td>
<td>15</td>
</tr>
<tr>
<td>Value Options/ABS Combined</td>
<td>VOBT/ABS</td>
<td>23</td>
</tr>
<tr>
<td>Az Center for Disability Law</td>
<td>LAW</td>
<td>4</td>
</tr>
<tr>
<td>Maricopa County Adult Probation</td>
<td>PROB</td>
<td>4</td>
</tr>
<tr>
<td>META Services Inc.</td>
<td>META</td>
<td>4</td>
</tr>
<tr>
<td>Az Alliance for the Mentally Ill</td>
<td>AAMI</td>
<td>3</td>
</tr>
<tr>
<td>Behavioral Health Systems</td>
<td>BHS</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Justice System</td>
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<td>3</td>
</tr>
<tr>
<td>RSA - Vocational Rehabilitation</td>
<td>RSA</td>
<td>2</td>
</tr>
<tr>
<td>Southwest Behavioral Health Services</td>
<td>SWBH</td>
<td>2</td>
</tr>
<tr>
<td>Crisis Provider</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Court Monitor</td>
<td></td>
<td>2</td>
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<td>Maricopa County Jail</td>
<td>MCJ</td>
<td>2</td>
</tr>
<tr>
<td>Tri City Behavioral Services Inc</td>
<td>TRIC</td>
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</tr>
<tr>
<td>Triple R Behavioral Health Inc</td>
<td>RRR</td>
<td>1</td>
</tr>
</tbody>
</table>

N=39*
* Three actors (criminal justice system, crisis provider, and court monitor) outside of the 36 agencies network were reported as being influential.

** The table does not include the 21 agencies that received 0 reports of being influential.
### TABLE B.6
Agency Reputation Scores

<table>
<thead>
<tr>
<th>Agency</th>
<th>Acronym</th>
<th>Reputation frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triple R Behavioral Health Inc</td>
<td>RRR</td>
<td>12</td>
</tr>
<tr>
<td>Southwest Behavioral Health Services</td>
<td>SWBH</td>
<td>7</td>
</tr>
<tr>
<td>Toby House</td>
<td>TOBY</td>
<td>5</td>
</tr>
<tr>
<td>Az Alliance for the Mentally Ill</td>
<td>AAMI</td>
<td>3</td>
</tr>
<tr>
<td>EMPACT – SPC</td>
<td>EMP</td>
<td>3</td>
</tr>
<tr>
<td>META Services Inc.</td>
<td>META</td>
<td>3</td>
</tr>
<tr>
<td>Northwest Organization of Voluntary</td>
<td>NOVA</td>
<td>3</td>
</tr>
<tr>
<td>Alternatives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TERROS</td>
<td>TERR</td>
<td>3</td>
</tr>
<tr>
<td>ABS of Arizona</td>
<td>ABS</td>
<td>2</td>
</tr>
<tr>
<td>Az Center for Disability Law</td>
<td>LAW</td>
<td>2</td>
</tr>
<tr>
<td>Family Services Agency</td>
<td>FSA</td>
<td>2</td>
</tr>
<tr>
<td>Foundation for Senior Living</td>
<td>SEN</td>
<td>2</td>
</tr>
<tr>
<td>Marc Center</td>
<td>MARC</td>
<td>2</td>
</tr>
<tr>
<td>New Az Family</td>
<td>NEWAZ</td>
<td>2</td>
</tr>
<tr>
<td>Value Options</td>
<td>VOPT</td>
<td>2</td>
</tr>
<tr>
<td>Advocates for the Disabled</td>
<td>ADV</td>
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</tr>
<tr>
<td>AHCCMS</td>
<td>AHCC</td>
<td>1</td>
</tr>
<tr>
<td>Devereux Adult SMI Services of Az</td>
<td>DEVER</td>
<td>1</td>
</tr>
<tr>
<td>Intensive Treatment Systems</td>
<td>ITS</td>
<td>1</td>
</tr>
<tr>
<td>Maricopa County Adult Probation</td>
<td>PROB</td>
<td>1</td>
</tr>
<tr>
<td>RSA - Vocational Rehabilitation</td>
<td>RSA</td>
<td>1</td>
</tr>
<tr>
<td>Survivors On Our Own</td>
<td>SOON</td>
<td>1</td>
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</table>

N=36*

*The table does not include the 14 agencies that received 0 reports of being admired.
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<tr>
<th>Agency</th>
<th>Acronym</th>
<th>Similarity frequency</th>
</tr>
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<tr>
<td>Southwest Behavioral Health Services</td>
<td>SWBH</td>
<td>7</td>
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<tr>
<td>META Services Inc.</td>
<td>META</td>
<td>6</td>
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<tr>
<td>TERROS</td>
<td>TERR</td>
<td>5</td>
</tr>
<tr>
<td>Value Options</td>
<td>VOPT</td>
<td>5</td>
</tr>
<tr>
<td>ABS of Arizona</td>
<td>ABS</td>
<td>4</td>
</tr>
<tr>
<td>Toby House</td>
<td>TOBY</td>
<td>4</td>
</tr>
<tr>
<td>Az Alliance for the Mentally Ill</td>
<td>AAMI</td>
<td>3</td>
</tr>
<tr>
<td>Marc Center</td>
<td>MARC</td>
<td>3</td>
</tr>
<tr>
<td>Maricopa Medical Center</td>
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<td>3</td>
</tr>
<tr>
<td>Advocates for the Disabled</td>
<td>ADV</td>
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<tr>
<td>EMPACT – SPC</td>
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<tr>
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<td>PROB</td>
<td>2</td>
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<tr>
<td>Northwest Organization of Voluntary</td>
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<td>2</td>
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<tr>
<td>Alternatives</td>
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<td></td>
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<td>Presbyterian Service Agency</td>
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<td>AHCCMS</td>
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<tr>
<td>Az Center for Disability Law</td>
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<tr>
<td>Behavioral Health Systems</td>
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<td>Devereux Adult SMI Services of Az</td>
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<td>Family Services Agency</td>
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<tr>
<td>Foundation for Senior Living</td>
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<tr>
<td>Intensive Treatment Systems</td>
<td>ITS</td>
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<tr>
<td>Phoenix Shanti Group</td>
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<td>RSA - Vocational Rehabilitation</td>
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N=36*

*The table does not include the 10 agencies that received 0 reports of being similar.
## TABLE B. 8

Agency Involvement in Number of Cliques

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Contract cliques</th>
<th>Information cliques</th>
<th>Referral cliques</th>
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<td>ADV</td>
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<td>AHCC</td>
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<td>0</td>
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</tr>
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<td>AAMI</td>
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<td>6</td>
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<td>LAW</td>
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</tr>
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<td>ASH</td>
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<td>0</td>
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<td>MCJ</td>
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<td>0</td>
<td>0</td>
</tr>
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<td>LUKE</td>
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<td>4</td>
<td>4</td>
</tr>
<tr>
<td>SELF</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>SOON</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>SWBH</td>
<td>0</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>TERR</td>
<td>0</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>TOBY</td>
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<td>1</td>
<td>1</td>
</tr>
<tr>
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<td>Information cliques</td>
<td>Referral cliques</td>
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<td>---------------------</td>
<td>-----------------</td>
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<td>1</td>
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<td>VO</td>
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<td>NA</td>
<td>NA</td>
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### TABLE B.9

Agencies’ Report of Reasons for Their Involvement with Another Agency*

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<th>Potential Reasons</th>
<th>Mean</th>
<th>s.d.</th>
</tr>
</thead>
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<tr>
<td>Personal friendship</td>
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<td>0.89</td>
</tr>
<tr>
<td>Reputation of the agency</td>
<td>3.75</td>
<td>0.97</td>
</tr>
<tr>
<td>Similar beliefs and methods of treatment</td>
<td>3.59</td>
<td>0.92</td>
</tr>
<tr>
<td>Habit/tradition</td>
<td>2.18</td>
<td>1.11</td>
</tr>
<tr>
<td>Location</td>
<td>2.93</td>
<td>1.16</td>
</tr>
<tr>
<td>Service needs of clients</td>
<td>4.57</td>
<td>0.57</td>
</tr>
<tr>
<td>Required by mandate</td>
<td>3.29</td>
<td>1.53</td>
</tr>
<tr>
<td>Contract requirements</td>
<td>3.43</td>
<td>1.54</td>
</tr>
<tr>
<td>Outside pressure</td>
<td>1.68</td>
<td>0.94</td>
</tr>
<tr>
<td>To improve efficiency</td>
<td>2.93</td>
<td>1.21</td>
</tr>
</tbody>
</table>

* scale ranging from 1= almost never the reason, to 5= almost always the reason
### TABLE B.10

Agencies’ Assessment of VO’s Impact on Their Adult SMI Services*

<table>
<thead>
<tr>
<th>List of Issues</th>
<th>Since 1999</th>
<th>Over Next 2 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of SMI services offered</td>
<td>2.70</td>
<td>2.89</td>
</tr>
<tr>
<td></td>
<td>1.17</td>
<td>1.34</td>
</tr>
<tr>
<td>Number of SMI clients we can serve</td>
<td>2.81</td>
<td>2.85</td>
</tr>
<tr>
<td></td>
<td>1.11</td>
<td>1.29</td>
</tr>
<tr>
<td>Quality of our SMI services</td>
<td>2.96</td>
<td>2.85</td>
</tr>
<tr>
<td></td>
<td>0.98</td>
<td>1.29</td>
</tr>
<tr>
<td>Controlling the cost of our SMI services</td>
<td>2.78</td>
<td>2.81</td>
</tr>
<tr>
<td></td>
<td>0.97</td>
<td>1.14</td>
</tr>
<tr>
<td>Coordinating SMI care with other agencies</td>
<td>2.70</td>
<td>2.70</td>
</tr>
<tr>
<td></td>
<td>0.99</td>
<td>1.27</td>
</tr>
<tr>
<td>Stabilizing the care of our SMI clients</td>
<td>2.48</td>
<td>2.70</td>
</tr>
<tr>
<td></td>
<td>1.19</td>
<td>1.30</td>
</tr>
<tr>
<td>Ease of client access to our services</td>
<td>2.58</td>
<td>2.88</td>
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<tr>
<td></td>
<td>1.17</td>
<td>1.39</td>
</tr>
</tbody>
</table>

*Response Scale:
1= significant negative impact
2= mostly negative impact
3= neutral impact
4= mostly positive impact
5= significant positive impact
<table>
<thead>
<tr>
<th>List of Issues</th>
<th>Since 1999 mean</th>
<th>s.d.</th>
<th>Over Next 2 Years mean</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound financial management</td>
<td>2.45</td>
<td>1.06</td>
<td>2.64</td>
<td>1.28</td>
</tr>
<tr>
<td>Stabilizing the system of care</td>
<td>2.03</td>
<td>0.94</td>
<td>2.71</td>
<td>1.21</td>
</tr>
<tr>
<td>Communication with the RBHA</td>
<td>3.03</td>
<td>1.05</td>
<td>3.18</td>
<td>1.19</td>
</tr>
<tr>
<td>Cooperation among providers</td>
<td>2.93</td>
<td>1.13</td>
<td>3.07</td>
<td>1.33</td>
</tr>
<tr>
<td>Minimizing politics in the system</td>
<td>2.38</td>
<td>1.08</td>
<td>2.61</td>
<td>1.31</td>
</tr>
<tr>
<td>Controlling the cost of SMI services</td>
<td>2.41</td>
<td>0.95</td>
<td>2.75</td>
<td>1.27</td>
</tr>
<tr>
<td>Minimizing politics in the system</td>
<td>2.28</td>
<td>1.07</td>
<td>2.75</td>
<td>1.46</td>
</tr>
<tr>
<td>Controlling the cost of SMI services</td>
<td>1.90</td>
<td>0.94</td>
<td>2.36</td>
<td>1.22</td>
</tr>
<tr>
<td>Increased funding for mental illness</td>
<td>2.00</td>
<td>0.85</td>
<td>2.36</td>
<td>1.23</td>
</tr>
<tr>
<td>Enhanced availability of SMI services</td>
<td>1.97</td>
<td>0.87</td>
<td>2.39</td>
<td>1.32</td>
</tr>
<tr>
<td>Case management</td>
<td>2.52</td>
<td>1.12</td>
<td>2.79</td>
<td>1.33</td>
</tr>
<tr>
<td>Quality of services offered</td>
<td>2.21</td>
<td>1.05</td>
<td>2.71</td>
<td>1.33</td>
</tr>
<tr>
<td>Meeting needs of dually diagnosed</td>
<td>2.21</td>
<td>1.05</td>
<td>2.71</td>
<td>1.33</td>
</tr>
</tbody>
</table>

*Response Scale:*
1 = significant negative impact
2 = mostly negative impact
3 = neutral impact
4 = mostly positive impact
5 = significant positive impact
1. What is the total number of full-time equivalent employees in your agency/organization?
   - Raw number reported was used

2. What is the total number of employees working at least half time on services or programs for adults with serious mental illness in your agency?
   - Raw number reported was used

3. Approximately how many adult clients with serious mental illness does your agency serve on a “typical day”?
   - Raw number reported was used

4. At how many different Maricopa County sites/locations does your agency offer services to SMI adults?
   - Raw number reported was used

5. Approximately what percent of your adult SMI clients do you also treat for drug and/or alcohol abuse?
   - Raw number reported was used

6. What was your agency’s total budget in each of the past three fiscal years (i.e., for programs and services in all areas, not just adult SMI)?
   - Raw number reported was used

7. Approximately what percentage of your total budget is devoted to the administration and delivery of services for adults with serious mental illness (SMI)? Since you may not have exact figures, please provide the best estimate you can.
   - Percentage reported was used

8. Overall, how important would you say is the provision of services to adult SMI clients to the overall mission of your agency? Please use a scale ranging from 1=very little important, to 7=great importance.
   - Rating reported was used
9. Following is a list of adult SMI services. Please go through the list and indicate those services that your organization has been providing to SMI adults over the past six months or so. If you provide services that are not listed, please indicate these in the “other” category. Please respond in the space to the left of each service listed by giving your best estimate as to the percent of your agency’s total adult SMI resources devoted to that service area. The percent figures should add up to 100%.

- In most cases the percentage reported were coded. However, in some cases, the percentages listed summed to more than 100%. The reported figures were normed to a 100% scale, maintaining the original proportions reported.

10. Links to Agencies Serving SMI Adults in Maricopa County.

- This question is the network portion of the survey. The coding process for this question is detailed in Chapter Four: Methodology.

11. Now, please go back through your answers to the previous question and indicate which links have been most critical to your agency. To do this, simple circle the check marks you made for those links that you believe are especially important. Please circle no more than five (5) check marks for each type of involvement (i.e., the 5 most important service contracts, the 5 most important referrals sent, etc.).

- The responses to this question have not been coded.

12. The following is a list of potential reasons why you and your agency might normally choose to be involved with another agency for provision of services to SMI adult clients. Please go through the list and rate each one as to the importance of that reason. Circle the number that corresponds to your reason using the following scale.

1=almost never the reason for involvement
2=seldom the reason
3=sometimes the reason
4=often the reason
5=almost always the reason for involvement.

- The Likert scale response circled was coded.
13. Because most agencies are involved with other organizations in one way or another, agencies must often consider these other organizations when making decisions. Please list up to five (5) organizations within the local community whose needs, goals, decisions, and/or expectations are generally taken into consideration by your agency when major decisions are made related to the services it provides to adults with serious mental illness. If you feel that your agency’s decisions about SMI services are affected by fewer than six other organizations, list only these.

- A matrix was made to record the responses of this question. Respondents were placed on the vertical axis and all agencies in the network were listed on the horizontal axis. A “1” was scored in the respondent’s row in the column pertaining to the named organization (s). This enables the analysis of which agencies named what other agencies, as well as how many times each agency was named.

14. In dealing with adult SMI clients, which agencies in the community do you believe have professional norms, values and methods that are most similar to yours? These agencies need not provide the same services as your agency. Rather, they are agencies that may have professional staff with similar training to yours, similar SMI treatment philosophies, etc. Please list up to five such agencies. Use the list in question 10 if it helps.

- A matrix was made to record the responses of this question. Respondents were placed on the vertical axis and all agencies in the network were listed on the horizontal axis. A “1” was scored in the respondent’s row in the column pertaining to the named organization (s). This enables the analysis of which agencies named what other agencies, as well as how many times each agency was named.

15. Next, we would like to know which agencies, other than your own, you most admire for doing an especially good job of providing services to adult SMI clients. Again, please list up to five agencies below.

- A matrix was made to record the responses of this question. Respondents were placed on the vertical axis and all agencies in the network were listed on the horizontal axis. A “1” was scored in the respondent’s row in the column pertaining to the named organization (s). This enables the analysis of which agencies named what other agencies, as well as how many times each agency was named.
16. Do you or any members of your agency staff participate in regular meetings with and sponsored by ValueOptions about SMI services? Yes, No.

- A “1” was scored if the response was “yes”, a “0” was scored if the response was no.

17. If you answered ‘yes,’ how often are these meetings with ValueOptions generally held? Times/month.

- Raw number reported was used.

18. Do you, or any staff of your agency participate in regular meetings with ABS (not counting the ValueOptions-sponsored meetings covered in the previous questions)? Yes, No.

- A “1” was scored if the response was “yes”, a “0” was scored if the response was no.

19. If you answered ‘yes’, how often are these meetings with AB generally held? Times/month.

- Raw number reported was used

20. Please list and/or describe any other mechanisms or approaches that have been used by ValueOptions to manage and coordinate the adult SMI system.

- Most providers skipped this question. The responses that were given have not been coded.

21. The following is a list of issues concerning the services your agency may be providing to SMI clients. Please go through the list, and for each, indicate how you believe your agency and its services have been affected since ValueOptions became the RBHA in 1999. Then, indicate how you expect the ValueOptions system will affect your agency’s adult SMI services and operation over the next two years. For each, circle the number (1 to 5) that best matches your answer using the following scale.

   1 = ValueOptions system has had/will have a significant negative impact on my agency.
   2 = The impact on my agency has been/will be mostly negative
   3 = The impact on my agency has been/will be pretty much neutral
   4 = The impact on my agency has been/will be mostly positive
   5 = ValueOptions system has had/will have a significant positive impact on my agency.
• The Likert scale response circled was coded.

22. Next, we would like your opinion about the impact that ValueOptions has had (since 1999), and is likely to have (over the next 2 years), on the overall adult SMI service delivery system in Maricopa County (i.e., not just the impact on your agency, as in the last question). Again, circle the number that best matches your answer for each aspect of the overall SMI system, using the following scale.
1 = ValueOptions system has had/will have a significant negative impact on the overall SMI system.
2 = The impact on my agency has been/will be mostly negative
3 = The impact on my agency has been/will be pretty much neutral
4 = The impact on my agency has been/will be mostly positive
5 = ValueOptions system has had/will have a significant positive impact on the overall SMI system.

• The Likert scale response circled was coded.
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