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ORGANIZATIONAL NETWORKS: A LONGITUDINAL ANALYSIS

By

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Discerning Social Structure

The fundamental assumption underlying all scientific activity, both in the natural and social sciences, is the presence of order in the universe. Order, in a scientific sense means that events, circumstances, and actions do not occur in a chaotic, idiosyncratic, or purely random fashion, but rather according to a relatively fixed, stable, enduring, persistent, and more importantly, discernable pattern. Formally speaking, then, natural and social phenomena are said to have structural properties.

Discerning structural properties constitute the "problematic" for all scientific activity. Yet, philosophically, this quest hardly distinguishes the pursuit of scientific knowledge from other types of knowledge. In contradistinction to other forms of knowledge pursuits, scientific structural investigations require theories that are constructed from empirical evidence and that lend themselves to disconfirmation.

In the social sciences the concept of social structure constitutes the problematic. Regardless of discipline, field, approach, perspective, or level of analysis, social scientists see their job as an effort to discern patterns of

regularities in social life. From the time of Spencer (1885) up to the present, the concept of social structure has been widely used in social theories, either implicitly or explicitly, to explain, not the behavior of individuals, but the structure of relations among groups and individuals. As Radcliffe-Brown (1948) noted in his earlier writings, the term structure implies a concern with the form of relations among the parts of some whole. For him the parts were persons and the relations were those occuring between persons. This notion extends Durkheim's insistence that beyond the individual level there existed something that could be called social facts. He was simply arguing that a social structure existed and that social facts, a type of empirical evidence, could be used to describe and explain social life.

Although we find no controversy among social scientists about the broad intuitive conception of social structure (Nadel, 1957), the concept itself evokes no particular method or theory. We find a long history of disagreement over the parts of social structure, the appropriate components. Some contend that the basic parts of social structures are built upon individuals. Others contend that individuals come and go, but the patterns of relationships among groups remain relatively the same. But, these positions obviously ignore such concepts as roles, values, culture, attitudes and the social processes underlying social structural change. More succinctly, social structures also have <u>normative</u> components. Given these issues, how should we approach and conceptualize social structures.

Conceptualizing Organizational Structure

For the most part, the problem of conceptions of, and approaches to, social structure has received at best, only secondary attention concerning the sociology of organizations. Most organizational sociologists are quite content with a tacit, implicit, intuitive understanding of social structure. Those who consider the conceptualization problem of social structure as a serious matter, are often thought of as philosophers of science engaged in an interesting academic exercise that is somewhat unrelated to the core issues of organizational sociology. This minimizing of the problem of social structure tends to lead to a method of inquiry in which it is assumed that if an effort is made to discern the parts of some whole, discover the relatedness of those parts, and show the social causes and consequences, a conceptualization of organizational structure will emerge. It seems rather odd to believe that we can somehow discover the relevant parts without first having a way of conceptualizing organizational structure. How we conceptualize and approach the concept of social structure guides our thinking about the parts, their relatedness, their causes and consequences.

The problem of conceptualizing organizational structure surfaced long before the sociology of organizations proper. Among the major contributors to organizational sociology we find such classical sociologists as Durkheim, Weber, and Marx. Yet, we would hardly claim that these thinkers are

"organizational" sociologists, as we have come to know and apply the term. We simply find that many of their concepts and ideas are relevant and useful for an understanding of organizational structure and behavior. But, those concepts and ideas which we have found useful certainly must have grown out of some sort of approach to, and conceptualization of, social structure. For example, most of Weber's writings were on matters of religion, economics, politics, and law. Amidst his writings we find a short essay on the nature of bureaucratic organization (Weber, 1978). Examining this essay independently of Weber's other writings leaves us only with a mere taxonomic description of bureaucratic organization, a partial understanding of Weber's approach to and conceptualization of social structure- and, thinking in terms of rationality, efficiency and effectiveness does not draw us any nearer to Weber's understanding of social structure.

Perhaps the problem of conceptualizing social structure in the sociology of organizations can be historically traced to earlier writings and thinking on the nature of the division of labor. Sociologists were and still are, intrigued and fascinated with the fact that the outcome of coordinated efforts between two or more individuals can be greater than the additive sum of their individual independent efforts, the so-called "trick" of the division of labor. But is this due to the organization of the task, the way social collectivities organize themselves, or both? This suggests that social structure presents both problems of form and process.

The structure of organization, on the other hand,is our abstract conceptualization of what appears to be a discernable pattern of the forms and processes underlying organizational behavior. Thus, conceptualizations of social structure serve as a background against which the structural elements, dynamics, and interrelationships of social organization are made comprehensible.

Organizational literature reviews that have assessed the past, present and future state of the field have yet to come up with a way of integrating the various organizational writings and studies in a manner that demonstrates a line of continuous cummulative thought (Scott,1981; Pfeffer,1982). It is easy to understand why the field of organizational sociology has been characterized as a somewhat aimless field, shifting levels of analysis (e.g. from psychological to sociological), shifting scope (from closed-system to open-systems), constantly including a seemingly endless number of variables thought to be relevant, and believing the cummulative findings, data gathering, and research will eventually lead to discovering the structural components and processes underlying organizational behavior. But, this will hardly happen without a clear approach to and conceptualization of the social structure of social organization.

The Social Network Paradigm

In 1974 the issue of structural components and approaches to social structure was debated by a group of nine prominent sociologists at the American Sociological

Association meetings. Peter Blau's (1975) volume of papers from the participants shows, by comparison and contrast, various approaches to the problem of social structure. Blau suggests four ways to distinguish the various approaches to the study of social structure: (1) contrasting social chaos or conflict in contradistinction to social structure, (2) the mental image of that structure, (3) the matrix in which social life is rooted, and (4) the range of social phenomena encompassed by the theoretical perspective. Yet, according t- Blau, these four distinctions are relatively independent. There is little relationship among the distinctions, making it impossible to demonstrate that a particular perspective of social structure derives one distinction from another.

We social scientists need an orienting metaphor that lends itself to a conceptualization of social structure that crosses these independent distinctions of approach to social structure, while at the same time, proves useful as a guide for theoretical and empirical research efforts at either, or possibly both together, the micro- and macro-sociological level of analysis. The conception of social structure as a social network of relations among persons or groups is one such metaphor. The image of social structure as a network of relations among either persons, groups, or institutions, does not evoke any particular method or theory. Instead, the social network metaphor represents an image that allows examining social relations at either the binary level of analysis, between two actors, or at the multiplex level of analysis, multiple relations among actors.

Social network analysis is a generalized metaphor that permits broad representation of structural data. The organizational research outlined in this proposal has adopted this metaphor because it calls attention to the fact that we cannot study organizational structure without reference to the pattern of organizational relations. Social network analysis attends to both the structural properties and the structural dynamics of relational patterns.

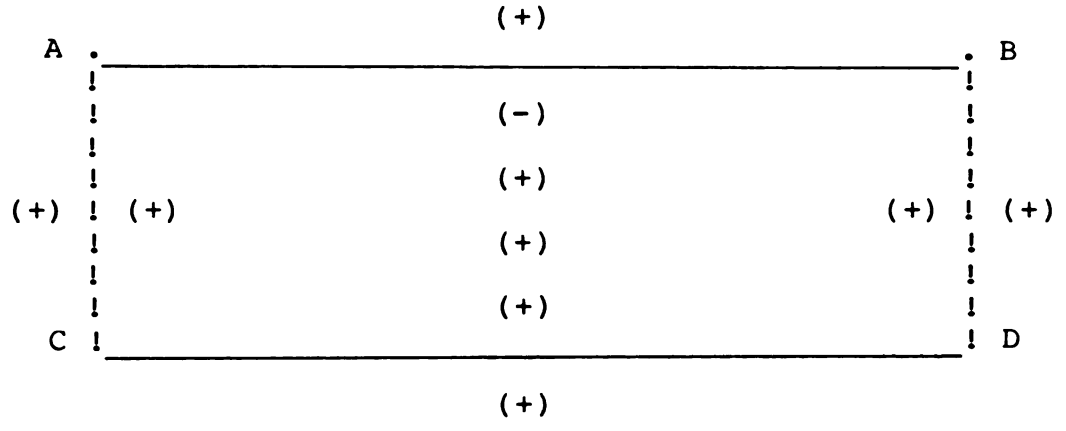
In addition, using network analysis will also circumvent the initial problem of defining the conditions for calling a relation social. Network analysis requires only two actors and at least one connection between them. What remains, of course, is the problem of providing a theoretical framework that accounts for the development, maintenance, and the changing of the structure of relations. Network analysis does not circumscribe theoretical work, it simply helps us to map a social topography of the necessary and the possible components of social structure.

Social network analysis, although it often involves a great deal of statistical rigor, affords an image of social structure using other forms of mathematics; such as geometric modeling, graph theory, and matrix algebra. These forms of mathematics allows us to represent social structure in a way that we can discern the relational patterns between actors in conjunction with the statistical pattern they form. Typically, as social scientists we manipulate our observations using statistical routines that measure the

variability, strength, and direction of social relationships. We present our results in path configurations, factor tables, regression models, contingency tables, and the like. But there seems to be very little isomorphism between this type of imagery and the intended social structural imagery.

More concretely, let us look at an hypothetical affect (liking) relationship among four actors (see Diagram 1). First we plot four points, nodes, circles, or whatever in a geometric space representing the four actors. We then assign each point a unique symbol, arbitrarily let's say A, B, C, D. Next we note that A likes B and C, their is a mutual liking between B , C, D, and B does not like A, but C does. These affect relationships, whether liking or nonliking, are connections represented by lines between points. Notice no lines connect A and D because they have neither a liking nor nonliking relationship mentioned. Using graph theory we can use directed graphs (digraphs) to show the flow of affect by converting the lines into arrows which, in turn, reveal the symmetry, nonsymmetry, or asymmetry of the affectrelationships. To complete our pattern representation, we designate symbolically the positive or negative of each affect relationship in respect to liking (+) or nonliking (-).

Diagram 1



What started out as the simple examination of the affect relationships among four actors has now generated enough questions to keep social scientists busy for a life time. Indeed, a few social scientists have worked continuously on simple triads for more than two decades (see Heider, 1958, Davis, 1967, Holland and Leinhardt, 1971.) The geometry of the simple four actor network (often referred to as a sociogram) serves a heuristic purpose by raising such questions as; is there a potential liking relationship between A and D, given that they have mutual friends B and C? Is there some sort of transitivity rule at work in the network? Is the network stable or unstable, balanced or unbalanced? Are stable networks necessarily balanced ones? Are there status expectations of each actor that would account for particular patterns? Does social distance, size, density, or the individual weights of the relationships (e.g. the degree of liking) make a difference in the network

pattern? Since relationships are more often multiplex, are certain types of relational patterns structurally equivalent, e.g. are are affect relationships structurally equivalent to resource flows, such as loaning money? Are there external network constraints? If so, how do they affect the network? And finally, questions of a much different nature are raised by network analysis; what accounts for social structural change? What is the underlying process or processes in social networks? Are there normative rules? What is the role of language, intentionality, beliefs, values, culture, and meaning in social networks?

Therefore, by mapping a social topography of relational patterns in geometric space, such as the one presented in Diagram 1, social network analysis clearly has heuristic value, in that it encourages a sort of mental experiment with the possible, the probable, the potential, and the actual relational patterns.

For more than thirty years social network analysis has continued to generate a great deal of enthusiasm among social scientists in anthropology, sociology, and political science. And, within the discipline of sociology itself, network analysis has been advanced within the fields of sociometry, mathematical sociology, and complex organizations. There are many overlapping concerns and issues that, regardless of discipline or field, give the appearance of a unified front of several network analysts working together toward the development of social network analysis. But, each discipline, and each field has had, and continues

to have, its own distinctive tradition that has contributed to the development of social network analysis in various ways, perhaps in ways that are not very useful either. As Barnes (1977) puts it, network analysis has become a "terminological jungle in which any newcomer may plant a tree."

Nonetheless, network imagery can be shown to be quite useful for the social sciences. George Simmel (1950) used it to view an individual's behavior in terms of a person's "web of affiliation." This notion clearly evokes a form of social network imagery. Yet, it is a type of structural imagery quite different from the imagery of the structural-functionalist perspective that has dominated sociology and anthropology for the past thirty years. In the structuralist-functionalist paradigm we are presented with an image of social life, comprised of actors, the parts, who serve some sort of functional imperative for the whole. This form of structural imagery, driven by metaphoric conceptions of body and organ, reflect the biological sciences and limits our ability to consider other dimensions of social life that are not necessarily self-regulating or the determined consequence of an impinging moral, institutional, social order.

The underlying premise of social network analysis assumes only that an actor's or actors' social conduct, decision processes, orientations, or attachments should be viewed in the context of a network of relations (Anderson and Carlos, 1976.) The network metaphor is quite compatible withexisting theoretical propositions from structural-functionalism, and from other perspectives, such as those in

exchange theory, structural balance theory, ecological theory, and conflict theory.

The emerging paradigm offers a powerful framework for representing social structure in terms of relational ties or links between two or more actors (Burt, 1982; Tichy and Fombrun, 1979; Blau, 1981; Laumann, 1966; Marsden and Lin; 1982). Not all actors are directly linked, some are indirectly linked, and some are linked by multiple relationships, such as both information and material resource exchange. But, network analysis is not particularly concerned with the characteristics or attributes of actors, but with their relational and/or positional pattern. It deals with the types and patterns of social relationships, and the causes and consequences of these patterns.

The General Problem

Thus far it has been argued that the general problem for both the natural and social sciences is discerning of structural properties. Specifically, for the social sciences, the problem is one of examining social structure, and in the study of bureaucracies, we must deal with the problem of conceptualizing organizational structure. Social network analysis is one way of studying structure and it directly addresses the relational/positional structural patterns of actors, rather than in the individual behaviors or attitudes.

To date, as will be discussed more thoroughly in the next chapter, social network analysis has devoted far more

attention to problems concerning techniques or methods of discerning social structure than it has devoted to empirical research. Consequently, little is known empirically about organizational networks. The development of the research problem for this study, on the other hand, precedes most of the methodological developments found in the current organizational network literature. John Tropman (1974) outlined a fairly clear empirical research program agenda for studying the nature of organizational units within a system. He argues that it seems useful to regard an interorganizational system as the local community itself. Tropman's interorganizational system, for our purposes, closely parallels what we have called an interorganizational network.

His conceptual approach to interorganizational network analysis suggests that we need to know; (1) the characteristics of the social and physical region within which organizations are interacting, (2) the set of environmental pressures, constraints, and opportunities which affect interorganizational network behavior, (3) the nature of the class structure and the level and type of conflict critical to interorganizational relationships, (4) the boundaries of both the interorganizational network boundaries and the particular organizations, (5) the relationships, if any, that exist between interorganizational distance (extent of interaction) and interorganizational dependency and domination, and finally, (6) the mechanisms that are used for initiating and maintaining interorganizational relations (1974).

Tropman then extends his conceptual approach to interorganizational network analysis by proposing several critical variables that seem to be important in interorganizational network activity. Drawing from Litwak and Hylton (1962) he suggests that the number of organizational units is important, if we assume that the more units there are, the more complex the processes become. This complexity, in turn, suggests that we should examine the frequency of interorganizational contacts, the size of the initiating and receiving organizations, the types of organizations involved according to some differentiating variable, the extent of interorganizational contact reciprocity, and the types of interorganizational network relations, particularly cooperative, competitive, and power relationships.

Ten years have passed since Tropman's article was first published and yet the bulk of literature concerning interorganizational network analysis can only, at best, partially address some of the issues he raised. But, this does not at all mean that there has been no methodological, empirical, or theoretical work done on social network analysis in this interim period. Social network analysis has been plagued from the very begining with enormous methodological problems. The actual costs of collecting social network data can be excessively prohibitive. It is not clear as to which method of data collection is appropriate. In most cases, traditional sampling techniques, especially techniques of the probability type, cannot be used. In addition, it is unclear which are the relevant actors to sample.

If we assume that these issues can be resolved to some degree of satisfaction, how then is social network data to be managed and analyzed once collected? Since social network analysis requires other forms of mathematics that have been little used in previous social science research, social analysts have slowly and meticulously attempted to work out mathematical and statistical methods for detecting structural elements, properties, and patterns. It has been, and continues to be, an extremely difficult problem of developing a matrix algebra, alongside with geometric modeling procedures, that is applicable to problems of discerning social structure. Thus, it is understandable why empirical research efforts have been stalled by these unresolved issues.

However, as argued earlier, network analysis is heuristic in that its more concrete representation of social actors promotes mental experiments which attempt to anticipate possible, probable, and actual social relationships. Efforts made to resolve the methodological issues in social network analysis are nothing more than logistic mental experiments, and this is not intended as a criticism, such efforts are certainly necessary. But, we must ask whether or not it is possible, or worthwhile, to conduct such mental experiments completely independent of empirical research. With apologies to Norwood Russel Hanson (1967), much of the work done on resolving the methodological and mathematical issues of social network analysis has resulted in a "dust-bowl methodology." In short, the problem can be stated the

most succinctly by asking, "how much mental experimentation should be considered sufficient in order for basic empirical research to begin?"

In this study we will use a simple procedure to do basic empirical research on social networks, particularly at the descriptive level of analyses. We recognize that basic empirical research does not exist in a vacuum, and is always driven, no matter how explicitly stated, by theoretical notions. However, we must make a distinction here between basic empirical research and the empirical testing of theoretical hypotheses. Basic empirical research attempts to describe the structural properties, elements, and patterns of social relationships. What is to be described is guided by an eclectic set of loosely defined theoretical propositions that amount to little more than sophisticated intuitive hunches. On the other hand, the empirical testing of theoretical hypotheses is typically derived from a well integrated set of interrelated hypotheses.

This study is an attempt to conduct both basic and theoretical empirical research, with a bias towards basic empirical research. We do not begin inductively or deductively, but rather we assume basic empirical research must necessarily precede empirical theoretical research. As Charles Peirce puts it, abduction lies somewhere between induction and deduction, with inferences that generate new ideas. Since very little is known empirically about social networks, basic empirical research will make possible abductive inferences, which in turn, suggest further hypotheses

and theoretical refinements. Simply put, this study does not begin with a well defined set of integrated hypotheses because the lack of existing empirical research on social networks has led to a situation in which few hypotheses are suggested.

For this reason, Tropman's approach to interorganizational analysis should be viewed as an excellent point of departure for conducting basic empirical research on social networks. He has raised several important basic empirical and theoretical questions that have remained essentially unexplored in any sort of systematic way. Towards this end, this study will confront these issues by describing as fully as possible the network morphology and behavioral patterns of interorganizational networks.

The Focussed Problem

We are now at the point in which it should be made clear what specifically is the problem of this study. The problem for this study begins with an examination of the human service organizations in two communities at two points in time. The focus then is on a "presumed" subnetwork of a larger community network containing all organizational units. Thus, the initial concern for this study is quite straight forward; does this presumed subnetwork of human service organizations in fact constitute an interorganizational network? We cannot assume that interorganizational relations between and among a set of human service organizations (defined by the researcher) must exist simply because

they reside within shared community boundaries.

If in fact interorganizational contacts between and among human service organizations do take place, we need to know what are the various types of human service interorganizational relationships? Are some types of human service interorganizational relationships more important than other types? How are human service organizations linked with one another? There are several possibilities to be explored; human service interorganizational relationships may involve (1) sharing information, clients, and/or resources, (2) formalized interorganizational agreements, (3) competition for clients and/or valued resources, and (4) interorganizational interdependence in which human service organizations rely on, run programs or services for, and refer clients to, other human service organizations in order to deliver their own services or programs and fulfill their own organizational goals.

Next we move from the concern of discerning human service interorganizational network morphology (structure) to the basic sociological problem of accounting for human service interorganizational behavior. It is assumed that regardless of the various specific types of human service interorganizational relationships, most interorganizational relationships are generally those involving either cooperation or competition. Given this assumption, what accounts for variation in the degree of human service interorganizational network cooperation and competition? What accounts

for the initiation and maintenance of human service interorganizational competitive and cooperative relationships? Under what conditions are the mechanisms that maintain, promote, or constrain competitive and cooperative interorganizational relationships affected? In sum, the degree or extent of human service interorganizational network competition and cooperation are the major dependent variables to be explained in this study.

Using the network approach to interorganizational behavior, we can then focus on the interorganizational relationships themselves and develop a set of probable and possible relevant independent variables that may best account for cooperative and competitive interorganizational behavior at different levels of analyses. First, since all human service organizations in each of the subnetworks share the same ecological environment, we need to know what environment structural elements are relevant, whether or not those structural elements affect cooperative and competitve interorganizational relationships, and if so, how?

Secondly, do organizational characteristics such as size, age, service diversity, or type of the initiating or receiving organization make a difference in cooperative and competitive interorganizational relationships? In addition, what are the relevant organizational factors, either external or internal, that affect cooperative and competitive interorganizational behavior. Specifically, it seems important to know which groups (e.g. clients, board of directors,

professional staff, citizen groups, governmental bodies, etc.) have influence over organizational decisions concerning policies, programs, and services. That either mandate or influence competitive and competitive interoganizational relations.

It also seems necessary to ask whether or not a relationship exists between ecological structural dimensions of the human service organizational environment and the internal and external and internal organizational factors that may have combined affects on competitive and cooperative interorganizational behavior. For example, if the population increases significantly in a community, does the pattern of influence over organizational decision-making change, and if so, how? In turn, how is cooperative and competitive interorganizational behavior affected?

This leaves us with but one level of analysis left unexplored. How do the members of human service organizations perceive various problems of delivering human services? What do they see as the problems of initiating or maintaining interorganizational relations? How do they perceive the capacity (rich/lean) of the community environment? Do they feel pressure to collaborate or cooperate with other agencies? How do they perceive both intra- and interorganizational conflict? How do they assess community human service needs, both those that are being met and those that are not. In short, how do the members' perceptions affect competitive and cooperative interorganizational behavior.

Overall, the problem of examining the organizational behavior of human service organizations poses problems at four distinct levels of analysis that require examining the interorganizational relations, the intraorganizational relations, and the ecological dimensions of the environment that may affect interorganizational behavior. This study attempts to examine the relationships existing at each level of analysis independently, and then subsequently attempt to connect all the following levels of analyses:

Levels of Analysis	**Scope**
Ecological Level	Dimensions of the Environment
Interorganizational Level	Relations Between Org. Units
Intraorganizational Level	Relations Within Org. Units
Individual Level	Member Perceptions

The last concern to be undertaken by this study is a problem that has been deemed by most organizational researchers as one of the most critical dimensions of organizational behavior that has, of date, been largely left unexplored. We know almost nothing about how organizational structures and behaviors change over time. This has been a major drawback in organizational research because it is difficult to make a case that certain mechanisms or dynamics exists without having longitudinal comparisons. Contentions

such as, " as resources become scarce in the environment, organizations will initiate cooperative relations with other organizations in order to acquire crucial and needed resources," are really prescriptive contentions that should be considered as merely hypotheses to be tested. It is believed that the inclusion of the longitudinal analysis in this study will provide certain insights regarding the dynamics of organizational change.

This study does not directly address substantive issues in the delivery of human services. Issues of effectiveness, quality, efficiency, and the political economy of the delivery of human services are ignored. These issues are certainly important for an understanding of organizational behavior. But, without basic empirical research on the structural elements, properties, or dynamics of organizational behavior, such issues have no real foundation from which to develop solid theoretical arguments. This study is neither prescriptive nor critical, yet, on the other hand, it does not ignore that its research results will have implications relevant to substantive issues in the delivery of human services.

We must also add that the research in this study on interorganizational human service networks does not draw on, or make use of, the more recent methodological techniques of clique-detection (of which many software packages are now available), agglomeration, matrix algebra, or geometric modeling procedures. Instead, it is hoped that the research

done in this study will provide to those interested in interorganizational network analysis with a complete and full account of the issues, problems, and mistakes that occurred while designing and drawing a network sample, managing, handling, and analyzing network data, and what critical decisions were made along the way.

Anyone who has done empirical research must at least be a little suspicious of most of the published research in sociology. The articles generally read as if nothing of any major consequence went wrong, nor were any critical decisions made that had apparent or significant consequences. If all this is true, this study stands alone. If not, then it is believed that this study will aide methodological and theoretical improvements in the development of interorganizational network analysis.

Horizontal and Vertical Interorganizational Relationships

The structure of interorganizational relationships can be viewed in two different but related ways; horizontally or vertically. Horizontal IOR are those relationships typically involving informal expectations, voluntary exchanges of information, ideas, services, or resources, a general domain consensus, and ad hoc behavioral rules for which there are no formal sanctions. Vertical IOR, on the other hand, are those relationships that can be characterized as having a structural hierarchial arrangement in terms of power, status, and/or control. In vertical IOR structures decision-making tends to be highly centralized, authority and the

exercise of control is based on the use of legitimate sanctions, and unequal dependencies are frequently managed by members through strategies of cooptation coalition formation.

A full and complete IOR network analysis of cooperation and competition must take into account both horizontal and vertical interorganizational relationships. The major limitation of this study is that only the horizontal IOR will be examined and explored. However, it is hoped that the attempt to explain the horizontal dimensions of IOR cooperation and competition will provide a solid foundation for subsequent research efforts concerning the vertical dimensions of network IOR.

Finally, then, should the scope limitation of this study make the use of the network metaphor inappropriate? Although vertical relationships will be ignored, the horizontal structure of human service organizations can nonetheless be conceptualized as a bounded set (system) of interacting organizational actors. In this sense, the network metaphor is appropriate in that it serves to orient and provide a structural representation of IOR. Yet, it is fully recognized that this study will not make full use of either the network metaphor or, consequently, social network analysis.

CHAPTER II

REVIEW OF THE LITERATURE

Towards an Interorganizational Network Analysis

The term social organization, is widely used by many theorists, both implicitly and explicitly, in two different ways, as a collectivity and as an activity. If we think of social organization in both ways it makes clear the dualistic problem of social organization as a dynamic process with form; a problem that has plagued the study of formal organizations. Early sociologists found this problem embedded in the nature of the division of labor. Clearly, virtually all social collectivities have some form of social differentiation that presents itself as a division of labor. The question is, what is the underlying dynamic of the division of labor that drives social differentiation within and among social collectivities? More simply, why and how do social collectivities organize? Durkheim (1933) contended that social density leads to social differentiation; Marx (1975) contended that the mode of production leads to social differentiation; and Weber (1978) contended that rationality accounts for the driving mechanism of social differentiation. These divergent views of social organization, admittedly oversimplified, served as the core impetus for the founding of the sociology of organizations.

The early beginnings of the study of organizations emerged soon after the U.S. industrial revolution when it became apparent that more and more individuals were needed to direct and coordinate workers and work units. This phenomenon, which Braverman (1974) aptly describes as " the separation of conception from execution", now constitutes the domain concerns of the field commonly known, then, and now, as administrative science and management. The groundwork for this new discipline, laid by Frederick Taylor (1911) and Henri Fayol (1916), sought to discover the principles of scientific management. But, the efforts of scientific management did not at all concentrate on social organization, but rather on task or work unit organization efficiency. Intraorganizational relations and the organization as a whole were essentially ignored.

If almost by accident, as Merton (1957) suggests, Elton Mayo's (1945) widely known Hawthorne studies found that worker productivity experiments themselves affect the interpersonal relations among members of a group of workers. The Hawthorne studies concluded that an organization must be viewed as a total system of interdependent parts in which interpersonal relations as well as economic relations are accounted for. This view had the effect of shifting the level of analysis to the individual-organizational level.

In accordance with this new line of thought, early writers such as Gulick and Urwick (1937) and Barnard (1938) viewed organizations as pursuing specified goals that

required integrating different hierarchial levels of control. This view, a rational model of organization (Marshall Meyer et al., 1978; Scott, 1981; and Pfeffer, 1982) resulted in a number of organization case studies in the 1950's (Blau, 1955; Gouldner, 1954; Selznik, 1949; and Lipset, Trow, and Coleman, 1956) that attempted to show the relationship between individuals and social structure. Further theoretical refinements followed in this tradition that showed how organizational structure reflected the purposive, intentional, goal-directed, rational behavior of individuals (Cyert and March, 1968; March and Simon, 1958.) It was, then, no surprise to find a new field emerge in the 1960's, the social psychology of organizations, contending that an individual's attitudes, opinions, and behavior was a function of a person's position within the organizational structure.

Research findings on the relationship between individuals and organizational structure have been noncummulative and are difficult to integrate because few studies permit comparison between and among organizational structures themselves. The social psychological analysis of organizational behavior increases our understanding of individual behavior, but reveals very little concerning organizational structure itself. Thus, organizations themselves ought to be the appropriate unit of analysis.

The field of interorganizational relations emerged in the late 1960's attracting a number of researchers. Drawing from Merton's concept of "role set", Evans (1966) first

introduced the concept of "organization-set" to refer to the total sum of interorganizational linkages established by a focal organization. Organization-set research primarily focused on the size and diversity of an organization's initiated linkages to other organizations in its attempt to control external exigencies. Studies by Evans (1966), Hall (1977) and Whetton and Aldrich (1979) have shown that the best predictor of an organization's set size and composition is its ability to acquire crucial resources, such as money, staff specialists, and externally mandated programs. They also found intraorganizational factors such as degree of formalization, centralization, and type of decision-making have little influence on organization-set size and composition.

Another form of interorganizational relations research focuses on the population-set, or as Whetton (1981) calls it, an action set of interacting organizations. In this perspective a group of organizations are said to be purposively joined together to accomplish their individual, and often, mutual goals by attempting to control and anticipate environmental exigencies. Although a focal organization can, and often does, play an important role, the concern here is with the population-set of organizations. Essentially, the population set level of analysis focuses upon the accounting for relational patterns among a set of organizations. Writers such as Turk (1970), Clark (1968), and Aiken and Alford (1970) argue that community structure accounts for the

initiation of interorganizational linkages. Pfeffer (1972) argues that environmental uncertainty accounts for the initiation of IOR linkages. Others, focusing on the IOR linkages themselves, have shown that the linkages are diffuse, functional, and normative (Blase, 1973), directed toward coordination or conflict (Hall, 1974) or facilitative, competitive, or communicative (Litwak and Rothman, 1970.)

The common agreement among IOR researchers seems to be the assumption that IOR linkages serve some sort of instrumental value (Whetton and Leung, 1979). IOR research can best be described as several theorists working at different levels of analysis, and each contends that different types of linkages best account for relational patterns. The result is often a great deal of conceptual confusion and overlap.

Regardless of the aforementioned problems that characterize the field of interorganizational relations, one thing remains clear; IOR research does not focus on individual attitudes or characteristics, but rather on the relational/positional patterns of social actors. The IOR linkages between and among organizational units have been the central focus. In addition, IOR research has shown that as we shift the level of analysis, interorganizational behavior appears to have varying forms associated with particular dynamics. What seems to be lacking in the field of interorganizational relations is a clear conceptualization and approach to the structure and behavior of interorganizational relations.

In the early 1970's the term network emerged in much of the IOR literature. Although interorganizational relations themselves remained to be a focal concern, the conceptualization of network added the view that IOR existed in a bounded system of interacting organizational subnetworks which, in turn, were affected by relationships to a larger environment.

Using the network metaphor as a way of conceptualizing the structure of IOR had a distinct advantage because it took account of (1) interorganizational relationships that are multiplex and involve many different types of transactions and interactions which (2) essentially have instrumental value and are expressed as (3) either power, competition, and conflict relationships, or as cooperative, communicative, and normative relationships. It also, (4) examines these multiple relational patterns at the individual level, organization-set level, the population set level, and the ecological level of analysis, which make it (5) possible to connect the different levels of analysis (e.g. the relationship between individual perceptions and network structural properties.)

We see then that the concept of an interorganizational network merely subsumes previous thinking and research on IOR. But, in addition, it also suggests that networks themseves may have certain properties and dynamics worthy of examination for the accounting of interorganizational behavior. In this sense, the network analysis of IOR not only

shifts our attention to a new level of analysis, but also attempts to connect all other different levels of analyses.

The social network concept itself was borrowed from anthropology and the field of sociometry. Before its introduction to the field of IOR, it had nearly forty years of ongoing development and usage in the social sciences. By outlining the substantive and methodological issues that have accompanied the use of social network analysis in anthropology, sociology, and political science, we will have a much better understanding of the development of social network analysis, the current problems confronting it, and, possibly, what direction it should or might take.

Social Network Analysis: The Tradition in Anthroplogy

Social network analysis roots in anthropology begin with John Barnes (1954) who introduced the concept to describe friendship aquaintance patterns and their relationship to status positions in the Norwegian island of Bremnes. Later, Barnes (1969) acknowledged that the concept was suggested to him from Raymond Firth's (1951) distinction between social structure and social organization, and from Forte's (1949) work. Nonetheless, virtually all network analysts in anthropology cite Barnes' work as the forerunner of social network analysis (Mitchell, 1969, Mayer, 1966; Boissevain, 1968.)

Boissevain (1979) and Mayer and Mitchell (1966) contend that some anthropologists in the early to mid-fifties began

to show signs of a growing dissatisfaction with the structural-functionalist perspective's ability to explain social group development. They felt that urban, kinship, and political systems could best be described as relational networks that could alter or manipulate the institutions in which they participated. (Leach, 1954; Bott, 1957; Wolf, 1956; Turner, 1957; Epstein, 1961; and Van Velsen, 1964). In the late fifties and early sixties, Cherry (1957) and Ore's (1962) development of the topological graph in mathematics gave network analysis in anthropology just what they needed; a way of representing and describing collected field data.

These developments by early anthropologists mark the emergence of social network analysis. Many anthropologists doing fieldwork often times, and quite understandably, develop intimate relationships with the groups they study, and have emphasized that analysis should take into account; that relational connections have both a form and a content. The anthropological tradition in social network analysis has maintained that a preoccupation with form diminishes or eliminates all substantive theoretical work.

Fieldwork involvement has had the effect of maintaining an anthropological focus on discerning form in conjunction with the normative properties (i.e. social rules) that underlie interactional and transactional relations. As Boissevain (1979) suggests, social network analysis that attends only to problems of form is very much like butterfly collecting.

Network Analysis in Sociology and Anthropology

Network analysis was first introduced in sociology by Jacob Moreno(1934) in his work Who Shall Survive? Moreno made use of the sociogram to represent the group structure of affective relations. Although the network metaphor had found its way to sociology, Moreno's sociogram was soon criticized as being too arbitrary. Efforts were then made, by Borgatta (1951) in particular, to try and construct less arbitrary sociograms. This seems to have set a precedent, much to the dislike of some anthropologists, for how social network analysis would develop in sociology. Sociometry, for the most part, became extremely concerned with the problem of discerning form, and consequently very little substantive work was, or has been, accomplished.

The search for the clear sociogram took a major turn in sociometry when Forsyth and Katz (1946) introduced the sociometric adjacency matrix, an N x N sociometric matrix in which cell entries were designated either + or - to indicate the presence or absence of sociometric choices. Unfortunately, this type of data does not lend itself very easily to manipulation. Festinger (1949) showed that if you change the directional signs to 1's and 0's the adjacency matrix could then be manipulated in ways suggested by matrix algebra. It was soon realized that dense zones containing many ones in an adjacency matrix would lead to detecting cliques in social structure (Luce and Perry, 1949.) The search was now for the perfect agglomerative technique for detecting cliques.

Somewhat in the shadow of all this activity, Fritz Heider (1958) was arduously working on his P-O-X model, a balance model of relational units suggesting transitivity in social triads. With the aid of Cartwright and Harrary's (1956) and Claud Flament's (1963) graph theoretic applications to social groups, work began on a way of partitioning actors in social networks into a number of subsets in which the actors share the same pattern of social relationships. Others soon joined in on this celebration of the marriage of matrix algebra with graph theory, and a flurry of activity resulted in the production of new, improved transitivity models (see for example Holland and Leinhardt, 1970; Rapoport, 1963; Davis and Leinhardt, 1971; and Davis, 1967.) In sum, the search for the proper algorithm for detecting cliques continued.

More recently, Wasserman's (1977) work on the problem of reachability, the N-steps between actor i and j in a social network, is a good example of where network analysis is headed in sociometry. He concludes, after presenting a new method for analyzing random directed graph distributions, "individuals interested in the analysis of social networks now have powerful mathematical tools at their disposal to aid their analysis." He has, however, overlooked the fact that reachability is also a theoretical problem, not just a mathematical one. Heider's initial theoretical work on relational units in a simple triad, which somehow became less important, has proliferated into extensive, and possibly never-ending, mathematical issues. The

search for powerful tools has become an end in itself. What we are left with is a situation in which most theoretical applications that make sense, do not meet mathematical acceptability, while those that do, do not seem to be of much substantive use.

Currently, clique detection in social networks has taken a new twist. The concept of a block model which attempts to overlap multiple networks, seeks to discover subnets by looking for the "holes" as a partitioning procedure, rather than attempting to discover the dense zones. The block model extends notions from transitivity models, in which actors who share the same pattern of social relationships are partitioned into subnets. Lorrain and White (1971) and White, Boorman, and Breiger (1975) contend that when you partition a population it becomes multiplex because many networks exist within the population.

In short, actors are typically linked by multiple relationships and block modeling may reveal an overlapping positional structural pattern. The actors who share the same multiplex pattern of relationships are then said to be structurally equivalent. A block, on the other hand, is a rectangular submatrix reporting ties from persons in one position to any persons in a second position for a particular tie. A summary of the overlapping positional block patterns, using a prescribed algorithm, results in the discerning of multiple relational patterns of structurally equivalent actors. This method helps resolve the problem of

segregating relational patterns into separate adjacency matrices which would not allow an examination of a multiplicity of relationships simultaneously.

While efforts continue in sociometry for acceptable clique-detecting algorithms, political sociologists, political economists, and political scientists have also found the network metaphor and the developments from sociometry suitable for the sociology of elites. Clique of actors who share the same relational pattern can be used to refer to an elite set, a higher circle, a power elite, or a dominant group. Here we deal with notions of social inequality, power, dominance, the division of labor, or more to the point, social stratification. If social network analysis can discern structural equivalence, then, conversely, it should be able to discern structural inequivalence as well. But, to do so requires an examination of legitimate influence and the power of office that stems from organizational position. Hence, network analysis in the sociology of elites must attend to the relational patterns of interorganizational linkages that reveal structural inequivalence.

Network Analysis of Interorganizational Relations

We can now see that the social network concept has had a life of its own long before its introduction in the sociology of complex organizations. The study of complex organizations was shown to have a history of shifting levels of analysis, primarily due to the inability of accounting for organizational behavior encountered at one level of analysis

that could only be explained by yet another level of analysis. Moving from the individual level, to the intraorganizational level, to the organization-set level, and, finally, to the interorganizational level of analysis, it seems most appropriate for organizational theorists to adopt the social network concept because it lends itself to all the various levels of analysis.

Social anthropologists remind us not to become so preoccupied with the form of social relations that we lose sight of the substantive theoretical issues. In contrast, those in sociometry and political sociology remind us to address substantive theoretical issues first with an appropriate methodology and new agglomerative techniques.

Yet, whether we are examining formal organizations, kinship systems, or political or corporate elites, the underlying problem for all social theorists still remains to be one of discerning the structure, behavior, and consequences of social organization. However, in industrialized societies interorganizational relationships have far reaching effects because organizations themselves control the flow of capital, labor, goods and services, information, and many other essential resources. For this reason, interorganizational network analysis views environments as multiorganization aggregates and defines an interorganizational network as a purposively constructed (by the investigator) bounded set of all organizations linked, directly or indirectly, by a specified type of relation (s) (Aldrich, 1979).

Although interorganizational networks do not act as an organization, the assumption is that networks constrain or facilitate organizational behavior in a way that can be identified at the aggregate level. Thus, the pattern of the interconnectivity between and among organizational unit constitutes the focal concern of IOR network analysis. The pattern of IOR connectivity may be characterized as dense or sparse, directly or indirectly linked units, and as units linked by multiple relational types of ties.

Empirical interorganizational network research has made use of the term "loose coupling" (Simon, 1962; 1969; and Granovetter, 1973) for describing the network pattern of interconnectiveness between organizations (Aldrich, 1978; Stern, 1977; Beardon et. al, 1975; Clark, 1965; Bailey, 1965; and Freeman, 1968). Their findings suggest that the greater the network interorganizational connectivity, the more uncertain and unstable the interorganizational network becomes because any disturbance entering the network at any one point quickly affects all other organizations. Therefore, a loosely coupled interorganizational network is viewed as more adaptive, resilient, and stable.

Interorganizational Coordination and Competition

Most of the work done in organizational network analysis has defined the organizational actors as community elites (Freeman, 1968, Perrucci and Pilisuk, 1970, Aiken and Alford, 1970, Warren et al., 1974, Laumann and Pappi, 1976, Breiger and Pattison, 1983), as corporate actor elites

(Warner and Unwalla, 1967, Sonquist and Koenig, 1975, Bearden et al., 1975, Williamson, 1975, Pennings, 1980, Allen, 1974, Burt, 1982, Berkowitz et al., 1979) as organizational elites Galaskiewitz, 1979, Boje and Whetton, 1981, Galaskiewitz and Shatin, 1981, Laumann, Galaskiewitz, and Marsden, 1978), or as medical innovators (Rodgers and Kincaid, 1981, Knoke and Burt, 1983). In each of these studies the social structural problem has been one of detecting elite "cliques" of organizational actors within a particular network structure. In contrast, these studies represent an entirely different type of sociology of elites that has been traditionally used. Instead of focusing on the individual characteristics or attitudes of the individual actors, their relational/positional ties have been the focal concern.

Although it is clear in all of these studies that the investigators do focus on the interorganizational relations themselves, it is also quite evident that the form (morphology) of interorganizational relations is a far more pervasive concern than the substanstive relational interaction between and among organizational units. This is because most of these studies attempt to resolve the long debated issue in sociology of whether power structures are governed by elitist or pluralistic power groups (Dahl, 1961; Hunter, 1953). Therefore, it makes sense in these studies to concentrate on clique-detecting methods.

The search for acceptable clique-detecting algorithms and agglomerative techniques in social network analysis is both useful and necessary, but an insufficient reason for

precluding current theoretical and empirical research on interorganizational relations that can be done. According to Berkowitz (1982:154), there are three aspects of social structure network analysts must address: the morphology (form) of social structure; the relational interaction among elements (behavior), and the patterned effects of these two (consequences). There are a number of hypotheses concerning these three aspects of organizational networks that can be tested without resolving all the methodological issues, in particular the clique-detection problem, in social network analysis. Unfortunately, since organizational empirical research has been slow to develop, the literature suggests very few hypotheses.

There is a very good reason why this has been the case. The attempt to use an explicit social network analysis has surfaced enormous problems of collecting, managing representing, and analyzing relational social network data in a way that is acceptable to most network analysts (Burt and Minor, 1983). Some contend, such as Boissevain (1979), that social network analysis in sociology has resulted in a "methodological involution."

Nonetheless, a great deal of theoretical and empirical research has been previously done concerning the sociology of complex organizations at various levels of analyses. We can make use of these ideas and findings by simply extending them to the problem of network morphology and interorganizational behavior. It seems reasonable to begin by viewing

interorganizational relations as organizational exchange relations involving some sort of substantive transaction. In general, these exchange transactions are those transactions that move either information, money, or influence from one organizational actor to another (Galaskiewicz, 1979). Therefore, interorganizational relations are essentially either cooperative, collaborative, competitive, or influence relationships between two or more organizational actors.

Interorganizational research conducted on public sector organizational behavior has tended to emphasize examining and exploring ways of improving interorganizational coordination and minimizing or managing interorganizational conflict. The central focus in this line of research has been on the horizontal rather than the vertical interorganizational relationships. The implicit theme underlying this type of research, however, has been the attempt to develop a comprehensive understanding of the consequences of interorganizational coordination and competition for the delivery of effective and efficient human services. There are studies that have shown the negative consequences of programs mandating interorganizational coordination (Aldrich, 1976; Hall et al., 1977). Aiken et al. (1976), has suggested the effectiveness of alternative forms of interorganizational coordination, while Hasenfeld (1972) contends that the resulting interorganizational relationships greatly affect service quality to a common client-pool. And, finally, Warren, Bergunder, and Rose (1974) in their study on the War on Poverty

Program found that interorganizational coordination had the opposite intended effect and actually intensified interorganizational conflict and competition.

Research on public sector interorganizational behavior also views public organizations as a loosely joined subnetwork of a much larger network in which particular organizations serve as linking-pin organizations that link subnetworks together. In these subnetworks the organizations tend to be autonomous with no clear hierarchy (Mott, 1968) and have no common goals, or if they do, they are only temporary ones (Lehman, 1975). Therefore, efforts to promote interorganizational coordination always has to be balanced against the costs incurred to claims of organizational domain (Hall et al., 1977).

This does not at all mean that interorganizational competition and conflict does not arise within public sector subnetworks. Van de Ven (1976) has shown that organizations providing similar services often times are in competition with one another, and Stern et al. (1975) have shown several of the ways organizations have attempted to manage interorganizational conflict. In addition, other studies have shown that competitive interorganizational relations often result in the creation of adaptive strategies that are used for competing with other members of an organization set.

In sum, the treatment of interorganizational coordination, cooperation, conflict, and competition has been, by and large, an examination of problems concerning the effectiveness and efficiency consequences resulting from

interorganizational relationships. As Whetton (1981) points out, research findings are typically point towards a prescriptive model in which organizations are recommended to have a positive attitude towards coordination, recognize the need for coordination, know who their potential partners are, assess the partnership compatibility and desirability, and assess their organization's capacity to maintain interorganizational coordination.

But, thinking about interorganizational coordination and competition in this way only permits a concentration on a few intraorganizational factors, such as administrator perceptions and organizational decision making. We need to drop for the moment issues of effectiveness and efficiency (and how organizations can best promote and manage interorganizational relations) and direct the research attention towards the problem undertaken by this study: What internal and/or external intraorganizational, individual, environmental, and interorganizational factors account for the variation in the degree of interorganizational cooperative and competitive linkage density.

CHAPTER III

HYPOTHESES AND RATIONALES

The Environment and IOR Cooperation and Competition

The underlying theoretical assumption that drives the research undertaken in this study comes from Pfeffer and Salancik (1978:1) who argue that "to understand the behavior of an organization you must understand the context of that behavior- that is, the ecology of the organization." Organizations are inescapably influenced and/or constrained by the conditions of their environment. This larger context, the organizational environment, given varying degrees of resource capacity, can either constrain, impede, or facilitate interorganizational relationships (Turk, 1973;1977; Emery and Trist, 1965; Aldrich, 1979). In this perspective it is further contended that the organizational environment cannot satisfy all organizational needs nor provide all organizations with all their necessary resources. Therefore, the logical conclusion to much of what we observe and know about organizational behavior is simply viewed as problems involving organizational survival.

Also, environmental resources are typically disproportionately distributed, having the effect that some human service organizations acquire more needed resources than others, but no single organization acquires all necessary

resources for meeting all its clients or own needs. But, this distribution of resources is neither stable nor certain. The organizational network environment is subject to change, from both external and internal factors, placing the organizational network in a continual state of instability and uncertainty.

In order to acquire crucial and needed resources for organizational survival, it is contended that human service organizations will attempt to avoid, manage, or control environmental exigencies by initiating and maintaining interorganizational relations (IOR). In turn, IOR necessarily result in both functional interdependencies and interorganizational conflict within human service interorganizational networks.

Following the resource dependency perspective, as developed by Pfeffer and Salancik (1978) and Aldrich (1979), it is suspected that human service organizations seeking to manage or control their environment will adopt the strategy of initiating cooperative and competitive IOR in order to ensure their own survival. Given the preceding discussion, the following proposition (see next page) will guide the exploration of the hypotheses examined in this study:

Proposition #1: Human service organizations experiencing decreases in environmental resource supply capacity, and accordingly increases in environmental demand, will increase the number of their cooperative and competitive interorganizational linkages.

Environmental resource capacity, then, should prove to be the most crucial temporal dimension that determines the extent of human service network IOR cooperation and competition. Thus, we can diagram this relationship as follows:

Independent Variable	Dependent Variables
Environmental Resource Capacity	HS Network IOR Cooperation
	HS Network IOR Competition

Antecedents of IOR Cooperation and Competition

If we argue that the environment determines the extent of IOR cooperation and competition , we must also recognize that IOR themselves are the consequence of certain strategic decisions. The environment cannot initiate linkage formation by itself. The environment influences the perceptions of those individuals and groups, both from external and internal sources, who have influence over decision-making power concerning the initiation of IOR. In order for the environment to have an effect on network behavior, it must first pass through some sort of thinking apparatus at either the individual or group level. Influential groups and individual perceptions operate as an intervening variable.

The decision to form cooperative and/or competitive IOR is both an asset and a liability for an organization (Schmidt and Kochan, 1972). On the one hand, an organization initiating cooperative IOR linkages may acquire scarce and

needed resources, but only at the interdependence cost of giving up some of its autonomy. On the other hand, an organization in competition with other organizations may keep its autonomy, but only at the expense of not having cooperative relations that could enlarge its resource base. Thus, human service organization administrators' perceptual assessments of interorganizational cooperation and of competition should be considered important variables for explaining increases or decreases in the number of cooperative and competitive IOR linkages. In turn, we also posit that these perceptual assessments are either constrained or facilitated by the external environmental resource capacity.

Studies by Whetton and Leung (1979), Akinbode and Clark (1976), Whetton and Aldrich (1965), Davidson (1976), and Schermerhorn (1975) have shown that positive perceptual assessments of interorganizational cooperation are necessary prerequisites for establishing interorganizational relationships. However, the desirability to establish cooperative IOR must take into account an organization's capacity and ability to maintain such relationships. Aldrich (1976)and Hall et al. (1977) document that internal staff conflict, a typical consequence of mandated programs, result in negative attitudes towards establishing or maintaining cooperative IOR linkages. As Rogers and Glick (1973) point out, interagency cooperation requires a shared assessment of community needs and must recognize the value of interorganizational cooperation for meeting community unmet needs. Thus, perceptions of cooperation, competition, internal conflict, and

the level of community unmet needs, have been shown to be important determinants of cooperative IOR linkages.

Lastly, we cannot overlook certain constraints, other than environmental resource capacity, that affect administrators' perceptual assessments. There are important internal and external persons, groups, or things that influence organizational decision-making that organizations themselves have little or no control over (Boje and Whetton, 1981). Although Warren, Rose, and Bergunder (1974) have shown that agency directors' status characteristics (such as ethnicity, and age) do influence organizational decision making, we know little about the extent to which internal and external sources of influence over decision making determine cooperative and competitive IOR linkages.

In sum, it is argued that environmental resource capacity affects human service organization directors' perceptions of (1) IOR cooperation, (2) IOR competition, (3) the degree of internal conflict, (4) the level of community unmet needs, and (5) the impact of internal and external sources of influence over organizational decision making. In addition, these intervening variables are viewed as contributing determinants of cooperative and competitive IOR linkages. In general, it is believed that increases in environmental resource capacity will lower the desirability and the level of necessity for initiating or maintaining cooperative and competitive IOR linkages, because organizational survival is less threatened and the costs, in relation to benefits, of giving up organizational autonomy are higher.

Thus the initial relationship can now be expanded in the following way:

Independent Variable	Intervening Variables	Dependent
Variations in Environmental Resource Capacity	(1) Internal/External Influence	Network IOR Competition/ Cooperation
	(2) Administrator Perceptions of: (a) cooperation (b) competition (c) internal conflict (d) coordination (e) unmet need level	

The following hypotheses will be examined:

Increases in environmental resource capacity will:

Hypothesis #1: tend to diminish the impact of internal and external sources of influence over organizational decision-making; and will lower cooperative and competitive IOR linkage density.

Hypothesis #2: lower the perceived importance of participating in interorganizational cooperative programs and services; and will lower cooperative and competitive IOR linkage density.

Hypothesis #3: lower the perceived degree of competition for community resources between human service organizations; and will lower cooperative and competitive IOR linkage density.

Hypothesis #4: tend to diminish the perceived interorganizational conflict between administrative and professional staff; and will lower cooperative and competitive IOR linkage density.

Hypothesis #5: tend to lower perceptions concerning the level of community unmet needs; and lower cooperative and competitive IOR linkage density.

IOR Based on Organizational Status Characteristics

A strategic decision to initiate IOR linkages is not necessarily a purely psychological phenomenon (ie.individual volition). In fact, psychological factors may be subordinate to sociological factors. Essentially, persons in organizations must decide on which other organizations they will cooperate or compete with in order to improve or maximize their ability to manage and control environmental exigencies. This places small, low service diversity, young, organizations at somewhat a disadvantage because they typically lack sufficient resource for attracting cooperative IOR. Therefore, organizational status characteristics such

as size, age, and diversity should be important variables that account for variations in both cooperative and competitive IOR linkage density. In turn, the changing of the network environment resource capacity will account for the weighting of these organizational factors.

Studies by Blau and Schoenherr (1971), Pugh et al. (1968), and Child and Mansfield (1972) conclude that organizational size is the most important determinant of variation in organizational structure. Their studies found that organizational size, as measured by the number of employees, greatly affects intraorganizational differentiation in several ways. But, as Whetton and Aldrich (1979) point out, the most important dimension underlying organizational size is that it reflects an organization's overall resource base. Allen (1974), Galaskiewitz (1978), and Galaskiewitz and Shatin (1981) have documented that large organizations tend to have more cooperative linkages with other organizations than smaller ones have. They also have shown that larger organizations tend to be older (a long established domain) and offer a greater diversity of services. Therefore, it seems reasonable to assume that, in order to enlarge their resource base, smaller, younger, and low diversity of services organizations will attempt to have a greater percentage of their linkages with larger, older, high diversity of services organizations.

If this assumption is correct, then we can see that younger and smaller organizations will be in competition with each other for crucial and necessary resources. On the

other hand, low diversity of services organizations will be in competition with higher diversity of services organizations, due to overlapping services, client-pool, and service duplication, for organizational domain control. Overall, then, organizational size should be an important determinant of both cooperative and competitive IOR linkages, particularly when the network external environmental resource capacity declines.

Given these rationales, the following hypotheses will be examined:

Hypothesis #6: The smaller the HS organization, the more its percentage of cooperative IOR links to larger HS organizations.

Hypothesis #7: The lower the diversity of service of an organization, the more its percentage of cooperative IOR links to high diversity of services organizations.

Hypothesis #8: The younger the organization, the higher the percentage of IOR cooperative links to older organizations.

Hypothesis #9: Smaller organizations will tend to have competitive links to organizations of similar size.

Hypothesis #10: Service organizations with low diversity, will tend to have a higher percentage competitive IOR links to other service organizations with high diversity.

Hypothesis #11: Organizations will tend to have competitve IOR links with other organizations of a similar age.

Hypothesis #12: Large organizations will tend to have a greater number of cooperative IOR linkages than smaller organizations have.

Hypothesis #13: Small organizations will tend to have a greater number of competitive IOR linkages than larger organizations have.

Hypothesis #14: Increases in environmental resource capacity will tend to diminish the strength of the relationships specified in hypotheses 6,7,8, 9,10,11,12,13.

Finally, since the major dependent variables for this research are the human service network cooperative/ competitive IOR linkages, we should expect certain network properties to reflect changes in environmental resource capacity. I expect to find variation in cooperative/ competitive linkage density over time. However, given environmental instability, uncertainty, and insufficient resources, each organization within the network has, in general, three courses of

action. Each organization can (1) initiate mutually beneficial IOR, (2) initiate competitive IOR, or (3) initiate cooperative IOR with some organizations and competitive IOR with others. Of course, an organization may also opt to have neutral IOR, in the sense of having no relationship at all with some or all of the other organizations in the network. Although there is a great deal of rhetoric about maximizing only cooperative IOR, network IOR, for each focal organization-set, are best described as involving a combination of cooperative, competitive, and neutral relationships.

These cooperative and competitive relationships can be further taxonomically elaborated according to forms of cooperation and competition. This study uses sociometric type data that were collected on twelve forms of cooperative/competitive IOR. Human service organizations may initiate IOR linkages with other organizations that (1) provide similar services, (2) have influence over their decisions, (3) have valued opinions concerning their organization, (4) provide co-operation and support, (5) clients are referred to, (6) they exchange opinions, ideas, and information with, (7) they are involved with on community committees, (8) they rely on to deliver services, (9) they receive money from the same source, (10) they have formal agreements with, (11) run programs for their organizations, and (12) they compete with for resources.

One major assumption of this dissertation is that the twelve types of IOR linkages can actually be reduced to two

general dimensions, either cooperative or competitive. Since very little is known about the general morphology of network IOR structures, it is the intent here to try and uncover some of the dynamics and properties of cooperative and competitive interorganizational behavior.

CHAPTER IV

RESEARCH METHODS

HS System Network Boundary Specification

Operationalizing metaphoric conceptions of network systems into concrete terms of a clearly bounded "whole" poses a number of problems for network analysts doing applied empirical research (Burt and Minor, 1983, and Berkowitz, 1982.) The attempt, of course, is to define and specify network boundaries in a way that constitutes an isomorphic representation of a system of interrelated actors. But, since network analysis focuses on the relational patterns of interactions between social actors rather than on the individual attitudes or attributes of social actors, conventional sociology methodological rules for system membership inclusion are not very helpful. It is the age old problem in social science of determining when a group is a group. The problem is further exacerbated in complex analyses that must take into account multiple memberships and multiple relational overlap among and between social actors.

Common sense is hardly an adequate procedural rule for specifying network boundaries and membership inclusion rules. Common sense lacks theoretical and methodological grounding that would provide for meaningful interpretations. It is easy to see that excluding certain relevant social

actors, or including certain nonrelevant actors, could easily distort interpretations of network behavior and network morphology. Left to common sense, bias and error would be an overwhelming problem.

In this study we are faced with two initial problems; (1) what is a human service organization? and (2) once defined, why should human service organizations be considered to comprise an interrelated network system? It seems inevitable that the resolution of these two problems will unavoidably result in a tautological argument because their resolution is contingent upon one another, and this should not necessarily be considered to be a major drawback. Much like naive criticisms of experiemental research in which the laboratory conditions of subjects do not reflect real life experiences, it's precisely due to the artificial conditions that allows researchers to isolate and analyze particular behaviors without the intervention of extraneous contaminating factors. In the same sense, tautological definitions of human service organizations and human service organization systems, in which each definition is contingent upon the other, serve analytic purposes, and are not necessarily intended to closely parallel social reality.

Using Blau and Scott's (1962) organizational type criterion, cui bono (who benefits?), human service (HS) organizations were defined in this study as those formal organizations who give direct services and who's prime beneficiary was the public-in-contact (clients, in contradistinction to the public at large.) In general, concrete examples of HS

organizations, in accordance with this definition, would include social work or welfare agencies, hospitals, schools, and mental health clinics. Thus, the HS organization definition proffered here serves as the methodological rule for determining HS system membership inclusion. But, the HS organization definition does not resolve the problem of specifying the HS organization network system boundaries.

In much the same way that HS organization was defined, HS organization network boundaries in this study are defined according to the population of clients and potential clients who have access to a HS organization-set that is geographically placed to serve a specified community. This means that we are concerned here only with the HS organization-set that serves a specified client population that resides within the boundaries of a particular community setting. This method of specifying network boundaries differs greatly from other methods in which the network boundaries are "discovered" by using algorithms that partition a population-set of organizations into relational structurally equivalent actors (White, Boorman and Breiger, 1975.) The problem with blind methods of this type is that they produce network "blocks" in which it becomes extremely difficult to theoretically explain or interpret the inclusion or noninclusion of certain social actors and their weighted importance for the overall network.

On the other hand, the definition and boundary specification of the HS organization-set used in this study makes

no argument that the HS organization-set actually constitutes a network of interacting organizations. It is rather assumed that the defined HS members will initiate and maintain interorganizational relations with other HS members in order to control or manage environmental exigencies that threaten an organization's ability to acquire crucial and needed resources. For this reason, the HS organization network in this study, by definition and specification, constitutes a potential network of interacting HS organizations rather than a known or discovered HS organization network. If the resource-dependency model is correct, as discussed in Chapter III, we should expect HS organization members located in a particular community to form a network of interacting organizations.

HS Network Sampling Frame

The two communities examined in this study were medium-sized cities (population around 100,000), Lansing and Kalamazoo, Michigan. Since affected clients often reside in areas beyond the city limits of these two cities, the community boundaries were extended to include the entire county population of each community. Therefore, the sampling frame for this study consists of all HS organizations located within each of the respective county communities.

There were two reasons for selecting medium-sized communities. First, in smaller communities there are too few HS organizations to draw from in which a meaningful analysis

could be made. Secondly, in larger communities, such as Detroit, there are problems of overlapping service boundaries, duplication of services, and prohibitive excess costs of obtaining data that make it extremely difficult to discern clear HS organization network boundaries. Thus, HS network results and generalizations from this study are not intended to extend to either smaller or larger community HS networks.

There was also a good reason for selecting two communities instead of one. Increasing the number of case studies by one hardly increases significantly statistical reliability or validity. But, the logic behind this research strategy is the idea that comparative differences found between HS network case studies tells us what is unique or idiosyncratic about each respective HS network. On the other hand, examining the comparative similarities between HS networks will tell us something general about HS network morphology and behavior that is not necessarily a function of community, but rather of common network properties and processes.

Human Service Organization Sample

The attempt to include all HS organizations is a feature of network sampling that radically departs from traditional sociological methods of the random sampling type. Network sampling requires most or all of the population to be included in the analysis. In order to construct a useful network imagery, all the parts are considered necessary. Each missing part makes the network imagery less

comprehensible. But, inclusion of all network members requires more than a definition of membership, it requires knowledge that will identifying all the relevant members and the construction of a population list. The list of relevant HS organization members for this study was developed using a chain method snowball procedure (Laumann, Marsden, and Prensky, 1982.) First a core set of human service organizations and their directors were located from a directory of HS agencies. Then, each director was contacted and asked to indicate other relevant HS organizations in the community. After successive interviews, the original core snowballed into an exhaustive HS organization population list. More recently Burt (1981) has developed a network random sampling technique for estimating network relations that does not require full inclusion, but this method is more suitable for problems involving large populations. Hence, the procedure used for developing the population list of HS organizations in this study seemed most appropriate.

After the population list of HS organizations was exhaustively complete for both communities, each HS organization director on the list was then mailed a cover letter that introduced the nature of the study; provided information regarding the legitimacy of the study, its sponsors, and primary investigators; and that requested each director's participation in the study by agreeing to an arranged interview. As par for social science research, the participation agreement list was not as complete as the

population list of HS organizations. Follow-up calls were then made encouraging the directors who had not responded, to participate. The net result of these efforts led to nearly full participation inclusion of all HS organization directors that were on the population list.

It seems appropriate at this point to begin introducing the longitudinal aspects of this study that bear on the research methodology employed. This study was conducted in 1972, and then again in 1979, in both communities. It is important to introduce longitudinal aspects at this point because in both the 1972 and 1979 studies the definition of HS organization; the procedures for specifying network boundaries, the development of the HS organization sampling frame, population list, and sample; and the resulting participation rates were nearly identical. But, in the later study the research methodology yielded a few differences worth noting. Over time, a few of the HS organizations in the early study did not survive, new HS organizations emerged, and some of the agency directors in the early study were not the same agency directors interviewed in the later study. Therefore, the HS organization population list and the associated directors were not exactly the same in number or content (about 76% sample overlap) for both communities.

Since this study focuses on HS organization network relational ties and not specifically on individual organization characteristics or agency director attitudes and attributes, the pervasive concern was with replicating the

same sampling procedure, whereas longitudinal differences found in sample size and sample list were inconsequential for subsequent analyses. Although organizational survival, death, and birth, are certainly interesting topics, these issues, or the use of a panel design, were not relevant to the purposes of this study.

Table 1 shows the number of participating HS organizations, their size, type, service diversity, age, and control for both communities in both the early and later studies. For descriptive purposes, HS organizational size was categorized as 25 staff employees or more and less than 25 staff employees. Only those with 5 or more employees were sampled). HS organizational type was sorted into two groups, treatment- physical and mental treatment services, and distributive- community, family, and personal well-being supportive services that were not treatment oriented. HS organizational service diversity was said to be either low, less then 5 different services offered, or high, greater than or equal to 5 different services offered. HS organizational age was simply either old, more than or equal to 10 years, or young, less than 10 years. Lastly, HS organizational control was divided into two categories, private and public control. All of these organizational characteristics, taken together, should give one a fairly good sense of the HS organizational composition of each of the respective community HS networks and the compositional changes over time for each.

TABLE 1: Description of Sampled HS Organizations

	1972		1979	
	Lansing	Kalamazoo	Lansing	Kalamazoo
HS Organization Characteristic	n %	n %	n %	n %
Size				
Large	16 (48)	16 (47)	14 (33)	12 (32)
Small	17 (52)	18 (53)	28 (67)	26 (68)
Type				
Treatment	15 (46)	15 (44)	21 (50)	17 (45)
Distributive	18 (56)	19 (56)	21 (50)	21 (55)
Service Diversity				
Low	18 (54)	14 (41)	28 (67)	22 (58)
High	15 (46)	20 (59)	14 (33)	16 (42)
Age				
Young	13 (39)	11 (32)	20 (48)	11 (29)
Old	20 (61)	23 (68)	22 (52)	27 (71)
Control				
Private	18 (54)	19 (56)	31 (74)	25 (66)
Public	15 (46)	15 (44)	11 (26)	13 (34)
Total HS Population	n=36	n=38	n=42	n=41
HS Sampled Agencies	n=33	n=34	n=42	n=38
Participation Rate	92%	90%	100%	93%

The organizational characteristics of the sampled HS agencies were fairly evenly distributed (approaching 50/ 50% on all characteristics) for both communities in the early study, with the exception that HS organizations in both Lansing and Kalamazoo tended to be older. In contrast, the distribution of organizational characteristics of the sampled HS agencies in the later study were somewhat unevenly distributed. In both Lansing and Kalamazoo HS agencies tended to be smaller, have low service diversity, and privately controlled. Thus, the distribution of the organizational characteristics of the HS sampled agencies in the later study showed that many changes occurred in the organizational composition of the HS networks over time. However, more importantly, the variation of organizational characteristics between both communities in each study was very low. Hence, in each study the HS organizations in both Lansing and Kalamazoo were highly comparable.

HS Organization Sample Directors

To complete our picture of the samples used in this study, it would be helpful to shift to the individual level and take a look at some of the demographic characteristics of the directors of the HS organizations examined in this study. After all, these are the individuals from which most of the data will be gathered. Combined with HS organization sample characteristics, information concerning HS agency directors' age, gender, and professional training should give us a general intuitive sense for the kinds of HS organ-

izations in each HS network and the top administrators who direct those HS agencies.

Table 2 shows the distribution of agency directors based on gender. In both the early and later studies, agency directors were predominantly male. However, over time the percentage of male agency directors in Lansing had decreased from 82% to 60%, while female agency directors in Lansing increased from 18% to 40%. There was virtually no change in the gender ratio for Kalamazoo over time. Although the N's may seem too low for making any sort of conclusive statements, keep in mind that the distribution of gender is based on a nearly full population data.

TABLE 2: Description of HS organization Directors- Gender

	1972				1979			
	Lansing		Kalamazoo		Lansing		Kalamazoo	
	n	%	n	%	n	%	n	%
Male	27	(82)	26	(76)	25	(60)	28	(74)
Female	6	(18)	8	(24)	17	(40)	10	(26)
Total N	33		34		42		38	

Table 3 shows the distribution of agency directors based on age. The mean age of early Lansing and Kalamazoo directors was about 48 years of age. The mean age of later Lansing and Kalamazoo was about 42 to 44 years of age respectively. The T-tests for both Lansing and Kalamazoo over time were significant, $p < .01$. As can be seen in the over forty/under forty groupings, the age distribution trend almost equally reverses itself. Hence, it appears that over time the directors tend to be somewhat younger.

TABLE 3: HS Description of HS Organization Directors- Age

	1972		1979	
	Lansing	Kalamazoo	Lansing	Kalamazoo
	%	%	%	%
1. Under 29	10	9	3	9
2. 30-39	29	36	59	50
3. 40-49	35	21	16	22
4. 50-59	16	24	16	13
5. Over 59	10	9	6	6
Under 40	39	45	62	59
Over 40	61	55	38	41
Total Cases	n=33	n=34	n=42	n=38
Mean Age Group (5 point scale)	2.9	2.9	2.6	2.5
Standard Deviation	1.1	1.2	1.0	1.0

Table 4 shows the distribution of agency directors based on their professional training. In the early study a large percentage of directors had professional training in social science. In the later study there was a near tripling of the percentage of directors who received professional training in social work. Overall, then, the distribution in the later study, for both communities, was a bimodal distribution showing professional training in social science and social work as nearly equivalent modes. One interpretation would be that over time there is a trend for directors to have a more specialized professional training and background.

TABLE 4: Description of HS Organization Directors- Training

	1972		1979	
	Lansing	Kalamazoo	Lansing	Kalamazoo
Degree Background	%	%	%	%
Social Work	9	9	27	23
Business/Economics	15	9	12	19
Social Science	42	44	30	23
Arts & Letters	18	24	6	10
Other	15	15	24	26
Total	n=33	n=34	n=42	n=38

Table 5 shows the distribution of agency directors based on age and gender. In the early study the distribution of the directors based on age was generally evenly distributed, with early Lansing showing a somewhat large percentage of older males. Over time, male directors in Lansing tended to be younger, while Kalamazoo female directors tended to be younger. So, as noted earlier, the appearance that directors over time were younger is actually confounded by the finding that the age trend is specified according to gender. In light of the differences between the percentage of male directors to female directors in Kalamazoo, in both the early and later studies (see Table 2), we see that the Kalamazoo agencies replace a few male directors with younger female directors which results in virtually no increase in the overall percentage of female directors.

TABLE 5: Description of HS organization Directors Age/Gender

	1972				1979			
	Lansing		Kalamazoo		Lansing		Kalamazoo	
	%		%		%		%	
	M	F	M	F	M	F	M	F
AGE								
Under Forty	36	50	71	47	42	57	48	89
Over Forty	64	50	29	53	58	43	52	11
N of Cases	25	6	17	15	26	7	23	9

In sum, we can generally describe agency directors in both communities, and in both time periods, as predominantly male who received their professional training in mostly the social sciences or in social work. Two trends appear: directors tend to be younger and professional training tends to be more specialized.

Research Design and Instrument

In 1970, researchers at the Michigan State University Social Science Research Bureau (SSRB) became very interested in the problems, issues, and research efforts that was then currently emerging in the field of interorganizational relations (IOR). SSRB researchers' interests in IOR research was sparked by the earlier works of Turk (1967), Clark (1968), and Aiken and Alford (1970) that attempted to show that community structure characteristics affected IOR in various an important ways, in particular, the initiation of IOR in response to changes in community structure. At the same time, network analysis was gaining greater popularity among several social scientists, but it was by and large the provincial domain of anthropologists such as Barnes (1954), Mitchell (1967), and Boissevain (1968); and of sociometricians such as Davis (1967), and Holland and Leinhard (1970). Therefore, the SSRB's initial IOR research interests, at that time, were not guided by developments in network analysis, because it was not known what exactly network analysis was or how it could prove to be helpful.

However, IOR research strategies and findings lend themselves quite easily to a subsequent network analysis because the field of IOR focuses mainly on the relational ties between social actors. Thus, the research design and instrument used in the early study provided a good base on which more recent theoretical and methodological developments in social network analysis could be applied.

Typical of all survey research, the construction of interview schedules requires both theoretical guidance and a considerable amount of fieldwork initially. Guided by the major ideas that were current in the IOR field (see Aiken and Hage, 1968; Aldrich, 1972; Lawrence and Lorsch, 1967; and Warren; 1967), the SSRB team examined coordination and integration among human service organizations in the delivery of social services, and the factors that prevented such coordination and integration, such as interorganizational conflict and competition. With this frame of reference in mind, SSRB researchers conducted extensive interviews with several community planners, administrative directors of large public state agencies, various local community organizations, and in particular, social services umbrella organizations such as United Way, concerning the nature, types, preventive obstacles, and problems of IOR.

The culmination of the preliminary fieldwork investigations led SSRB researchers to discern four distinct structural layers that were of importance for the delivery of human services; (1) administrator perceptions, attitudes, beliefs, decisions and behaviors that affected the delivery

of human services at the level of individual social actor, (2) intraorganizational coordination, integration, cooperation and conflict at the level of the organizational actor, (3) interagency coordination, cooperation and conflict at the level of the population-set of organizational actors, and (4) community factors of resource availability, level of unmet needs, and local planning at the ecological level of community. All of these structural layers were viewed by those interviewed as overlapping, exhaustive, and the most critical levels, or "problematic areas", that affected the delivery of human services. However, almost all respondents tended to emphasize those problems situated at the individual and intraorganizational structural level.

After pretesting the interview schedule containing the operationalized concepts and variables, a final interview schedule was constructed to obtain relevant data at all of the four structural levels; at the individual level (alongside the perfunctory inclusion of demographic items) items were constructed to measure respondent perceptions of IOR coordination, cooperation, competition and conflict of both HS intraorganizational relations and interorganizational relations. At the intraorganizational level, multiple response items were constructed to ask respondents which external and internal groups, and which internal and external factors (such as state and local regulations, funding, and community leaders), had influence over HS organizational decision-making.

Items were also constructed to obtain a many of the HS organizational characteristics, detailed agency budget items, joint planning and services programs and agreements, and an extensive list of community unmet needs. These items served as background items against which results could then be compared with data obtained on HS network IOR. Briefly, the HS network IOR items in the survey instrument were sociometric questions that asked respondents with which other HS organizations their own organization had certain types of relationships with. Twenty-two different types of relationships were examined.

In all, then, items constructed to obtain data for four structural levels resulted in the creation of more than 500 variables included in the scheduled interview survey instrument used in the 1972 Lansing and Kalamazoo study.

Several descriptive reports and a number of recommendations were made for the participating HS organizations in the 1972 study, for both communities. Most of the analyses focused on describing the results concerning the problems and issues of delivering human services in each of the two communities that were raised by the respondents, and the intention was to provide basic exploratory research that would prove helpful to community planners, community groups, and agency directors for the improvement of delivering human services. The analyses did not really address problems of connecting the structural levels, testing a set of interrelated hypotheses, or analyzing in any great detail the HS network of IOR. In sum, the 1972 study of the delivery of

human services in the two communities should be regarded as essentially basic exploratory research in which a great deal of floundering resulted from the attempt to examine the causes and consequences of certain structural levels believed to be related to the delivery of human services.

In 1979, in light of the proliferation of IOR literature, network methodology literature, and the creation of various computer software developed to handle and analyze network type data that had emerged after the 1972 study, SSRB researchers, rethinking and building on the results of the 1972 study, proposed and later received funding from the National Institute of Mental Health to conduct a study on the delivery of human services in general; but specifically tailored to concentrate on the delivery of mental health services. In contrast to the 1972 study, the new study included six medium size cities in Ohio, and six cities in Michigan (including again Lansing and Kalamazoo), which, in total, amounted to the examination of 479 HS organizations. However, in the same manner as the 1972 study, the network boundary specifications, sampling procedures, preliminary fieldwork, and survey instrument pretesting were replicated in 1979.

Unlike the scheduled interview survey instrument used in the 1972 study, the 1979 survey instrument was refined and expanded to include more than 500 new additional variables that were believed to affect the delivery of human services. But the research design did not change radically

in any fundamental way. The focus of the research remained concentrated on the four structural layers that were discerned in the 1972 study. Yet, many of the new variables in the 1979 study were created to replace problematic variables that were used in the 1972 study, a few of the 1972 questions were restructured or reworded that made comparability impossible, and ten network sociometric items were discarded and nine new additional network IOR items were added to the 1979 study. Without going into any unnecessary discussion of precisely what major differences there were between the 1972 and the 1979 study survey instruments, for our purposes it will suffice to simply note that there was a roughly 30% duplicate overlap between the 1972 and the 1979 survey instrument items that covered all four structural areas affecting the delivery of human services.

This dissertation study uses all survey items that appeared in both the 1972 and in the 1979 studies. In addition, this study also uses a few longitudinal items that were included in the 1979 study that are relevant for measuring certain longitudinal changes. Comparable items used in both studies, at the individual perceptual level, asked respondents to evaluate, on a five-point scale ranging from not at all to very great, the instrument items shown in Table 6.

TABLE 6: Survey Instrument Respondent Perception Items

(1) How important is participation in cooperative or collaborative programs or services?

(2) How much competition exists between your agency and others for resources in this community?

(3) How much difference of opinion exists between the administrative and professional staff in your agency about each of the following:

a. fund raising and seeking grants and contracts
b. coordinating services with other agencies
c. allocating money and other resources
d. modifying existing programs
e. serving new client groups
f. personnel policies and procedures

(4) To what extent do each of the following affect the coordination of services or agency collaboration:

a. collaboration takes too much time
b. financial costs are too great
c. it is difficult for staff from different agencies to work together
d. previously unhelped clients receive services
e. community resources are utilized in a better way
f. we cannot get cooperation from other agencies
g. collaboration would mean our facilities would be over-used by other agencies' clients
h. other agencies do not need the services we provide
i. it is easier to expand your own agency than to workout joint programs with other agencies
j. we lack control over other agency's staff
k. our agency receives new funds for collaborating

(5) How much are you pressured by each of the following to developand/orparticipateincollaborative programsor projects with other agencies:

a. local United Way organization
b. other agency directors and staff
c. staff of your agency
d. client groups
e. board or governing body of this agency

TABLE 6: (CONTINUED)

(6) For each of the following services please estimate the level of unmet need in this community:

a. alcoholism and substance abuse programs
b. coordinated planning for new and improved services
c. counseling for children and youth
d. counseling for adults and families
e. day care for children
f. emergency assistance
g. employment services
h. family planning and programs
i. help for senior citizens
j. legal services for the poor
k. long-term financial assistance
l. mental health treatment programs
m. neighborhood development services
n. programs for the retarded
o. recreational programs for older adults
p. handicapped & disabled rehabilitation services
q. vocational training

The survey items shown in Tables 7 and 8 complete a comprehensive overview of the survey instrument items used in this study to obtain data on the various structural levels. Table 7 shows the multiple response items used to examine the external and internal sources of influence that affect intraorganizational decision-making. Table 8 lists all of the types of network IOR items used in this study.

TABLE 7: External/Internal Sources of Influence Items

Persons, Groups, or Things Which Have an Influence Over Decisions About or Concerning:

(1) Modifying existing programs or services
(2) Agency budgets and salaries
(3) Providing new services or programs
(4) Seeking funds from new sources
(5) Administrative and staff conditions
(6) Paraprofessional staff and clerical staff conditions
(7) Working conditions and agency procedures

List of Multiple Responses

(1) Assistant or associate directors
(2) Board or governing body
(3) Client Groups
(4) Community groups
(5) Directors of other agencies
(6) General public
(7) Government officials
(8) Laws/ Regulations
(9) Money
(10) Paraprof. Staff
(11) Funding Agencies
(12) Senior Staff
(13) Sponsoring agency
(14) Other agency staff

TABLE 8: Survey Instrument Network IOR Items

Twelve Multiple Response Sociometric Network IOR Items

(1) Agencies that provide services that are similar
(2) Agencies that have influence over what your agency does
(3) Agencies whose good opinion is important
(4) Provide your agency with cooperation and support
(5) Agencies you send people to for services
(6) agencies you exchange information, ideas and opinions
(7) Agencies involved with on community committees
(8) Agencies receiving money from the same sources
(9) Agencies relied on to deliver your own services
(10) Agencies that run programs for your agency
(11) Agencies your agency has formal agreements with
(12) Agencies that compete with your agency for resources

Data Gathering

The 1972 data were gathered from interviews with each human service organization's director by the professionally trained research staff of the Michigan State University Social Science Research Bureau (SSRB). To gather the 1979 data, Market Opinion Research, Inc. (MOR) of Detroit was contracted to conduct the interviews. This research organization had a much larger staff and also had extensive experience conducting interviews with administrators in both the private and public sectors. Members of the SSRB research team provided the survey instrument, carefully discussed it with MOR administrators and staff, and monitored some of the training of the interviewers in order to insure greater reliability and data quality.

The directors of HS organizations, given their position within the HS organization itself, and within the HS organization network community, were selected to be interviewed because preliminary fieldwork indicated that the directors were the most knowledgeable about both intra- and interorganizational relationships. This method of using key informants to gather data is not without problems. There are a few empirical studies that have shown that key informant data are not very reliable. First of all, this study does not make the claim that perceptual data actually represents observed or actual behavior. Secondly, this study hopes to avoid problems of reliability by using interview questions about network IOR that allow the least amount of interpretation; IOR questions that are basically non-attitudinal. For

example, asking questions of key informants like "who is your competition?" does not present large problems of reliability, whereas asking key informants "what do you think of your competition?" does. On the other hand, responses to questions concerning interorganizational relationships will be considered actual relational ties.

When HS organization directors are asked with which organizations their organization has certain types of relationships with, it is assumed that the HS directors know most existing relationships, have no real motive for lying, will not forget many relationships, and will not downplay, to the point of exclusion, relationships to those HS organizations thought not worth mentioning. It is believed that even if these problems do exist to some degree the network IOR data base will remain sufficient enough for constructing a reliable network data base. The data base in this study will not be perfect, but certainly comprehensible enough for constructing a basic network imagery.

HS Network Data Reduction and Management

Anyone familiar with gathering network IOR data, and after examining the previously described IOR instrument items used in this study, would immediately question how such a complex data base could be managed in a way that would make both methodological and theoretical sense. Too often network researchers, lured by fancy techniques, end up on a methodological course that becomes an end in itself. The idea that powerful techniques somehow create powerful

theories is simply unfounded. IOR network analysis and structural theory must work in tandem, and a good way to provide such a foundation is by simplifying the complexity of the analyses so that we can at least discern the elementary forms and behaviors of IOR networks. Simplifying the complexity of the analyses, of course, implies the necessity of employing reductionist techniques. But, here we speak of reductionism as the means for building more and more complex models, not as the ultimate aim of IOR network analysis.

The HS network IOR data gathered in this study resulted in a data base that consisted of 12 sociometric matrices representing the 12 types of HS IOR linkages, for each community (n=2), and for each time period (n=2). Thus, in all, the HS network data base consisted of 48 sociometric matrices. Each cell entry of the M'ij matrix, in which M'= one of the 48 matrices, i= the focal sample organization, and j= the HS organization population list, can be denoted as either a 0 or 1 in which 0= no linkage and 1= either a one-way or two-way (directional or nondirectional) linkage between two HS organizations for a particular type of linkage. Clearly managing 48 matrices that were built from variable multiple response sociometric data is too cumbersome and would make theoretical integration almost impossible.

After reviewing the 12 types of HS network IOR (see Table 8), it was decided, on theoretical grounds, that the 12 types of HS network IOR were actually finer distinctions of basically two general dimensions, of either cooperation

or competition, and one dimension of influence. To test this idea, first a simple program was developed to construct a matrix in which the columns were represented by the sample focal organizations, and the cell entries represented the sum total of received citations for each HS organization was cited by the other HS organizations in each community, and in each time period. Each separate matrix column, then, represented the distribution of received citations for a particular type of IOR linkage among the population-set of HS organizations. The problem was now reduced to recognizing linkage patterns within and across the 12 different IOR received citation distributions.

But, in order to make theoretical sense, it was necessary next to supply conceptual distinctions and rationales for the 12 HS network IOR types in testable form. The problem with attempting to discover inductively the overlap among the 12 types, without first formulating propositions concerning expected dimensions, is that often times the outcomes (findings) cannot be substantively supported. Given this position, the 12 types of network IOR linkages were sorted into three dimensions- cooperation, influence, and competition. The following shows the expected network IOR patterns:

Network IOR Dimension	Expected Overlap
I. Cooperation	(4) cooperation & support (5) referral to (6) information exchange (7) community committees (8) delivery reliance (11) formal agreements
II. Influence	(2) influence over agency (3) good opinion important
III. Competition	(1) similar services (8) same money source (12) compete with

Table 9 shows the results obtained from using an SPSS Factor Analysis routine on the distribution patterns of the 12 types of IOR network linkages for the first of two dimensions found.

Table 10 shows the factor loadings and the percentage of explained variance for the second dimension found when factor analyzing the 12 IOR network linkages. In both tables the factor loading patterns were pretty much the same between the two communities within each time period, suggesting that two communities were not reflecting certain idiosyncratic patterns. Also, Table 9 shows that over time the factor loading patterns did not change much either. Therefore, dimension 1 seems to be both stable and reliable over time.

TABLE 9: Factor Analysis Results/ Network IOR- Dimension 1

	1972		1979	
	Lansing	Kalamazoo	Lansing	Kalamazoo
	Factor loading	Factor loading	Factor loading	Factor loading
Network IOR Type				
Similar Services	.36	.12	.03	.26
Influence	.87	.70	.96	.94
Good Opinion	.88	.81	.89	.90
Cooperation & Support	.88	.91	.78	.89
Send People To	.75	.82	.73	.59
Exchange Information	.41	.79	.62	.90
Community Committees	.22	.22	.40	.75
Same Money Sources	.94	.87	.89	.80
Reliance On	-.36	-.22	.08	.05
Run Programs For You	.10	.55	.69	.87
Formal Agreements	.60	.20	.25	.52
Compete With	-.30	-.30	.06	-.07
Percent Variance Explained	60.6	68.1	75.7	79.9

TABLE 10: Factor Analysis Results/ Network IOR-Dimension 2

	1972		1979	
	Lansing	Kalamazoo	Lansing	Kalamazoo
	Factor loading	Factor loading	Factor loading	Factor loading
Network IOR Type				
Similar Services	.30	.43	.57	.55
Influence	-.06	-.12	.04	-.11
Good Opinion	.38	.22	.25	.09
Cooperation & Support	.11	.07	.45	.36
Send People To	-.12	-.15	.12	.06
Exchange Information	.82	.37	.58	.26
Community Committees	.80	.41	.75	.37
Same Money Sources	.09	-.12	.28	.13
Reliance On	.91	.78	.86	.86
Run Programs For You	.21	.15	.01	-.11
Formal Agreements	.08	-.04	.40	.41
Compete With	.91	.95	.80	.56
Percent Variance Explained	39.4	31.9	24.3	20.1

Instead of the expected three dimensions in the IOR linkage patterns, the factor analysis results shows only two dimensions or recognizable patterns. The first dimension resulted in high factor loadings on those IOR items that were various indicators of cooperative relationships. Yet the factor analysis could not discern or differentiate an isolated pattern of influence. Influence IOR indicators loaded high on the cooperation dimension. In contrast, the second dimension resulted in high factor loadings on the predicted competition IOR indicators, with the exception that network IOR type 1 did not load highly on the competition dimension in 1972. The most peculiar oddity in the factor analysis results was the fact that network IOR type 6 and 7 loaded highly on the competition dimension both in 1972 and in 1979 for the Lansing community only. What this means is that information and idea exchange, and involvement with other HS organizations on community committees, for the Lansing community, looks much like the intended indicators of network IOR competition patterns. Keep in mind that this is an empirical distinction.

The final task for making the network IOR data more manageable is to create a set of decision rules as to how many dimensions should be included in the analysis, which network IOR type indicators should be included in each dimension, and how we can decide which indicators are the most reliable and stable. The following decision rules were applied:

Decision Rule 1: An IOR network type indicator is said to load highly on a particular dimension if the loading is greater than .5

Decision Rule 2: Stable indicators are those indicators that load highly on the same dimension for both communities and for both time periods.

Decision Rule 3: The dimensions to be used in the final analysis will include only those IOR type indicators that meet the criteria for decision rules 1 and 2, and that make substantive and conceptual sense.

Table 11 shows the factor analysis results of the 12 IOR network types after applying decision rule 1. On dimension 1, the IOR cooperation dimension, network IOR type indicators 2-8, 10 and 11 showed high factor loadings on the cooperation dimension for at least one community in either 1972 or 1979. On dimension 2, the competition dimension, network IOR type indicators 1, 6, 7, 9, and 12 showed high loadings for at least one community in either 1972 or 1979. In contrast to the predicted dimensions and their indicators, it appears that there are community factors that are affecting the network IOR linkages.

Table 12 shows the final results of the factored network IOR types after applying all the decision rules. There are essentially two dimensions found among the 12 types; cooperation, employing IOR type indicators 2, 3, 4, 5, and 8; competition, employing IOR type indicators 9 and 12. IOR

TABLE 11: Factor Analysis Results/ After Decision Rule 1

	1972		1979	
	Lansing loading	Kalamazoo loading	Lansing loading	Kalamazoo loading
DIMENSION I				
Influence	.87	.70	.96	.94
Good Opinion	.88	.81	.89	.90
Cooperation & Support	.88	.91	.78	.89
Send People To	.75	.82	.73	.59
Exchange Information		.79	.62	.90
Community Committees				.75
Reliance ON	.94	.87	.89	.80
Run Programs For You		.55	.69	.87
Formal Agreements	.60			.52
DIMENSION II				
Similar Services			.57	.55
Exchange Information	.82		.58	
Community Committees	.80		.75	
Same Money Sources	.91	.78	.86	.86
Compete With	.91	.95	.80	.56

TABLE 12: Factor Analysis Results/ After All Decision Rules

	1972		1979	
	Lansing loading	Kalamazoo loading	Lansing loading	Kalamazoo loading
DIMENSION I				
Influence	.87	.70	.96	.94
Good Opinion	.88	.81	.89	.90
Cooperation & Support	.88	.91	.78	.89
Send People To	.75	.82	.73	.59
Reliance On	.94	.87	.89	.80
DIMENSION II				
Same Money Sources	.91	.78	.86	.86
Compete With	.91	.95	.80	.56

type indicators 1, 6, 7, 10, and 11 were either unstable in regard to community differences or in regard to changes over time. For now, these indicators will be ignored and a discussion of these items will be taken up later. The initial point of the data reduction effort was, after all, to simply discern general dimensions that would lead themselves more readily to subsequent analyses, rather than attempt to use all 12 types simultaneously. In sum, the two

general dimensions, predicted and empirically supported, cooperation and competition, suggests that HS network IOR are basically either cooperative or competitive in the delivery of human services.

Constructing the Dependent Variables

The two dimensions found in the factor analysis results, IOR cooperation and competition, are the two major dependent variables to be explained in this study. We want to know what factors determine or contribute to the variation in the amount of cooperative and competitive IOR linkage connectivity (density) within HS networks, and how that variation changes over time. The grand mean of means of those IOR types shown in Table 12 will be used in this study as measures of IOR cooperation and competition. Thus, referring to Table 8, IOR cooperation = IOR Type ((2 + 3 + 4 + 5 + 8)/5) and IOR competition = IOR Type ((9 + 12)/2).

Table 13 shows the grand means for both IOR cooperation and competition in 1972, 1979, and the grand mean changes from 1972 to 1979. Using an alpha criterion of $p = .05$, no statistically significant differences were found between means in the two communities in either 1972 or 1979. However, over time we see that the number of cooperative linkages significantly increased in Kalamazoo, and the number of competitive linkages increased significantly in both Kalamazoo and Lansing ($p = .001$). The number of competitive linkages tripled from 1972 to 1979. These findings do not necessarily lead to the conclusion that HS networks are best

characterized as mostly involving competitive IOR, but the findings do show that significant changes in HS IOR competition have occured over from 1972 to 1979 in both communities.

TABLE 13: HS Cooperative and Competitive IOR Grand Means

	1972				1979			
	Lansing		Kalamazoo		Lansing		Kalamazoo	
	X	SD	X	SD	X	SD	X	SD
IOR Cooperation	2.8	2.8	1.9	1.9	2.5	2.9	2.9	2.7
IOR Competition	1.1	1.0	1.1	1.1	3.3	2.2	3.8	2.5

Lansing/Kalamazoo Mean Differences

	1972		1979	
	Difference	Signif.	Differnce	Signif.
IOR Cooperation	.9	.16	.4	.49
IOR Competition	0.0	.97	.5	.33

Lansing/Kalamazoo Mean Changes 1972-1979

	~~1972~~ Lansing		~~1979~~ Kalamazoo	
	Change	Signif.	Change	Signif.
IOR Cooperation	- .43	.71	+1.0	*.05
IOR Competition	+2.2	**.001	+2.7	**.001

***Note: These are T-Test results using pooled variance to account for unequal n's.

Measures of HS Environmental Resource Capacity

The pervasive theme that best characterizes this dissertation study is the notion the external HS environmental resource capacity accounts for a great deal of the variation in network IOR behavior. The claim is that the external environment shapes interorganizational change and behavior by affecting organizations through resource control and resource distribution. On the other hand, as Pfeffer and Salancik (1978) suggest, the external environment, to some degree, is also enacted by organizations themselves. It thus becomes very difficult to sort out what the relevant dimensions of the external environment are that account for much of the variation in interorganizational behavior and change. The idea that the external environment affects interorganizational behavior is rather new in the organizational literature, but is not a particularly profound notion. Yet, it evokes a large set of difficult and complex issues concerning the theory and measurement of organizations and their environmental connections.

One of the first pioneering efforts to show that the environment affects organizational behavior was by Emery and Trist (1965). Their work attempted to show that the interconnectedness of organizations themselves often times creates a turbulent environment in which it becomes very difficult for the administrative component of organizations to monitor. This theme was later picked up by Lawrence and Lorsch (1967) in their study of the fit between internal organizational strucutres and environmental demands. But,

in the Lawrence and Lorsch study, the bulk of environmental measures were based on perceptual data and soon came under attack by Tosi, Aldag, and Storey (1973) in their attempt to correlate objective measures of organizational outputs with environmental uncertainty measures. The Tosi, et al. study found very little to support the Lawrence and Lorsch study. Following this research trend Downey, Hellriegel, and Slocum (1975) tried to expand and refine measures of the environment and of uncertainty, but could not find any significant correlations between them. The lesson that was suggested was that either there were no correlations, or that there is a major problem correlating objective measures with subjective measures.

After nearly a decade of research on the relationship between organizations and their environment, Aldrich (1979), after reviewing the relevant literature on environments, suggests six dimensions of the environment that affects interorganizational behavior; (1) Rich/Lean, the level of resources available in the environment, (2) Homogeneity/Heterogeneity, the degree of differentiation within the population-set of organizations, (3) Stability/Instability, the degree of turnover in environmental elements, (4) Concentration/Dispersion, the degree to which resources are distributed (random dispersion-high concentration), (5) Consensus /Dissensus, the degree to which organizational domains are recognized by other organizations, and (6) Turbulence, the rate of increasing interconnectivity between organizations

and trends. But, if one follows the argument closely, it becomes clear that dimensions 2-6 are all contingent, in one way or another, on variations in dimension one, the environmental resource capacity. Therefore, it appears that the community environmental resource capacity of IOR networks is the most crucial dimension.

This is precisely what guided Herman Turk's (1973) study of 130 U.S. cities that attempted to show how several community-level variables affected the initiation of interorganizational relations. Following the earlier work done by Aiken and Hage (1968) on the barriers to initiating IOR, Turk tried to develop an extensive set of empirical community-level measures, relate those measures to IOR activities, and show that IOR network behavior itself affects the community environmental resources capacity. One major drawback of Turk's study, however, was that he had no direct measures of IOR behavior, and consequently, many of the findings were interpreted inferentially.

More recently, Hawley's (1981) review of the environmental measures that have had empirical support, seem to be the most useful and consistent with the resource-dependency perspective used in this study. Combined with Aldrich's level of environmental resource capacity dimension, the overall HS organizational environment resource capacity will be measured using six community-level dimensions. These measures can be looked at in two ways, as measures of the level of community need/demand or at risk population (who benefits), or as measures of community supply (available

resources). For example, we know that ethnic and racial minorities, low income families, single-headed families, youth, and senior citizens have a greater need for social services than the rest of the population does. In turn, the capacity of community environmental resources, such as community education level, number of professionals, city tax base, percent of middle and upper income groups, local public funds, government officials, number of human service workers, and the amount of public expenditures are viewed as the community supply-level which is available to meet the community need/demand level.

Again, we assume that not all organizations can acquire all the necessary resources to meet their own or client needs, and will therefore initiate IOR (either cooperative or competitive) in order to meet these needs. The following dimensional measures (see next page), and their associated indicators, are used in this study for the examination of the relationship between HS environmental resource capacity and HS IOR network behavior:

Measures of the Human Service Environment

I. Population

a. city population
b. county population
c. county net migration

II. Dependency

a. percent nonwhite
b. percent black population
c. percent youth
d. percent elderly
e. percent low income families
f. percent families families below poverty level
g. unemployment rate

III. Income and Education

a. median family income
b. per capita income
c. median years of education
d. more than 4 years college

IV. Community Resource Base

a. percent professional workforce
b. general revenues per capita
c. local government officials per 1,000 pop.
d. local government expenditures per 1,000 pop.

V. Human Services Resources

a. local United Way funds per 1,000 pop.
b. health & welfare workers per 1,000 pop.
c. health and welfare expenditures per capita

CHAPTER V

ANALYSIS OF THE DATA

HS Environmental Resource Capacity

Ecologists and demographers have consistently argued and demonstrated that the ecological structure of a community affects the internal and external behavior of community organizations (Hawley,1981). Theorists agree that the environment of organizations is important, and the specification of factors or dimensions of the organizational environment should be a priority. This analysis begins with the population size and component distribution of the two community structures because it sets the background for much of the organizational behavior.

We assume that as the population of a community increases, so do client needs and demands; and more diverse organizations are required to meet an increasing diversity of these needs and demands: we see increased staffing needs, increased volume of human and material resources, and as a net result, there is an increase in the complexity of both intra- and interorganizational relationships. Also, holding the community population size constant, organizations in the community are differentially affected by the components of the community population. For example, variations in the size of the black, youth, or elderly population within the

community will affect some organizations, but not others. A sharp decrease in the percentage of youth in a community population will affect organizations such as Boy's Club, YMCA, and the Girl Scouts; such organizations as Senior Citizens, Social Security Administration, or Credit Counseling Center will be affected very little.

Before examining the population and the demographic characteristics of the two communities in this study, we first note that both communities closely follow the general population trends of the state of Michigan. The economy of Michigan has been and still is very dependent on automotive manufacturing. The two communities in this study rely on both Oldsmobile and Fisher Body. Prior to World War II, the Michigan automotive industry attracted a large population of unskilled, and some skilled, workers. The Michigan population showed marked increases in population and then peaked around 1950. Since then we see steady increases in the population, but at a much lower rate than for the U.S. as a whole. Between 1970-1979, due to foreign competition and subsequent decline of American automobile manufacturing output, and due to shift towards a more capital intensive manufacturing of automobiles, 349,000 more people emigrated from Michigan. The state now ranks sixth in the U.S. in population decline with a net migration loss of 3.4%. The two communities in this study reflect this general population trend.

Both Ingham and Kalamazoo counties showed an increase in population between 1970 and 1979 of 5.5% and 5.4%

respectively (see Table 14), and this does not follow the general Michigan population trend. But, both the cities of Lansing and Kalamazoo themselves had losses of population of .9% and 7.5% respectively. Here we see a situation in which almost all of the organizations sampled in this study are located within city limits of the two cities, but most of the organizational services or domain is extended to county limits. Since Lansing and Kalamazoo carry the largest proportion of the county populations, then too the client and resource base will be greater within the city limits. Thus, the losses in city population will have a greater impact on the HS organizations in this study, and the increases in county populations merely reflect marginal peripheral community population gains that are somewhat isolated geographically from the population-set of HS organizations.

TABLE 14: Community Population Characteristics 1970-1980

	1970		1980	
City	Lansing	Kalamazoo	Lansing	Kalamazoo
County	Ingham	Kalamazoo	Ingham	Kalamazoo
County Pop.	261,039	201,550	275,520	212,378
City Population	131,638	85,661	130,414	79,222
Net County Migration	5.3%	6.2%	-2.6%	-4.9%

Tables 15 and 16 shows the component distribution of population elements, and the change over time in those elements, for the two communities. We see very little difference between the two communities between 1970 to 1979 in regard to the various population components, with the exception that Kalamazoo had a considerable population loss; and looking at the percent white category, most of Kalamazoo's population loss was white. For that matter, both communites experienced a decline in the percentage of white population.

TABLE 15: Component Population Characteristics 1970-1980

	1970		1980	
	Lansing	Kalamazoo	Lansing	Kalamazoo
Non-White Population	16,405	10,578	31,409	19,114
Percent Non-White	6.3%	5.3%	11.4%	9.0%
Percent White	93.7%	94.7%	91.0%	88.6%
Black Population	14,343	9,626	14,371	9,579
Percent Black	5.5%	4.8%	7.7%	7.5%
Percent Youth	32.8%	34.1%	26.3%	26.7%
Percent Elderly	6.8%	7.8%	7.4%	8.9%

If one looks at the percentage increases in the black populations, this can only be understood in relation to decreases in the white population because absolute figures for the black population in the two communities shows very little change in the black population from 1970 to 1980. Increases in the percentage of the nonwhite population account for most of the population increases in the two community counties over time. Thus, both the Lansing and Kalamazoo communities experienced, to some degree, what the literature refers to as "whiteflight." But, for the most part, tne population and its proportional component rates grew very slowly from 1970 to 1978, and then began declining in 1979 in both communities.

TABLE 16: Percent Population & Component Change 1970-1980

	% Change 1970 to 1980	
	Lansing	Kalamazoo
County Population	5.5	5.4
City Population	-.9	-7.5
Non-White Population	91.5	80.7
Percent Non-White	2.7	6.1
Percent White	-2.7	-6.1
Black Population	0.0	-0.1
Percent Black	2.2	2.7
Percent Youth	-6.6	-7.4
Percent Elderly	.6	1.1

The only marked difference in the population components was that, like the U.S. population age distribution, the percentage of persons under the age of 18 has steadily declined from 1970 to 1980, while the percentage of persons over the age of 65 has steadily increased in both communities. Overall, then, both the Lansing and Kalamazoo community population size, and their proportional component elements, changed very little from 1970 to 1980, noting only that the overall age distribution shifted upwards, and most demographers predicted this trend will continue through the eighties.

Table 17 shows the distribution of income and certain education indicators for both communities from 1970 to 1980 as our third measure of the HS environmental resource capacity. This measure was implied by Niskanen (1971) who argues that the needy often lack administrative, and financial resources for making their needs and demands felt by those social and political organizations responsible for allocating funds. In addition, he argues that the persons who most directly benefit from the delivery of social services are the middleclass professionals who administer the programs that employ them. If government funds were not available for certain programs, such as Social Security, the middleclass professionals would certainly incur greater costs. This argument is based upon the fact that the use of community services highly correlates with income and educational levels.

TABLE 17: Income Characteristics 1970-1980

	1970		1980	
	Lansing	Kalamazoo	Lansing	Kalamazoo
Median Family Income	11,191	11,033	22,211	21,921
GNP Implicit Price	0	0	1.95	1.95
CPI Inflation Factor	0	0	1.88	1.88
Adjusted CPI Fam Inc	11,191	11,033	11,814	11,660
Adjusted GNP Fam Inc	11,191	11,033	11,390	11,24
Low Income Families	21.7%	21.7%	26.0%	25.3%
Per Capita Income	3,406	3,555	7,509	7,769
Adj Per Cap Inc CPI	3,406	3,555	3,850	4,132
Below Poverty Level	8.6%	8.3%	8.4%	7.4%
Unemployment Rate	6.5%	8.5%	10.6%	11.9%

Table 17 shows that there has been a near doubling of the median family and per capita income for the two communities from 1970 to 1980. When adjusted to 1970 dollars, using either the Consumer Price Index adjustment factor, a somewhat biased estimator on the high side, or the Gross National Product Implicit Price Deflator, a more conservative estimator, we see that the median family income has risen 2 to 5 1/2% from 1970 to 1980. Per capita income,on the other hand, also more than doubled from 1970 to 1980. Adjusting to 1970, dollars using either the GNP or the CPI inflation adjustment factors, we see that personal income in both the

Lansing and Kalamazoo communities had risen by at least 12.1 percent to a maximum of 17.3 percent. We can conclude then that the median family income, and the per capita income in the two communities increased significantly from 1970 to 1980.

Although a complicated and controversial issue, Table 16 shows that there was very little change in both the Lansing and Kalamazoo communities concerning the percentage of families below the poverty level, ranging from .2 to .9 percent respectively. Combined with the fact that both the median family income and the per capita income has risen from 1970 to 1980, we might expect that the below poverty level percentage of families would remain either constant or slightly decrease. Of course, this also assumes at least close approximate comparable formulas for determining the poverty level over time. Nonetheless, we would not expect a great deal of variation, but we note that in Lansing and in Kalamazoo the percentage of low income families had risen from 3.6 to 4.3 percent respectively from 1970 to 1980. In addition, we note that the unemployment rate for Lansing and Kalamazoo rose significantly by 2.0 to 3.4 percent respectively. Overall, then, it appears that the families below the family median income level, over time, were affected the most at the lowest income levels, which can be interpreted as an increase in the dependent population of the two communities, and subsequently, greater client needs and demands will be placed on community HS orga izations.

Table 18 indicates that the professional and/or educational resource base of the two communities had risen from 1970 to 1980. In Lansing and Kalamazoo the percentage of persons with four or more years of college increased from 1970 to 1980 by 7.9 and 8.5 percent respectively, resulting in a near 25% of the adult population in both communities in 1980 with four or more years of college. Although the percentage of professionals in the workforce in Lansing and Kalamazoo increased by nearly the same percent as the percentage of persons with four or more years of college (7.7% and 9.2% respectively), by 1980 approximately 35% of the workforce in Lansing and Kalamazoo were professional. Thus, the educational and professional resource base was far richer in 1980 than it was in 1970.

TABLE 18: Educational and Professional Resource Base

	1970		1980	
	Lansing	Kalamazoo	Lansing	Kalamazoo
Four or More Years College	18.1%	14.5%	26.0%	23.0%
Percent Change			7.9	8.5
Prof. Workforce	26.8%	24.4%	34.5%	33.6%
Percent Change			7.7	9.2

TABLE 19: Community Resource Base

	1970		1980	
	Lansing	Kalamazoo	Lansing	Kalamazoo
General Revenue Per Capita	$328	$258	$904	$735
Percent Change			175.6%	184.9%
CPI Adjustment			$481	$391
GNP Adjustment			$464	$377
CPI Percent Change			47.6%	51.6%
GNP Percent Change			41.5%	46.1%
Local Government Officials Per 1,000	33	26	39	29
Percent Change			18.2%	11.5%
Local Government Expend Per 1,000	$101,517	$61,027	$263,944	$165,313
CPI Adjustment			$140,395	$87,392
GNP Adjustment			$135,356	$84,776
CPI Percent Change			38.3%	44.1%
GNP Percent Change			33.3%	38.9%

Table 19 summarizes the general munificence of the Lansing and Kalamazoo communities. Unlike the income statistical characteristics, the general revenue per capita nearly tripled from 1970 to 1980, while local governmental expenditures per 1,000 population followed the same trend. Again,

adjusting for inflation using the CPI and GNP adjustment factors, the relative increase for Lansing and Kalamazoo general revenue per capita over time increased by 47.6% and 51.6% (CPI) or 41.5% and 46.1% (GNP) respectively. On the other hand, local governmental expenditures, when adjusted for inflation, increased over time in Lansing and Kalamazoo by 38.3% and 44.1% (CPI) or 33.3% and 38.9% (GNP) respectively. Combined with the fact that the number of local governmental officials per capita in Lansing and Kalamazoo increased by 18.2% and 11.5% respectively, it is very clear that the munificence of the HS organizational environment of the two communities increased dramatically over time.

Table 20 shows the human service resource base for the two communities in 1970 and in 1980. Since the majority of the HS organizations in both the 1972 and 1979 studies were members of United Way, resources available from United Way should be an important indicator of the richness or leanness of the HS environmental resource capacity. The absolute dollars collected by United Way nearly doubled in both communities from 1972 to 1979. When adjusted for inflation using either the CPI or GNPIPD adjustment factors, we see that available United Way funds for Kalamazoo per 1,000 population decreased by 14.2 or 17.0 percent. In Lansing, available United Way funds per 1,000 population have either decreased by 2.4 percent or 6.0 percent, depending on the inflation adjustment factor used.

TABLE 20: Human Services Resource Base 19721979

	1972		1979	
	Lansing	Kalamazoo	Lansing	Kalamazoo
United Way Fund	1,696,846	1,334,631	3,281,175	2,268,873
Per 1000 pop.	6,500	6,639	11,931	10,702
GNP Adjusted			2,012,991	1,391,947
Per 1000 pop.			7,320	6,566
Percent Change			+12.3	-1.1
CPI Adjusted			1,717,893	1,187,891
Per 1000 pop.			6,246	5,603
Percent Change			-3.9	-15.6
Health & Welfare Workers Per 1000 Population	28	22	37	27
Percent Change			+32.1	+22.7

In both communities we have the problem of deciding how relevant the inflation adjustment factors are. Do the HS agencies or their clients in this study experience price inflation in goods and services the same way as the general population? A case could be made that inflation adjustments either overestimate the effects of inflation, or that the inflation adjustments are appropriate. For this reason, unintentional bias effects will be minimized if we conservatively interpret the findings concerning the availability of

United Way funds, from 1972 to 1979 per 1,000 population, as essentially unchanged in Lansing, and a significant decrease in Kalamazoo.

In Table 20 we also see the number of health and welfare workers per 1,000 population in 1972 and in 1979 for both communities. Both communities show a significant percentage increase in the number of health and welfare workers. Kalamazoo and Lansing increases in the number of health and welfare workers were 22.7 and 32.1 percent respectively. Thus, in both communities there were more health and welfare worker resources available to meet HS organizational and client needs in 1979 than there were in 1972.

Table 21 shows a subjective appraisal of the HS environmental resource capacity from responses in the second study of HS agency directors responses concerning certain changes in the HS environment that have occurred over the past five years. No significant differences were found on any of the items between HS agency directors in Lansing and HS agency directors in Kalamazoo. HS agency directors from both communities assessed the HS organization environmental resource capacity in much the same way. In both communities, 71% to 87% of all HS agency directors stated that their organization's number of clients served, number of services and/or programs, budget and funding dollars, and sources of funding had increased in the past five years. Only 3% to 14% of all HS agency directors stated that their organization had experienced a decrease in any one of these items.

TABLE 21: Director Assessment of the HS Environment

		1979	
		Lansing	Kalamazoo
Number of Clients	(1) Decreased	14%	5%
	(2) Same	5%	8%
	(3) Increased	81%	86%
	Mean	2.7	2.8
	SD	.72	.52
	*Significance		.31
Number of Services	(1) Decreased	7%	3%
	(2) Same	12%	11%
	(3) Increased	81%	87%
	Mean	2.7	2.8
	SD	.59	.44
	*Significance		.38
Funding Dollars	(1) Decreased	21%	11%
	(2) Same	7%	11%
	(3) Increased	71%	78%
	Mean	2.5	2.7
	SD	.83	.67
	*Significance		.15
Sources of Funds	(1) Decreased	7%	8%
	(2) Same	44%	30%
	(3) Increased	49%	62%
	Mean	2.4	2.5
	SD	.63	.65
	*Significance		.57
Service Locations	(1) Decreased	10%	5%
	(2) Same	38%	57%
	(3) Increased	52%	38%
	Mean	2.5	2.3
	SD	.67	.58
	*Significance		.46

*Significance determined from t-tests using pooled variance

There are several ways of examining HS agency directors' assessment of changes in the sources of funding and the number of service locations. One way is to interpret the results as 90% or more of all HS agency directors stated that the sources of funding and the number of service locations either remained the same or increased. Another way would be to say the responses were nearly bimodal showing the increases in the sources of funding and the number of service locations as equivalent modes. But, probably the most useful way of interpreting the distribution of responses, for our purposes, is to look at the fact that approximately 50% of HS directors stated that the sources of funding and the number of service locations increased over time, whereas 10% or less of all HS agency directors reported that their agencies experienced a decrease in either of these items.

HS Environmental Resource Capacity Summary

The purpose of the preceding data analysis was to derive a general assessment as to whether or not the environmental resource capacity of the two communities had become richer or leaner from 1972 to 1979. Starting with community population size, it was found that, although the county population size of each community had slightly increased over time,it was noted that the city populations, in which most of the HS organizations are located, had decreased. Thus, the community populations did not change in size all that much.

The component variation changes over time within the community populations were relevant in that they indicated changes in the dependent population served by HS organizations, a measure of HS client demand. It was found that the dependent population components had changed very little over time, noting only that the percentage of youth in the populations had decreased and the percentage of elderly had slightly increased. In all, then, we again see very little change from 1972 to 1979 in both communities.

Community income characteristics from 1972 to 1979 also showed no real changes. When adjusted for inflation, family median income had only marginally increased over time. It was also found that the percentage of low income families and the percentage of families below the poverty level in the two communities remained essentially unchanged over time. However, the most significant change occurred in the unemployment rates. Both communities experienced sharp increases in the unemployment rate from 1970 to 1979. Hence, this seems to be the dependent population component affected the most over time in both communities.

We also found that the educational and professional resource base of the two communities had greatly improved over time. Nearly 25% of both adult populations in 1980 had four or more years of college (compared with around 15% in 1972) and about one-third of the workforce in each community were professionals (compared to nearly one-fourth in 1972.)

The community resource base data, from 1970 to '980, showed a greatly improved revenue base for both communities.

General revenue per capita, when adjusted for inflation, had increased by nearly 50% in both communities. In addition, local governmental expenditures in the two communities, when adjusted for inflation, increased by around 40%. This can be iewed in light of the significant increases that were also found in the number of local governmental officials per capita.

In contrast, the human services resource base, as measured by United Way funding, remained generally unchanged over time in Lansing, and sharply decreased in Kalamazoo. However, both communities did experience sharp increases in the number of health and welfare workers available to meet HS organizations and HS client needs and demands.

Finally, HS administrator perceptual findings in 1979 concerning changes in the HS environmental resource capacity, showed that in both communities the majority of the agency directors claimed that their own organization had experienced, in the past five years, an increase in the number of clients served, the number of services offered, the amount of funding dollars, and the sources of funds. This perceptual assessment of the HS environment did not seem to be too inconsistent with the more objective measures of the environmental resource capacity.

In sum, there are two general dimensions of the HS environmental capacity worth sorting out; supply and demand. On the supply side we find that the educational and professional resource base, the community resource base, and in terms of per capita health and welfare workers, the human

services resource base, had largely improved from 1972 to 1979. On the demand side we find that no real changes occurred from 1972 to 1979 in population size, the population dependent components, or the community income characteristics in either community. The demand dimension generally remained stable over time. Therefore, in light of both the objective and the subjective assessments of the HS environmental resource capacity, it can be concluded that the HS environment was far richer in capacity in 1979 than it was in 1972 for both communities.

Human Services Interorganizational Linkages

For each human service IOR network, and for each of the twelve network types of IOR relations, we would expect the number of possible IOR linkages for any particular type of network to equal (N(N-1)/2)). This means that the total number of possible links ranged from 528 (early Lansing N=33) to 861 (later Lansing N=42). Looking at Table 22, all twelve types of network IOR linkages showed that the actual total number of linkages never exceeded 25% of the total possible number of IOR linkages. This seems to indicate that the expectation that one would find an intricate, complex web of IOR relationships is somewhat misplaced.

If we look at the total number of actual linkages found when summing across the 12 linkage types, we find that the ratio of actual linkages found to possible linkages never exceeds more than .15. What this means is that in each

TABLE 22: IOR linkage Totals

	1972				1979			
	Lansing		Kalamazoo		Lansing		Kalamazoo	
Linkage Type	Sum	%	Sum	%	Sum	%	Sum	%
1. Similar Services	84	11	45	8	106	9	128	10
2. Influence Over	79	10	33	6	53	4	43	3
3. Good Opinion	55	7	23	4	101	8	120	9
4. Cooperation	101	13	79	14	152	12	149	11
5. Send People To	130	17	120	21	148	12	170	13
6. Exchange Info.	49	6	77	14	145	12	153	12
7. Community Comm.	29	4	49	9	104	8	115	9
8. Rely On	88	11	70	12	72	6	76	6
9. Same Money	23	3	49	9	156	13	189	15
10. Run Programs	55	7	61	11	46	4	31	2
11. Formal Rel.	35	4	34	6	20	2	24	2
12. Compete With	51	7	28	5	124	10	103	8
Actual Links	779		564		1227		1301	
Possible Links	6336		6732		10,332		8436	
Ratio	.12		.08		.12		.15	
Possible Links Each IOR Type	528		561		861		703	

of the communities 85% or more of all possible HS IOR linkages remain inactive or uninitiated. Even though Kalamazoo showed a near doubling from 1972 to 1979 in the ratio of actual to possible linkages, still there were only 15% or fewer actual linkages found. There was no real change in the ratio of actual to possible linkages from 1972 to 1979 in Lansing, and there was very little difference found between the two communities in 1979 (ratio difference = .03). All in all, then, there has been little change in the linkage density for the two communities over time.

Of course the aggregate ratio of actual to possible IOR linkages does not at all describe the variation of actual to possible IOR linkages across the twelve types of linkages. One way to examine the variation of IOR linkages is simply to compare the means and standard deviations . Table 23 shows the mean number of IOR linkages for each type of HS IOR linkage. Again, contrary to what may be considered high expectations, HS organizations had a mean high of no more than 5 IOR linkages for any particular type of link, and no fewer than a mean of .5.

Table 23 also shows that the cooperative (4) and referral IOR (5) linkage means consistently remained higher over time in both communities. Apparently, since the formal relations with other HS organizations linkage means (11) were lower than most other types of IOR linkage means over time, particularly in the later study, and in both communities, we might simply interpret that cooperative IOR linkages tend to be more dense, but probably those linkages are not generally

formalized. However, we must add that this interpretation can be extended to all the other types of HS IOR linkages. In general, all types of HS IOR linkages are more likely nonformalized relations.

TABLE 23: IOR Linkage Means

IOR Linkage Type	1972				1979			
	Lansing		Kalamazoo		Lansing		Kalamazoo	
	X	SD	X	SD	X	SD	X	SD
1. Similar Services	2.6	2.7	1.3	1.3	2.5	2.2	3.4	2.8
2. Influence Over	2.4	2.1	1.0	2.1	1.3	2.2	1.1	2.2
3. Good Opinion	1.7	2.2	.7	1.0	2.4	3.1	3.2	3.9
4. Cooperation	3.1	3.3	2.3	2.2	3.6	3.4	3.9	3.8
5. Send People To	3.9	4.7	3.5	3.9	3.5	3.2	4.5	3.7
6. Exchange Info.	1.5	2.2	2.3	2.2	3.5	3.2	4.0	3.7
7. Community Comm.	1.0	1.1	1.4	1.8	2.5	2.4	3.0	2.8
8. Rely On	2.7	3.2	2.1	2.4	1.7	2.1	2.0	1.9
9. Same Money	.7	1.0	1.4	1.5	3.7	2.8	5.0	2.9
10. Run Programs	1.7	1.5	1.8	1.9	1.1	2.0	.8	1.5
11. Formal Rel.	1.1	1.4	1.0	1.2	.5	.7	.6	.8
12. Compete With	1.6	1.5	.8	1.1	3.0	2.6	2.7	2.1

X = Total In-Directed links / Sample N

Table 24 shows the absolute mean difference between the two communities, in 1972 and in 1979, on each of the twelve types of HS IOR, and reports the results of T-tests performed to determine whether the differences were significant. In the early study significant mean differences were found concerning similar services, influence, and good opinion IOR linkages. Lansing tended to have higher means on all these types of IOR linkages than Kalamazoo. On the other hand, Kalamazoo had significantly lower same source of money and competition IOR linkages than Lansing, which generally means that the level of IOR competition was significantly lower in Kalamazoo than in Lansing in 1972. In contrast, no significant mean differences were found between Lansing and Kalamazoo in 1972 in regard to cooperative types of HS IOR. Cooperative, referral, involvement in community committees, exchange of information, and reliance types of HS IOR were at the approximate same level in both communities.

Whatever IOR linkage mean community differences did exist in 1972, seemed to all but disappear in 1979, with the major exception that Kalamazoo, again, tended to have a significantly lower mean number of IOR linkages with other HS organizations that received money from the same source. And, not only was this difference found to be a significant one, but the difference was nearly twice as much in 1979 than in 1972. Oddly enough no significant differences were found between the two communities in regard to the level of IOR competition. It appears that HS IOR involving receiving

TABLE 24: IOR Linkage Mean Differences

IOR Linkage Type	1972 Differences Lan-Kal	1972 Differences Prob.	1979 Differences Lan-Kal	1979 Differences Prob.
1. Similar Services	+1.3	*.02	-.9	.14
2. Influence Over	+1.4	*.01	+.2	.79
3. Good Opinion	+1.0	*.02	-.8	.34
4. Cooperation	+ .8	.29	-.3	.71
5. Send People To	+ .4	.70	-1.0	.33
6. Exchange Info.	- .8	.15	-.5	.46
7. Community Comm.	- .4	.13	-.5	.34
8. Rely On	+ .6	.38	-.3	.52
9. Same Money	-.7	*.02	-1.3	*.05
10. Run Programs	-.1	.76	+.3	.48
11. Formal Relations	+.1	.85	-.1	.36
12. Compete With	+.8	*.03	+.3	.6

* = Significant at p = .05

money from the same source does not necessarily imply that HS IOR level of competition will be affected.

Turning to HS IOR linkage mean difference over time for each community, Table 25 shows IOR linkage mean changes from 1972 to 1979 in Lansing and in Kalamazoo, and reports whether these changes were significant or not. It is clear that Kalamazoo experienced a greater number of significant changes over time than lansing. In Kalamazoo, IOR linkage

TABLE 25: IOR Linkage Mean Differences 1972-1979

	1972		1979	
	Lansing 1972-1979 Mean Difference		Kalamazoo 1972-1979 Mean Difference	
Linkage Type	1972-1979	Prob.	1972-1979	Prob.
1. Similar Services	-.1	.97	+2.1	*.01
2. Influence Over	-1.1	*.03	+.1	.75
3. Good Opinion	+.7	.24	+2.5	*.01
4. Cooperation	+.5	.48	+1.6	*.03
5. Send People To	-.4	.69	+.5	.34
6. Exchange Info.	+2.0	*.01	+1.7	*.02
7. Community Comm.	+1.5	*.01	+1.6	*.01
8. Rely On	-1.0	.14	-.1	.91
9. Same Money	+2.0	*.01	+3.6	*.01
10. Run Programs	-.6	.18	-1.0	*.02
11. Formal Rel.	-.6	*.04	-.4	.14
12. Compete With	+1.4	*.01	+1.9	*.01

* = Significant at p = .05

means in 1979 were mostly higher than in they were 1972. Although there were also a number of significant changes in IOR linkage means over time in Lansing as well, it looks as though off-setting significant changes found in Kalamazoo and Lansing over time had the effect of minimizing the IOR linkage mean differences that were evident in 1972 between the two communities.

Yet both communities experienced significant IOR linkage mean increases in IOR of exchanging information, involvement on community committees, receiving money from the same source, and competition.

A simple ordinal ranking of the 12 HS IOR types of linkage means will give us a general sense of the importance of each type of HS IOR in relation to the other types. In Table 26 we see that the HS IOR type rankings in 1972 for Lansing and Kalamazoo produced both a pattern of similarities and a pattern of dissimilarities. Both communities showed high rank ordered IOR linkage means on the general dimension of cooperation; referral, cooperation, reliance and running programs types of IOR. Both communities also had relatively the same lower linkage mean rankings for formal relations and competition types of IOR. On all other types of HS IOR, the rank ordered linkage means were quite different between the two communities in 1972. Influence, good opinion, information exchange, community committee involvement, and same money source types of HS IOR ranked linkage means showed large differences between the two communities.

TABLE 26: IOR Linkage Means Rank Order

	1972		1979	
IOR Linkage Type	Lansing Rank	Kalamazoo Rank	Lansing Rank	Kalamazoo Rank
1. Similar Services	4	8	6	5
2. Influence Over	5	10	10	10
3. Good Opinion	6	12	8	6
4. Cooperation	2	2	2	4
5. Send People To	1	1	3	2
6. Exchange Info.	9	3	4	3
7. Community Comm.	11	7	7	7
8. Rely On	3	4	9	9
9. Same Money	12	6	1	1
10.Run Programs	7	5	11	11
11. Formal Rel.	10	9	12	12
12. Compete With	8	11	5	8

These findings are consistent with Table 25 in which significant HS IOR linkage mean differences between the two communities are reported. But, in addition, we now see that where insignificant differences were found, there seems to be agreement that cooperative types of HS IOR have a high frequency of occurrence, whereas formal relations and competition types of IOR are fairly low in frequency of occurrence in 1972. The Spearman rank order correlation

coefficient (rs = .37) cannot be used in any sort of causal way, it does show the variation agreement to be moderately low between the two communities regarding HS IOR linkage type means.

On the other hand, in 1979 the rank ordered HS IOR linkage type means correlation coefficient was r= .93, showing an extremely high variation agreement between the two communities. Again, the differences that existed in 1972 had all but disappeared by 1979. The rank order correlation coefficients between early and later, Lansing of r= .08 and Kalamazoo of r =.46, indicates that most of the HS IOR linkage type means rank order changes occurred in Lansing over time. Yet, we must note that a number of differences and similarities existed between the two time periods for both communities. In 1972 both communities had ranked same source of money type of IOR, sixth in Kalamazoo and last in Lansing. By 1979, both communities ranked same source of money type of HS IOR first among all other types. In addition to this major shift, we see that information exchange, community committee involvement, reliance and running programs types of IOR had decreased in the overall ranking of IOR linkage means.

In contrast to the changes in the rank order of IOR linkage means over time, it is very important to note that cooperation and referral types of HS IOR ranked means remained highly ranked in both time periods, and the competition type of IOR means remained moderately ranked over time in relation to other types of HS IOR. In sum, then, two

important dimensions of IOR types of linkages, competition and cooperation, little change in their rank ordered linkage means in relation to other types of HS IOR linkages over time, in either community. We also see that same source of money type of IOR linkage takes precedence over all other types of IOR, while at the same time pointing out that running programs and reliance types of IOR linkages declines dramatically in the 1979 linkage type means ranking.

HS IOR Linkage Descriptive Summary

It is very important to carefully describe the IOR linkage patterns of the two communities, and the changes in those patterns that have occurred over time, so that subsequent analyses can be built upon what is empirically known, and not what is assumed to be the case. Our first discovery that reinforces this principle was the finding that the IOR linkage densities of the two communities, and over time, were extremely low. We knew initially that, given (N (N-1))/2 possible IOR linkages for each community HS organizational network, there were from 6,000 to 8,500 possible IOR linkages. But, we found that at most only 15% of possible IOR linkages were active; and this was consistent over time. We must admit, however, it is naive to assume that given the many dissimilarities among HS organizations in terms of mission, goals, purposes, and status characteristics, that we should expect a great deal of IOR activity, even if we assume the IOR initiating factor of resource scarcity.

We found that no particular type of IOR had more than an average of three linkages for each HS organization. Those types of IOR that were consistently higher than the mean number of linkages tended to be cooperative and referral types of IOR. In addition, over time the means of these types of IOR significantly increased. We see that these types of IOR consistently account for nearly 25% of all IOR. We also note that formal IOR show consistently low means, and although these means were not significantly lower in 1979, they were lower nonetheless. This may suggest that cooperative and referral types of IOR tend to be neither formal nor mandated.

One interesting change was that the average number of IOR linkages between HS organizations that shared the same source of money had increased significantly, and more so than any other type of IOR. This seems to suggest that central public institutions, such as state and local institutions, and private central institutions, such as United Way have consolidated the sources of funding and therefore play a more important role in HS organizational networks than before. Alongside this change, we also see that, although competitive IOR linkage means do not rank very high among the other types of IOR, the competitive linkage means did show a significant increase from 1972 to 1979. It is not clear, at this point, whether or not this change is related to the change that occurred in the IOR sources of funding. But, we do notice that reliance type of IOR dropped in the

rank order of IOR type means from 1972 to 1979.

As discussed in the research methods chapter, the general cooperative dimension was found to include cooperative, referral, influence, good opinion, and reliance types of IOR. In 1972, and in 1979, it is very clear that the two items, cooperation and referral, are the most frequently occurring type of IOR in both communities. But unlike the 1972 findings, in 1979 exchange of information and involvement with others on community committees types of IOR ranked high for IOR in both communities. The 1972 data show that only in Lansing did these two have an extremely low rank ordered mean, and from previous factor analysis results, we also found that only in Lansing did these items fail to load on the cooperative dimension.

Given that there were no significant differences found between Lansing and Kalamazoo on any of the IOR type items in 1979, and that the rank ordered IOR means correlation coefficient between Lansing and Kalamazoo was extremely high, two conclusions are possible: either their is a problem of measurement error, or significant changes did indeed occur in Lansing from 1972 to 1979. In any case, it appears that if there is a great deal of measurement error, it most likely occurred in the collection of the 1972 data. Therefore, it seems reasonable, both on empirical and conceptual grounds, to include exchange of information and involvement with on community committees types of IOR as part of the IOR cooperative dimension.

Finally, it is commonly known that every collected data set in social science research has a number of problems, mistakes, and errors. This data set is not unique in this regard. In collecting the 1972 IOR data, respondents were allowed, among the multiple response options, to simply respond "all other organizations." It is not known now, nor probably then either, what this type of response means. Since this option was in frequently used by the 1972 respondents, and since the option was not available in the 1980 study, and the 1979 respondents never exceeded an average of five citations for any one type of IOR, this response category was coded as missing data in the 1972 study. It is suspected that "all other organizations" is more likely a referent indicator of possible or potential linkages, not actual IOR linkages.

Human Service Directors Perceptions of IOR

Table 27 shows HS directors' perceptions of how important participation in interorganizational cooperative or collaborative programs or services are. In the early study we see that the directors, on the average, and in both communities, felt that such participation was somewhere between slightly to somewhat important. We also note that the standard deviations show that there was some variability in this respect, but no significant differences were found between the means of Lansing and Kalamazoo in the early study. In the later study, directors felt, on the average, and in both communities, that such participation was a

little more than somewhat important, and the variability of the responses, as indicated by the standard deviations, was less than it was in the earlier study, and no significant differences were found between the means in the later study. In addition, a significant difference between the means over time was found for Kalamazoo (p=.01) and for Lansing, but at p=.09. Hence, we see that the perceived importance of participating in cooperative or collaborative programs or services increased from 1972 to 1979, and much more sofor Kalamazoo.

TABLE 27: Directors' Perceptions of IOR Participation

1972				1979			
Lansing		Kalamzaoo		Lansing		Kalamazoo	
X	SD	X	SD	X	SD	X	SD
2.8	1.8	2.4	1.4	3.3	1.1	3.2	.97

1972 Mean Difference= .4 Significance Probability= .27

1979 Mean Difference= .1 Significance Probability= .74

1972-1979 Lansing Change= +.5 Significance Probability= .09

1972-1979 Kalamazoo Change= +.8 Significance Probability= .01

Scale

1=not important
2=slightly important
3=somewhat important
4=very important
5=very greatly important

TABLE 28: Directors' Perceptions of IOR Competition

1972				1979			
Lansing		Kalamzaoo		Lansing		Kalamazoo	
X	SD	X	SD	X	SD	X	SD
3.2	1.7	2.9	1.4	3.1	.99	2.9	.89

1972 Mean Difference= .3 Significance Probability= .57

1979 Mean Difference= .2 Significance Probability= .37

1972-1979 Lansing Change= -.1 Significance Probability= .89

1972-1979 Kalamazoo Change= 0.0 Significance Probability= .91

Scale

1=no competition at all
2=slignt competition
3=some competition
4=great competition
5=very great competition

Table 28 shows HS directors' perceptions of the extent of HS interorganizational competition for resources in their community. On the average, directors in Lansing and Kalamazoo, in the early study, felt that some interorganizational competition for resources existed. No significant difference between the means for Lansing and Kalamazoo in the early study were found. Results of the later study show that directors' perceptions of interorganizational competition

were almost identical with those in the early study, noting also that there was no significant difference found between the means, and that the variability of the responses was less than it was in the early study. Thus, there were no significant changes found concerning directors' perceptions of interorganizational competition from 1972 to 1979 in either community. Directors in both studies, on the average, felt that some competition existed.

As measures of internal intraorganizational conflict, directors were asked how much difference of opinion existed between the administrative and professional staff in their agency about fund raising, coordinating IOR services, allocating resources, modifying programs or services, serving new client groups, and personnel policies and procedures. Conceptually we can view all of these measures as part of an overall dimension of intraorganizational conflict. Table 29 shows the results of a factor analysis performed on the combined measures for both communities from 1972 to 1979. In both communities, and in both studies, all measures were found to load more than .5 on one common dimension, with the one exception that the 1972 Lansing measure of interorganzational service coordination had a loading of .44 on the same dimension. Therefore, we can conclude that the combined measures, using factor scores, can be used as a general indicator of the extent of intraorganizational conflict.

TABLE 29: Intraorganizational Conflict Factor Analysis*

	1972		1979	
	Lansing Loading	Kalamazoo Loading	Lansing Loading	Kalamazoo Loading
Fund Raising	.64	.51	.61	.67
IOR Coordination	.44	.65	.72	.69
Allocating Resource	.85	.70	.76	.71
Modifying Program	.95	.84	.76	.81
Serving New Group	.82	.66	.71	.68
Personnel Policies	.78	.67	.72	.82
% Variance Explained	64	55	60	61

*Conflict is the difference of opinion between administrative and professional staff concerning the items listed.

Examining the separate means of the measures of intraorganizational conflict, as shown in Table 30, we see that, on the average, directors in both communities and in both time periods felt that intraorganizational conflict existed to less than "some extent." On all measures, in both the early and later studies, no significant differences were found Lansing and Kalamazoo. Looking at the difference in mean changes over time, we see that most means of the measures were slightly lower in both communities, with the

TABLE 30: Intraorganizational Conflict Means Analysis

	1972				1979			
	Lansing		Kalamazoo		Lansing		Kalamazoo	
	X	SD	X	SD	X	SD	X	SD
Fund Raising	2.2	1.1	2.0	1.0	1.8	.92	1.7	.82
IOR Coordination	2.4	.98	2.1	.96	1.7	.69	1.8	.81
Allocating Resource	2.7	1.3	2.3	.99	2.2	.93	2.3	.86
Modifying Program	2.3	1.1	2.1	.88	2.0	.81	2.1	.81
Serving New Group	2.3	1.0	2.4	.88	1.8	95	1.9	.70
Personnel Policies	2.5	1.2	1.9	.95	2.3	.83	2.1	.83

Difference/Significance Probability

	1972		1979		1972-1979			
	Lan/Kal		Lan/Kal		Lansing		Kalamazoo	
Fund Raising	+.2	.56	+.1	.73	-.4	.19	-.3	.28
IOR Coordination	+.3	.25	-.1	.57	-.7	*.01	-.3	.16
Allocating Resource	+.4	.29	-.1	.84	-.5	.12	0.0	.75
Modifying Program	+.2	.44	-.1	.69	-.3	.35	0.0	.76
Serving New Group	-.1	.79	-.1	.69	-.5	*.03	-.5	*.02
Personnel Policies	+.6	06	+.2	.24	-.2	.68	+.2	.48

Scale

1= not at all
2= slight extent
3= some extent
4=great extent
5=very great extent

*Conflict is the difference of opinion between administrative and professional staff concerning the items listed.

one exception of the slightly higher mean regarding intra-organizational conflict about personnel policies and procedures in Kalamazoo. However, we see that only two measures showed a significant change over time, one for the Lansing community only, and one for both Lansing and Kalamazoo. Again, we note that both in the factor analysis results and in the testing of the mean difference over time, intra-organizational conflict concerning interorganizational services coordination was much different in Lansing than in Kalamazoo in 1972, but no differences were found between Lansing and Kalamazoo in 1979. The one measure of intra-organizational conflict that did prove to show a significant change was the extent of the difference of opinion that existed between the administrative and professional staff concerning serving new client groups. The difference of opinion was significantly less in the 1979 study than it was in the 1972 study, for both communities.

In all, the results of both studies concerning the extent of intraorganizational conflict depict administrators, on the average, as perceiving the level of intraorganizational conflict in their own agency to be very little, and less so in 1979, in both communities. But, for the most part, not much changed concerning directors' perceptions of interorganizational conflict from 1972 to 1979. The one significant change, the problem of serving new client groups, could be linked to the interpretation of the far richer HS environmental resource capacity that existed in 1979, that possibly led to the resolving of some of the

intraorganizational conflict about the problem of serving new client groups (e.g. Table 16, elderly and Unemployed.)

Sources of Influence Over HS Organizational Decision-Making

HS directors were asked in 1972 and in 1979 which persons, groups or things have an influence over seven different, but related, types of intraorganizational decision-making problems or issues. Respondents were allowed to make multiple selections among fourteen items considered to be sources of internal or external sources of influence over decisions concerning modifying programs, budgets and salaries, providing new services, seeking new sources of funds, administrative and profesional staff personnel policies, paraprofessional and clerical staff personnel policies, and agency policies and procedures. So, again, the nature of the data base is of the multiple response type.

The cell entries in Table 31 need a brief explanation as to how each entry was constructed. First, an SPSS multiple response program was run to obtain frequency counts for each of the fourteen sources of influence items for each decision-making type problem, within each community, and for each time period. In all, then, there were 28 (2 communities X 2 time periods X 7 decision-making types) frequency distributions constructed. Next frequency counts for each influence item were cummulatively summed across the decision-making types for each community and for each time period. Thus, sources of influence items frequency distributions were reduced to four. Finally, the frequency count for

each influence item was converted to the percentage frequency that item was cited as a source of influence over all influence items cited within each community, and for each time period. The final total column represents the cummulative constructed percentage, making no distinction between communities or time period. All cell entries were converted to percentages so as to adjust for the unequal number of cases, thus making comparisons possible.

Table 31 clearly shows that the most important source of influence over HS organizational decision-making is the board of directors. Nearly three-fourths of all respondents, regardless of community or time period, cited the board of directors as having influence over the various types of HS organizational decision-making. Not surprisingly, we find that nearly half of the respondents cited assistant directors as having considerable influence over HS organizational decision-making, regardless of community or time period. In addition, we also see that assistant directors were cited nearly 20% more frequently in 1979 than they were in 1972.

Table 31 shows two major changes in the sources of influence over decision-making over time. First we see that money is of lesser importance as a source of influence in 1979 than it was in 1972 in both Lansing and Kalamazoo. Second, we see a dramatic reduction in the citing of senior professional staff as a source of influence over decision-making in 1979 for Lansing and Kalamazoo, down nearly 50% from 1972.

TABLE 31: Percentage of Agencies Citing Sources of Influence

	1972		1979		1972-79
	Lan	Kal	Lan	Kal	Total
	%	%	%	%	%
Assistant Directors	44	39	66	52	50
Board	80	76	68	71	73
Client Groups	15	14	11	17	14
Community Groups	7	1	11	8	7
Other Agency Heads	4	5	5	10	5
General Public	3	10	4	12	6
Gov't. Officials	12	17	12	21	12
Laws & Regulations	16	7	15	17	16
Money	34	28	21	18	25
Paraprof. Staff	5	8	8	4	6
Fund Requirements	14	13	12	19	17
Senior Prof. Staff	46	41	18	20	30
Parent Agency	22	12	17	13	13
Other Agency Staff	5	7	2	5	5

The rank ordered sources of influence items shown in Table 32 shows the ranked importance of each source of influence item in relation to all other influence items. We, of course, again find that the board of directors, assistant directors, and the senior professional staff (particularly in the early study) were among the most often cited sources of influence over HS organizational decision-making. If we look at differences between communities, we see that the parent agency, as a source of influence, ranked much higher in Lansing than in Kalamazoo in 1972 and in 1979. In addition, unlike the 1972 study, funding requirements as a source of influence ranked higher in Kalamazoo in 1979 than it did in 1972, while Lansing's funding requirements ranked pretty much the same in 1972 and 1979.

Excluding these few community differences and longitudinal changes in the sources of influence, the most important feature we see is that the overall rank distributions of the sources of influence over HS organizational decision-making form approximately the same pattern between the two communities, and that pattern did not seem to change much from 1972 to 1979. We see that the board, assistant directors, and the senior professional staff have a great deal of influence; money, funding requirements, laws and regulations, client groups, and the parent agency have some influence; external groups; government officials, community groups, the general public, other agency heads and agency staff have very low importance as a source of influence.

TABLE 32: Rank Order of Sources of Influence by Citation

	1972		1979		1972-79
Rank	Lansing	Kalamazoo	Lansing	Kalamazoo	Total
1	B	B	B	B	B
2	L	L	A	A	A
3	A	A	I	G	L
4	I	I	L	L	I
5	M	G	M	K	K
6	H	C	H	I	H
7	C	K	C	H	C
8	K	M	D	C	M
9	G	F	K	M	G
10	D	J	G	F	D
11	J	N	J	E	F
12	N	H	E	D	J
13	E	E	F	N	E
14	F	D	N	J	N

A. Assistant Directors
B. Board
C. Client Groups
D. Community Groups
E. Other Agency Heads
F. General Public
G. Gov't. Officials
H. Laws and Regulations
I. Money
J. Paraprofessional Staff
K. Funding Requirements
L. Senior Professional Staff
M. Parent Agency
N. Other Agency Staff

If we are to directly relate these empirical measures of HS organizational sources of influence with other measures to be subsequently used in this study, we need to know whether or not the aggregated averaged distribution of sources of influence items can serve as a reliable measure over time regardless of community. If this proves to be the case, we can then return to the original raw data frequency counts, derive a cummulative sum across communities and time periods, calculate the mean of the cummulative sum for each source of influence item, and then assign each influence item, using the cummulative respective means, a weight representing the relative contributions of each item in respect to the overall distribution of sources of influence over HS organizational decision-making.

Table 33 reports the Pearson product moment correlation coefficients between all possible combinations of the sources of influence items distributions for both communities and time periods. In addition, variables 5, 6, 7, and 8 exclude each community's, within each time period, contribution to the overall source of influence distribution, in an attempt to eliminate confounding correlations that might occur if the separate community's contribution had been included in the overall correlation. In row 11 of the matrix we see, in a step-wise fashion, that regardless of community or time, and no matter which combination of community and time period we examine, all sources of influences items distributions are highly correlated with each other and with the aggregate overall 1972-1979 distribution.

TABLE 33: Influence Items Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11
1.	1.0										
2.	.97	1.0									
3.	.87	.85	1.0								
4.	.89	.90	.96	1.0							
5.	.94	.94	.98	.98	1.0						
6.	.95	.94	.98	.98	.94	1.0					
7.	.94	.99	.95	.95	.98	.98	1.0				
8.	.95	.98	.95	.95	.99	.99	.99	1.0			
9.	.99	.99	.90	.90	.95	.95	.99	.99	1.0		
10.	.89	.88	.99	.99	.99	.98	.94	.95	.89	1.0	
11.	.97	.96	.97	.97	.99	.99	.99	.99	.97	.97	1.0

Matrix Variables Description

1. = Lansing 1972 influence items distribution
2. = Kalamazoo 1972 influence items distribution
3. = Lansing 1979 influence items distribution
4. = Kalamazoo 1979 influence items distribution

5. = 1972-79 influence distribution - 1972 Lansing
6. = 1972-79 influence distribution - 1972 Kalamazoo
7. = 1972-79 influence distribution - 1979 Lansing
8. = 1972-79 influence distribution - 1979 Kalamazoo

9. = 1972 influence items distribution/ both cities
10. = 1979 influence items distribution/ both cities

11. = 1972-1979 influence items overall distribution

Thus, it is appropriate to use the aggregated influence distribution as a reliable measure of the sources of influence over HS organizational decision-making. Given this decision, Table 34 shows the assigned weighted score for each influence item, based on the aggregated mean of that item.

TABLE 34: Weighted Sources of Influence Scores

Source of Influence Item	Weighted Score
Board of Directors	5.1
Assistant Directors	2.8
Senior Professional Staff	2.1
Money	1.7
Parent Agency	1.4
Funding Requirements	1.2
Laws & Regulations	1.1
Client Groups	1.0
Government Officials	.85
Community Groups	.50
General Public	.41
Paraprofessional Staff	.40
Other Agency Heads	.38
Other Agency Staff	.33

Extent of Influence Over HS Organizational Decision-Making

We can now use the cummulative sum of the 14 sources of influence item weights to construct a scale, ranging from 0 to 19.27, that can be used to measure the total extent of internal/external influence over organizational decision-making for each HS organization. Since the extent of internal/external influence is the aggregated total sum of the multiple citations, we substitute the weights for the nominal citations (i.e. any of the 14 nominal items) and then sum the multiple citation weights to create an influence score for each HS organization. For example, if agency A cites the board of directors and the assistant directors as having influence over their agency's decision-making, the total extent of internal/external influence over decision-making for agency A equals 5.1 + 2.8 = 7.9. Therefore, 0 equals no internal/external influence and 19.27 equals internal/external influence from all groups, persons, and sources.

Table 35 shows the means for the extent of internal/external influence for each decision-making type, for each city, and for each time period. We see that, overall, the means were near 5 or somewhat below the midpoint of the scale ranging from 0 (no influence) to 19.27 (total influence). Looking across the types of decisions made, we see that, for both Lansing and Kalamazoo, and over time, that the greatest extent of internal/external influence was over agency decisions concerning new services or programs, and over decisions concerning modifying existing programs or

services. In contrast, we generally find lower mean internal/external influence for both Lansing and Kalamazoo, and over time as well, over decisions concerning clerical or paraprofessional staff.

TABLE 35: Extent of External & Internal Influence Means

	1972		1979	
Decisions About:	Lansing Mean	Kalamazoo Mean	Lansing Mean	Kalamazoo Mean
Modifying Programs	8.4	6.8	7.8	6.4
Budgets & Salaries	6.6	5.1	6.3	6.4
New Services	9.8	9.1	7.7	7.0
Seeking Funds	6.9	7.4	5.9	6.2
Professional Staff	8.1	6.3	5.1	4.7
Clerical Staff	6.9	6.1	4.6	3.8
Agency Procedures	9.3	8.0	6.3	6.1

More specifically, Table 36 shows community and longitudinal mean differences in the extent of internal/external influence over all types of HS organizational decisions. We see that the mean differences were much greater between Lansing and Kalamazoo in 1972 than they were in 1979. In fact, very small differences were found in 1979 between Lansing and Kalamazoo. However, we also note that most mean

differences were those indicating that there was a higher degree of internal/external influence over most types of HS organizational decision-making in Lansing than in Kalamazoo, in 1972 and in 1979.

TABLE 36: Influence Mean Differences

	Lansing-Kalamazoo Differences		Change 1972-1979	
Decisions About:	1972	1979	Lansing 1972-79	Kalamazoo 1972-79
Modifying Programs	+1.6	+ .5	- .6	+ .5
Budgets & Salaries	+1.5	- .1	- .3	+1.3
New Services	+ .7	+ .7	-2.1	-2.0
Seeking Funds	- .5	- .3	-1.0	- .8
Professional Staff	+1.8	+ .4	-3.0	-1.6
Clerical Staff	+ .8	+ .8	-2.3	-2.3
Agency Procedures	+1.3	+ .2	-3.0	-1.9

Most importantly, we see in Table 36 that all the mean differences found between 1972 and 1979 Lansing, and most of the mean differences between 1972 and 1979 Kalamazoo, show that, over time, the extent of internal/external influence over decision-making decreased. In Table 37 we see that, in particular, the extent of internal/external influence decreased significantly ($p = .01$) for decisions concerning new services or programs, clerical staff, and agency procedures.

In no case do we find a significant increase over time in the extent of internal/external influence over any of the decision-making types in either Lansing or Kalamazoo.

TABLE 37: Influence Mean Differences/ Significance Levels

	Differences Lansing-Kalamazoo		Change 1972-79	
Decisions About:	1972	1979	Lansing 1972-79	Kalamazoo 1972-79
Modifying Programs	*.03	.54	.32	.56
Budgets & Salaries	*.04	.92	.68	.07
New Services	.33	.50	*.01	*.01
Seeking Funds	.55	.69	.23	.10
Professional Staff	*.05	.70	*.01	.07
Clerical Staff	.34	.28	*.01	*.01
Agency Procedures	.10	.80	*.01	*.01

T-test results using pooled variance estimates
* significant at p=.01

We also see in Table 37 that no significant differences were found between Lansing and Kalamazoo in 1979. All significant mean differences found between Lansing and Kalamazoo in 1972 were not evident in 1979. The only real inconsistency we find between Lansing and Kalamazoo over time is that in Lansing there was a significant decrease in the extent of internal/external influence over decisions

concerning agency professional staff; and if we agreed to a criterion level of significance of p= .07, this would not be an inconsistency at all.

In sum, the most important trend, for our purposes, that Tables 35, 36, and 37 reveal is that from 1972 to 1979 the extent of internal/external influence over HS organizational decision-making has decreased. While significant decreases were found for decisions concerning new services or programs, professional staff (Lansing only), clerical or paraprofessional staff, and agency procedures, we find that the extent of internal/external influence over the other decision-making types did not change significantly for either Lansing or Kalamazoo, and most importantly, no significant internal/external mean influence increases were found for any of these other decision-making types.

Partialling Internal and External Source of Influence

Thus far we have examined the sources of influence over HS organizational decision-making in respect to the combined effects of both internal and external sources of influence. We have yet to see how internal sources differ from external sources over HS organizational decision-making. Internal sources of influence are those persons or groups that affect processes from within the organizational boundaries, while external sources of influence affect processes outside the boundaries and often have resources over which the organization has little control. Also,unlike internal sources of influence, external sources of influence are those persons,

groups, or things that have an ongoing but intermittant, indirect, nonparticipatory, nonmemeber relationship that, nonetheless, affect HS organization policies, procedures, and operations. Thus, we can conceptually sort the 14 sources of influence items in the following way:

Internal Sources	**External Sources**
Board of Directors	Client Groups
Assistant Directors	Government Officials
Senior Professional Staff	Community Groups
Paraprof./Clerical Staff	General Public
	Other Agency Heads
	Other Agency Staff
	Funding Requirements
	Money
	Laws & Regulations
	Parent Agency

Next we use the weighted scores of the internal sources of influence and those of the external sources of influence to construct two scales; an internal source of influence scale ranging from 0 to 10.4 (5.1 + 2.8 + 2.1 + .40 = 10.4); and an external source of influence scale ranging from 0 to 8.87 (1.7 + 1.4 + 1.2 + 1.1 + 1.0 + .85 + .50 + .41 + .40 + .38 + .33 = 8.87). We then use the cummulative sums of each HS agency's multiple responses, for both internal and external sources of influence, so that we can calculate the means of internal and external sources of influence over the seven types of HS organizational decision-making. (Note: in order to make the two scales comparable, a constant multiplier was used in constructing the external sources of

influence scale so that the range would now be from 0 to 10.4; the same as the internal range.)

Table 38 reports the means for both internal and external sources of influence over the seven types of HS organizational decision-making. We see that in 1972, and in 1979, there was very little difference between Lansing and Kalamazoo internal and external sources of influence means for most of the decision-making types. But, when we look at the longitudinal changes of internal sources of influence means, we see that the means were generally higher in 1972 than tney were in 1979, for both Lansing and Kalamazoo, for most of the HS organizational decision-making types.

TABLE 38: Comparison of External & Internal Influence Means

	1972				1979			
	Internal/External Sources of Influence							
	Lansing		Kalamazoo		Lansing		Kalamazoo	
Decisions About:	INT/	EXT	INT/	EXT	INT/	EXT	INT/	EXT
Modifying programs	6.0	2.1	7.2	1.5	5.7	2.8	5.6	2.5
Budgets & Salaries	4.8	.8	5.4	1.8	5.2	1.8	5.3	1.8
New Services	7.3	2.6	8.2	2.6	5.2	2.6	5.9	2.4
Seeking Funds	6.6	1.5	6.6	1.3	5.4	1.5	5.1	1.4
Professional Staff	5.9	1.0	6.8	2.1	4.8	.4	4.9	.6
Clerical Staff	5.9	.8	6.4	1.2	3.7	.5	4.4	.6
Agency Procedures	7.5	1.4	8.0	2.2	5.6	1.1	5.9	1.2

In contrast, with the exception of a few cases, generally the external sources of influence for the seven decision-making types were about the same in 1979 as they were in 1972, for both Lansing and Kalamazoo. Overall, then, we see that, in both communities, internal influence over HS organizational decision-making decreased over time, while external sources of influence did not change as much.

Looking at the significant differences between external sources of influence means, Table 39 shows that in 1972 external influence was greater in Kalamazoo than in Lansing over decisions concerning budgets and salaries, professional staff, and agency policies and procedures. However, in 1979 no significant differences between Lansing and Kalamazoo external sources of influence means were found. On the other hand, we see that Kalamazoo experienced a few significant changes in external sources of influence over decision-making, whereas Lansing mean differences reflected only a couple of changes. Yet, in both Lansing and Kalamazoo, significant mean differences in the external sources of influence, between 1972 and 1979, were found only for decisions concerning the agency's professional staff. In both Lansing and Kalamazoo there was greater external influence over decisions concerning professional staff in 1972 than there was in 1979.

TABLE 39: Significance of External Mean Differences/Changes

	Differences Lansing-Kalamazoo		Change 1972-79 Lansing	Kalamazoo
Decisions About:	1972	1979	1972-79	1972-79
Modifying Programs	.10	.44	.07	*.04
Budgets & Salaries	**.01	.98	.90	**.01
New Services	.86	.75	.69	.81
Seeking Funds	.47	.95	.62	.09
Professional Staff	**.01	.40	**.01	*.05
Clerical Staff	.21	.69	.10	.25
Agency Procedures	*.03	.70	**.01	.66

T-test results using pooled variance estimates

* significant at p = .05
** significant at p = .01

Looking at the internal sources of influence means, Table 40 shows that no significant differences were found between Lansing and Kalamazoo in either 1972 or 1979. However, we see that a number of significant changes in internal influence over HS organizational decision-making occurred in Lansing, and a few changes were found in Kalamazoo. Yet, common Lansing and Kalamazoo significant changes in internal influence were found for only those decisions concerning new services or programs, clerical staff, and agency policies and procedures. Thus, we see that there was a significant decrease in internal sources of influence over these HS organizational types.

TABLE 40: Significance of Internal Mean Differences/Changes

	Differences Lansing-Kalamazoo		Change 1972-79 Lansing	Kalamazoo
Decisions About:	1972	1979	1972-79	1972-79
Modifying Programs	.10	.88	*.02	.57
Budgets & Salaries	.40	.81	.71	.49
New Services	.22	.24	**.01	**.01
Seeking Funds	.72	.64	.09	.07
Professional Staff	.29	.90	**.01	.15
Clerical Staff	.55	.28	**.01	**.01
Agency Procedures	.46	.64	**.01	**.01

T-test results using pooled variance estimates

* significant at p = .05
** significant at p = .01

In sum, we see that the internal sources of influence means were consistently much higher than external sources of influence means for nearly all HS organizational decision-making types, in both communities, and in both time periods. Additionally, we see that more significant changes occurred for internal sources than for external sources of influence over HS organizational decision-making, suggesting they are more volatile and may be dependent on particular events in the community. Such a finding is consistent with the theory that external events are harder to predict than internal events and contribute to a turbulent environment (Pfeffer and Salancik, 1978; Terrebery, 1968).

Perceptions of Community Unmet Needs

Earlier, in Chapter III, the claim was made that administrator perceptions of community unmet needs are important antecedents to the formation of interorganizational cooperative and competitive relations. The previous discussion of internal and external sources of influence provide this claim with an understandable basis. Often times sources of organizational influence, both internal and external, reflect community needs and concerns. We therefore expect that shared recognition among agency directors of community unmet needs should lead to the initiation of cooperative IOR in order to satisfy these needs.

Tables 41 and 42 show the means of 17 community unmet need items for Lansing and Kalamazoo, in 1972 and 1979. In 1972, both Lansing and Kalamazoo directors perceived the level of unmet need to be great, or near great, for all unmet need items. Means ranging from 3.4 to to 4.5 on a five point scale clearly show that the level of unmet community need in both Lansing and Kalamazoo was great, particularly for problems involving senior citizens, alcoholism, youth counseling, mental health, and handicap services. In contrast, in 1979 both Lansing and Kalamazoo directors perceived the level of community unmet need, on all 17 items, to be moderate or near moderate. We see, then, that the level of community unmet need, declined substantially.

TABLE 41: Level of Community Unmet Need Means- 1972

Unmet Community Need	1972			
	Lansing		Kalamazoo	
	X	SD	X	SD
Alcoholism and substance abuse	4.2	.65	3.9	.70
Planning for new services	3.7	.76	3.5	.90
Counseling for children and youth	4.2	.70	4.3	.62
Counseling for adults and families	3.9	.88	3.9	.77
Day care for children	3.9	1.1	3.7	.73
Emergency assistance	3.7	.68	3.6	1.1
Employment services	3.8	1.0	3.8	.70
Family planning and programs	3.6	1.2	3.5	.83
Help for senior citizens	4.5	91	4.0	.74
Legal services for the poor	4.1	.77	3.9	.84
Long-term financial assistance	3.7	.85	3.7	.84
Mental health treatment programs	4.0	.77	3.9	.74
Neighborhood development services	3.6	.90	3.7	1.1
Programs for the retarded	4.0	.97	3.7	.81
A ult recreational programs	3.5	1.2	3.4	.70
Handicapped and disabled services	4.1	.93	3.6	.70
Vocational programs	4.1	.66	3.7	77

Scale

1 = none 2 = low 3 = moderate 4 = great 5 = very great

TABLE 42: Level of Community Unmet Need Means- 1979

Unmet Community Need	1979			
	Lansing		Kalamazoo	
	X	SD	X	SD
Alcoholism and substance abuse	3.2	1.0	2.8	.79
Planning for new services	3.5	.76	3.4	.76
Counseling for children and youth	3.3	.86	2.9	.82
Counseling for adults and families	3.3	.92	2.9	.73
Day care for children	2.9	.89	3.0	.86
Emergency Assistance	3.3	1.2	3.1	.80
Employment services	3.4	1.0	2.8	.81
Family planning and programs	2.7	.76	2.5	.68
Help for senior citizens	3.5	.81	3.1	.79
Legal services for the poor	3.2	.94	3.0	.91
Long-term financial assistance	3.3	.83	2.9	.73
Mental health treatment programs	3.3	.92	2.8	.75
Neighborhood development services	3.2	.72	3.1	.96
Programs for the retarded	2.8	.78	2.9	.85
Adult recreational programs	3.2	.77	2.9	.77
Handicapped and disabled services	3.2	.87	2.9	.81
Vocational programs	3.3	.77	3.0	.80

Scale

1 = none 2 = low 3 = moderate 4 = great 5 = very great

TABLE 43: Level of Community Unmet Need Mean Differences

Unmet Community Need	Lansing and Kalamazoo			
	1972		1979	
	Diff	Prob	Diff	Prob
Alcoholism and substance abuse	+.3	.11	+.4	*.04
Planning for new services	+.2	.21	+.1	.67
Counseling for children and youth	+.1	.75	+.4	.08
Counseling for adults and families	+.0	.90	+.4	.08
Day care for children	+.2	.22	-.1	.47
Emergency Assistance	+.1	.69	+.2	.45
Employment services	+.0	.69	+.4	**.01
Family planning and programs	+.1	.59	+.2	.25
Help for senior citizens	+.5	*.02	+.4	*.04
Legal services for the poor	+.2	.29	+.2	.37
Long-term financial assistance	+.0	.96	+.4	.06
Mental health treatment programs	+.1	.63	+.5	*.02
Neighborhood development services	-.1	.87	+.1	.83
Programs for the retarded	+.3	.14	-.1	.88
Adult recreational programs	+.1	.49	+.3	.26
Handicapped and disabled services	+.5	**.01	+.3	.14
Vocational programs	+.4	*.03	+.3	.26

T-test results using pooled variance estimates
* significant at p = .05
** = significant at p = .01

TABLE 44: Level of Community Unmet Need Mean Changes 1972-79

Unmet Community Need	1972-1979			
	Lansing		Kalamazoo	
	Diff	Prob	Diff	Prob
Alcoholism and substance abuse	-1.0	**.0	-1.1	**.0
Planning for new services	-.2	.18	-.1	.69
Counseling for children and youth	-.9	**.0	-1.4	**.0
Counseling for adults and families	-.6	**.0	-1.0	**.0
Day care for children	-1.0	**.0	-.7	**.0
Emergency Assistance	-.4	.07	-.5	*.03
Employment services	-.9	**.0	-1.0	**.0
Family planning and programs	-.9	**.0	-1.0	**.0
Help for senior citizens	-1.0	**.0	-.9	**.0
Legal services for the poor	-.9	**.0	-.9	**.0
Long-term financial assistance	-.4	.11	-.8	**.0
Mental health treatment programs	-.7	**.0	-1.1	**.0
Neighborhood development services	-.4	*.03	-.6	*.04
Programs for the retarded	-1.2	**.0	-.8	**.0
Adult recreational programs	-.3	.11	-.5	*.02
Handicapped and disabled services	-.9	**.0	-.7	**.0
Vocational programs	-.8	**.0	-.7	**.0

T-test results using pooled variance estimates
* = significant at p = .05
** = significant at p = .01

Tables 43 and 44 show the mean differences and significance between Lansing and Kalamazoo in the level of community unmet need means for each time period, and the degree of change for each community from 1972 to 1979. The only significant difference between Lansing and Kalamazoo 1972 means was that help for senior citizens was a far greater problem in Lansing than it was in Kalamazoo. Much like the 1972 results, community differences concerning the level of unmet needs in 1979 were few. Overall, there were few differences found between Lansing and Kalamazoo directors regarding the level of unmet needs in both 1972 and 1979. But, over time, as shown in Table 44, administrators' perceived level of community unmet needs declined significantly on nearly all items. Thus, in contrast with 1972 directors, 1979 directors felt that the level of community unmet need was not great.

IOR Linkages Based on Organizational Status Characteristics

Earlier, in the Research Methods chapter, HS IOR were depicted as either cooperative or competitive ones. In light of a resource dependency perspective we would then expect that HS cooperative or competitive IOR are not simply random; HS organizations will initiate IOR with those organizations that are viewed as instrumental for their attempts to manage or avoid environmental exigencies. We will now look at three organizational characteristics that serve as the rational basis for the initiation of either cooperative or competitive HS IOR.

In Table 45 Focal Characteristic is the HS organizational status characteristic of the sampled HS organizations. The In and Out links are the in-directed (received) and out-directed (cited) linkages of the focal HS organizations, and the percent out-directed links from sample are those out-directed links sorted according to the HS organizational status characteristic. So, for example, in 1972, all small organizations in Lansing accounted for 46.% of all out-directed cooperative links and, in turn, accounted for 33.% of all in-directed links. Of the 46.% of out-directed links, small organizations cited having 34.% of those cooperative ties with other small HS organizations and 66.% of those ties with other large HS organizations. Thus, in 1972 Lansing the small and large organizations had nearly the same percentage of out-directed cooperative links. But, in contrast to the out-directed links, we see that small organizations showed a much lower percentage of in-directed links than the large organizations had. Finally, we see that both small and large organizations had a greater percentage (66.2% and 67.9% respectively) of their cooperative out-directed linkages to large organizations. Therefore, in 1972 Lansing, HS organizations tend to have their cooperative IOR with large HS organizations.

In 1972 Kalamazoo also followed this same trend, with the one exception that the large focal organizations had only a slightly higher percentage of their out-directed cooperative links to other large HS organizations than to

TABLE 45: Cooperative IOR Based on Organizational Size

Sampled Organizations by Focal Characteristic		Percent Out-Directed Links from Sample	
		Small	Large
Lansing 1972			
	Small	33.8	66.2
	Large	32.1	67.9
Kalamazoo 1972			
	Small	31.4	68.6
	Large	48.9	51.1
Lansing 1979			
	Small	40.9	59.1
	Large	42.4	57.6
Kalamazoo 1979			
	Small	59.5	40.5
	Large	48.1	51.9
Merged 1972			
	Small	32.7	67.3
	Large	38.3	61.7
Merged 1979			
	Small	50.6	49.4
	Large	45.0	55.0

		Total % In-links	Total % Out-links	Total % of Sample
Lansing 1972				
	Small	32.9	46.4	51.5
	Large	67.1	53.6	48.5
Kalamazoo 1972				
	Small	39.0	56.7	52.9
	Large	61.0	43.3	47.1
Lansing 1979				
	Small	41.4	63.7	66.7
	Large	58.6	36.3	33.3
Kalamazoo 1979				
	Small	56.0	69.8	68.4
	Large	44.0	30.2	31.6
Merged 1972				
	Small	35.4	50.7	52.2
	Large	64.6	49.3	47.8
Merged 1979				
	Small	48.8	66.8	67.5
	Large	51.2	33.2	32.5

** Small = less than 25 staff members
Large = more than 25 staff members

other small HS organizations. When looking at the combined Lansing and Kalamazoo 1972 results, this difference is not found and we see a distinct pattern in which both small and large HS organizations have the majority of their cooperative IOR linkages with the large HS organizations.

In Lansing the same general pattern existed in 1972 and 1974. However, both small and large HS organizations had a greater percentage of out-directed cooperative linkages to small HS organizations than they had in 1972. Perhaps the cooperative IOR linkages are moving towards becoming more equally distributed between small and large HS organizations. This pattern is also evident in Kalamazoo in 1979, which also should be added that the small organizations, unlike in 1972, had a greater percentage of their cooperative IOR with other small HS organizations than with large HS organizations. When we examine the merged 1979 results, we generally find that cooperative IOR linkages tend to be equally distributed among both small and large HS organizations.

Table 46 shows a much different pattern for competitive IOR linkages according to HS organizational size than the pattern found for cooperative HS IOR. Overall, we see that in 1972 both Lansing and Kalamazoo small and large organizations had somewhat equally distributed HS competitive IOR linkages among other small and large HS organizations. But, in 1979 both Lansing and Kalamazoo small and large HS organizations had a greater percentage of their out-directed competitive IOR linkages with small HS organizations.

TABLE 46: Competitive IOR Based on Organizational Size

Sampled Organizations by Focal Characteristic		Percent Out-Directed Links from Sample: Small	Large
Lansing 1972			
	Small	58.1	41.9
	Large	43.2	56.8
Kalamazoo 1972			
	Small	40.5	59.5
	Large	57.5	42.5
Lansing 1979			
	Small	68.8	31.2
	Large	54.7	45.3
Kalamazoo 1979			
	Small	62.7	37.3
	Large	67.7	32.3
Merged 1972			
	Small	48.5	51.5
	Large	50.0	50.0
Merged 1979			
	Small	65.8	34.2
	Large	61.6	38.4

		Total % In-links	Total % Out-links	Total % of Sample
Lansing 1972				
	Small	49.3	41.3	51.5
	Large	50.7	58.7	48.5
Kalamazoo 1972				
	Small	49.4	48.1	52.9
	Large	50.6	51.9	47.1
Lansing 1979				
	Small	64.1	66.8	66.7
	Large	35.9	33.2	33.3
Kalamazoo 1979				
	Small	64.6	63.1	68.4
	Large	35.4	36.9	31.6
Merged 1972				
	Small	49.3	44.7	52.2
	Large	50.7	55.3	47.8
Merged 1979				
	Small	64.3	64.9	67.5
	Large	35.7	35.1	32.5

**Small = less than 25 staff members
Large = more than 25 staff members

In Table 47 we see a very distinct pattern of cooperative HS IOR linkages based on organizational age. In both communities, and in both time periods, young and old organizations alike have a much greater percentage of their out-directed cooperative IOR linkages with the old HS organizations. But, when we examine the competitive HS IOR linkages based on organizational age, as shown in Table 48, a discernable pattern across communities and time is not readily clear. The one clear finding is that regardless of community or time period, old organizations have a greater percentage of cooperative IOR linkages with other old HS organizations. Young HS organizations, on the other hand, show a great deal of variation in the distribution of their competitive IOR linkages in respect to both community and time period. This distribution pattern is dissimilar between communities and between the same communities over time.

Table 49 shows the distribution of cooperative HS IOR linkages based on the number of services (service diversity) offered by focal HS organizations. In 1972, in both Lansing and Kalamazoo, their is a clear tendency for both low and high service diversity organizations to have a greater percentage of their out-directed HS cooperative IOR linkages with high service diversity organizations. In 1979 this pattern continued in both communities, but the tendency was not as strong as it was in 1972. Only in Kalamazoo, among the high service diversity HS organizations, did the pattern hold to the same degree it had in 1972.

TABLE 47: Cooperative IOR Based on Organizational Age

Sampled Organizations by Focal Characteristic		Percent Out-Directed Links from Sample	
		Young	Old
Lansing 1972			
	Young	45.1	54.9
	Old	31.5	68.5
Kalamazoo 1972			
	Young	33.8	66.2
	Old	29.9	70.1
Lansing 1979			
	Young	35.7	64.3
	Old	24.6	75.4
Kalamazoo 1979			
	Young	25.0	75.0
	Old	16.9	83.1
Merged 1972			
	Young	39.9	60.1
	Old	30.9	69.1
Merged 1979			
	Young	31.2	68.8
	Old	20.3	79.7

		Total % In-links	Total % Out-links	Total % of Sample
Lansing 1972				
	Young	36.4	36.2	39.4
	Old	63.6	63.8	60.6
Kalamazoo 1972				
	Young	31.6	43.6	32.4
	Old	68.4	56.4	67.6
Lansing 1979				
	Young	29.7	45.8	47.6
	Old	70.3	54.2	52.4
Kalamazoo 1979				
	Young	19.6	33.2	28.9
	Old	80.4	66.8	71.1
Merged 1972				
	Young	34.4	39.3	35.8
	Old	65.7	60.7	64.2
Merged 1979				
	Young	24.6	39.5	38.8
	Old	75.4	60.5	61.2

** Young = less than 10 Years
Old = more than 10 Years

TABLE 48: Competitive IOR Based on Organizational Age

Sampled Organizations by Focal Characteristic		Percent Out-Directed Links from Sample	
		Young	Old
Lansing 1972			
	Young	68.8	31.3
	Old	35.6	64.4
Kalamazoo 1972			
	Young	48.6	51.4
	Old	26.2	73.8
Lansing 1979			
	Young	50.0	50.0
	Old	17.4	82.6
Kalamazoo 1979			
	Young	25.0	75.0
	Old	12.9	87.1
Merged 1972			
	Young	54.9	45.1
	Old	31.7	68.3
Merged 1979			
	Young	42.3	57.7
	Old	14.8	85.2

		Total % In-links	Total % Out-links	Total % of Sample
Lansing 1972				
	Young	42.7	21.3	39.4
	Old	57.3	78.7	60.6
Kalamazoo 1972				
	Young	36.4	45.5	32.4
	Old	63.6	54.5	67.6
Lansing 1979				
	Young	29.7	37.8	47.6
	Old	70.3	62.2	52.4
Kalamazoo 1979				
	Young	14.9	16.4	28.9
	Old	85.1	83.6	71.1
Merged 1972				
	Young	39.5	33.6	35.8
	Old	60.5	66.4	64.2
Merged 1979				
	Young	22.2	26.9	38.8
	Old	77.8	73.1	61.2

** Young = less than 10 Years
Old = more than 10 Years

Table 49: Cooperative IOR Based on Organizational Diversity

Sampled Organizations by Focal Characteristic		Percent Out-Directed Links from Sample	
		Low	High
Lansing 1972			
	Low	37.5	62.5
	High	38.1	61.9
Kalamazoo 1972			
	Low	31.5	68.5
	High	35.5	64.5
Lansing 1979			
	Low	49.6	50.4
	High	46.6	53.4
Kalamazoo 1979			
	Low	45.4	54.6
	High	36.3	63.7
Merged 1972			
	Low	35.4	64.6
	High	36.8	63.2
Merged 1979			
	Low	47.6	52.4
	High	41.0	59.0

		Total % In-links	Total % Out-links	Total % of Sample
Lansing 1972				
	Low	37.7	60.0	54.5
	High	62.3	40.0	45.5
Kalamazoo 1972				
	Low	33.7	43.9	41.2
	High	66.3	56.1	58.8
Lansing 1979				
	Low	48.5	64.1	66.7
	High	51.5	35.9	33.3
Kalamazoo 1979				
	Low	41.5	57.4	57.9
	High	58.5	42.6	42.1
Merged 1972				
	Low	36.1	53.3	47.8
	High	63.9	46.7	52.2
Merged 1979				
	Low	45.0	60.7	62.5
	High	55.0	39.3	37.5

** Low = less than 5 Services
High = more than 5 Services

In Table 50 we see that, much like the 1972 distribution of cooperative IOR linkages based on service diversity, the competitive IOR linkage distribution based on service diversity had the same pattern as the one for cooperative linkages; both high and low diversity of services HS organizations had a greater percentage of their competitive IOR linkages with high diversity of services HS organizations. However, in 1979 competitive HS IOR linkages based on service diversity appear to be near equally distributed among both high and low service diversity HS organizations.

Overall, the 1972 distribution of out-directed cooperative IOR linkages based on HS organizational size, age, and service diversity, appears to have a greater percentage of their cooperative linkages with old, large, high diversity of services HS organizations. In 1979 this tendency is only true for cooperative IOR linkages based on organizational age. Those cooperative linkages based on size and service diversity were found to be near equally distributed. In contrast to the cooperative dimension of IOR, we find that in 1972 the competitive out-directed linkages distributions based on size varied greatly according to community, and the out-directed competitive linkages based on age were those mostly between old HS organizations, and, finally, the competitive out-directed linkages based on service diversity were, for both high and low diversity of services organizations, a greater percentage of their competitive linkages with high diversity of services organizations.

TABLE 50: Competitive IOR Based on Organizational Diversity

Sampled Organizations by Focal Characteristic		Percent Out-Directed Links from Sample: Low	High
Lansing 1972			
	Low	42.9	57.1
	High	36.4	63.6
Kalamazoo 1972			
	Low	34.0	66.0
	High	30.6	69.4
Lansing 1979			
	Low	59.0	41.0
	High	54.8	45.2
Kalamazoo 1979			
	Low	50.7	49.3
	High	45.4	54.6
Merged 1972			
	Low	38.8	61.2
	High	33.1	66.9
Merged 1979			
	Low	55.0	45.0
	High	49.3	50.7

		Total % In-links	Total % Out-links	Total % of Sample
Lansing 1972				
	Low	39.6	50.5	54.5
	High	60.4	49.5	45.5
Kalamazoo 1972				
	Low	31.9	39.5	41.2
	High	68.1	60.5	58.8
Lansing 1979				
	Low	57.5	63.2	66.7
	High	42.5	36.8	33.3
Kalamazoo 1979				
	Low	48.2	53.7	57.9
	High	51.8	46.3	42.1
Merged 1972				
	Low	35.7	44.8	47.8
	High	64.3	55.2	52.2
Merged 1979				
	Low	52.6	58.1	62.5
	High	47.4	41.9	37.5

Low = less than 5 Services
High = more than 5 Services

Regression Models of Determining Cooperation & Competition

So far we have examined differences between means, standard deviations, ranks and a few inferential statistics, independently, for both the independent and dependent variables used in this study. We now turn the focus towards an examination of each community, at each time period, to see what proportion of the variance is accounted for by each of the independent variables when all variables are used simultaneously in a linear combination equation. The model itself is designed to test the step-wise incremental predictive accuracy (r square) of each of the independent variables in a linear combination equation that attempts to explain the variation in the density of cooperative, and of competitive, interorganizational linkages. Therefore, there are eight regression equations used and can be illustrated by the following:

Combination of Independents	Dependent Variables
B1 Organization Size	Y1 1972 Lan Cooperative Density
B2 Organization Age	Y2 1972 Kal Cooperative Density
B3 Organization Diversity	Y3 1972 Lan Competitive Density
B4 Community Need Level	Y4 1972 Kal competitive Density
B5 Int/External Influence	Y5 1979 Lan Cooperative Density
B6 Internal Conflict	Y6 1979 Kal Cooperative Density
B7 Competition Perception	Y7 1979 Lan Competitive Density
B8 Cooperation Perceptions	Y8 1979 Kal Competitive Density

Thus, for each equation:

$$B1 + B2 + B3 + B4 + B5 + B6 + B7 + B8 = Y'$$

The organizational characteristic variables, age, and service diversity, were used as dichotomous variables, either as large or small, young or old, or as high or low, respectively. Composite scores were used for the variables measuring the level of community unmet need, the extent of internal/ external influence, and the amount of internal conflict between administrative and professional staff. The use of dichotomous categories and composite scores is mentioned here so the reader will be alerted to unintended consequences of aggregation that may develop as a result of these decisions. For this reason, and since the nature of this study is basically exploratory, it was decided that a probability significance criterion of $p < .05$ would be acceptable.

Table 51 shows that in the 1972 Lansing study, organizational size accounts for the largest proportion of the variance, 46 percent, of the density of cooperative IOR linkages, had a moderately high correlation with $r = .7$. The Beta of .63 was significant at $p = .001$. None of the other independent variables showed a significant contribution, except perceptions of cooperation, $p=.10$. Thus, all independent variables used in the multiple regression equation cummulatively accounted for 67 percent of the variance in cooperative IOR linkage density, with a multiple $r=.82$. Of the 67 percent, two-thirds of the variance was accounted for by organizational size. The overall regression equation F was 3.81 and significant at $p=.01$.

TABLE 51: Multiple Regression Results for Cooperative Links

LANSING 1972

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Size	.63	***.001	.67	.46	***.001
Perceptions of Competition	-.42	.11	-.29	.52	***.001
Perceptions of Cooperation	1.15	.10	.11	.58	***.001
Influence	-.24	.27	.06	.61	***.001
Service Diversity	-1.46	.25	.28	.64	***.001
Internal Conflict	-.76	.42	.39	.65	**.01
Age	1.07	.56	.09	.66	**.01
Level of Need	.55	.49	.37	.67	**.01

MULTIPLE R	OVERALL F	SIGNIFICANCE
.82	3.81	**.01

*** = significant at p = .001
** = significant at p = .01

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

In Table 52 we see that in 1972, Kalamazoo had similar results. Again, organizational size accounted for the greatest proportion of the variance (38 percent) and had a moderately high correlation with cooperative IOR linkage density (r=.6). None of the other independent variables

showed a significant Beta F and taken together only accounted for 19 percent of the variance.

TABLE 52: Multiple Regression Results for Cooperative Links

KALAMAZOO 1972

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Size	.49	***.001	.62	.38	***.001
Service Diversity	.93	.15	.29	.43	***.001
Perceptions of Competition	-.53	.22	-.37	.46	***.001
Influence	.25	.17	.02	.50	***.001
Internal Conflict	.42	.23	.14	.53	***.001
Age	-.78	.25	.07	.56	***.001
Level of Need	.25	.65	.07	.57	**.01
Perceptions of Cooperation	.66	.80	.07	.57	**.01

MULTIPLE R	OVERALL F	SIGNIFICANCE
.75	3.30	**.01

*** = significant at p = .001
** = significant at p = .01

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

In all, the independent variables accounted for 57 percent of the variance in cooperative IOR linkage density, had a multiple r = .82 and an overall regression equation F= 3.30, significant at p=.01. Also of note here, like the results for Lansing in 1972, Table 51 shows that administrator perceptions of competition were moderately negatively correlated with cooperative IOR linkage density (when competition is perceived to be high, cooperative IOR linkage density tends to diminish.

We see that from both Tables 51 and 52 that in 1972 organizational size was the only consistent factor in both communities, and accounted for around 40 percent of the variance in cooperative IOR linkage density in both Lansing and Kalamazoo. Thus it appears that organizational size is a consistent determinant of cooperative IOR linkage density and all other independent factors do not contribute much to the accounting of the variance.

Tables 53 and 54 show similar multiple regression results for Lansing and kalamazoo in 1979 with those found in 1972. Again we find the same pattern; organizational size accounts for the greatest proportion of the variance in cooperative IOR linkage density for both Lansing and Kalamazoo (r square = .36 and .18 respectively) and the combination of all other independent variables accounted for very little of the variance (r square=.26 and .18 respectively). Yet, there were a few notable different results. Organizational size in 1979, in both Lansing and Kalamazoo did not correlate with cooperative IOR linkage density as highly as

it did in 1972 and the moderate negative correlation between administrator perceptions and cooperative IOR linkage density evident in 1972 did not appear in 1979 Lansing. In addition, we see that the overall multiple regression equation F for Lansing (F= 4.78) was significant at p=.20).

TABLE 53: Multiple Regression Results for Cooperative Links

LANSING 1979

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Size	.29	***.001	.60	.36	***.001
Age	1.90	*.05	.40	.45	***.001
Perceptions of Cooperation	1.71	.15	.28	.49	***.001
Internal Conflict	-.25	.30	-.05	.50	***.001
Level of Need	.11	.04	-.11	.58	***.001
Influence	.31	.16	.17	.61	***.001
Perception of Competition	.35	.46	.11	.62	***.001
Service Diversity	.34	.77	.40	.62	***.001

MULTIPLE R	OVERALL F	SIGNIFICANCE
.79	4.78	***.001

*** = significant at p = .001
** = significant at p = .01

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

TABLE 54: Multiple Regression Results for Cooperative Links

KALAMAZOO 1979

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Size	.31	**.01	.43	.18	**.01
Perceptions of Cooperation	.86	.16	.27	.24	*.02
Level of Need	.38	.29	.22	.27	*.03
Perceptions of Competition	-.92	.26	-.25	.31	*.04
Influence	.30	.29	.06	.34	*.05
Internal Conflict	.41	.48	.12	.35	.08
Service Diversity	.78	.73	.29	.36	.13
Age	-.49	.76	.08	.36	.20

MULTIPLE R	OVERALL F	SIGNIFICANCE
.60	1.53	***.001

** = significant at p = .01
* = significant at p = .05

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

In Tables 55-58 the multiple regression results are those for the determination of competitive IOR linkage density. We see in Tables 55 and 56 that explaining the variance of competitive IOR linkage density in 1972 with the combination of independent variables is somewhat problematic. In Table 55 organizational service diversity (number of

different services offered) was the only variable at least moderately correlated (although organizational size was near the same with r=.4), had a Beta F significant at p=.02, and accounted for 21 percent of the variance in competitive IOR linkage density. The combination of all other independent variables had insignificant Beta F's and the overall regression equation F of 1.75 was insignificant with a p=.17.

TABLE 55: Multiple Regression Results for Competitive Links

LANSING 1972

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Service Diversity	.96	*.02	.46	.21	*.02
Perceptions of Competition	.29	.23	.09	.26	*.04
Influence	-.25	.37	-.10	.29	.07
Internal Conflict	-.23	.20	.24	.35	.07
Perceptions of Cooperation	.40	.36	.20	.38	.09
Size	.12	.27	.36	.43	.10
Age	-.24	.70	-.08	.43	.17

MULTIPLE R	OVERALL F	SIGNIFICANCE
.66	1.75	.17

** = significant at p = .01
* = significant at p = .05

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

TABLE 56: Multiple Regression Results for Competitive Links

KALAMAZOO 1972

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Level of Need	.37	.12	.30	.09	.12
Perceptions of Competition	.23	.24	.24	.14	.15
Perceptions of Cooperation	-.97	.58	-.10	.15	.26
Influence	-.62	.59	-.03	.16	.36
Service Diversity	.11	.82	.03	.16	.51
Age	-.11	.80	.12	.16	.64
Internal Conflict	-.26	.90	.01	.16	.76

MULTIPLE R	OVERALL F	SIGNIFICANCE
.40	.58	.76

** = significant at p = .01
* = significant at p = .05

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

In Table 56 the results for Kalamazoo in 1972 show that the combination of independent variables do not explain very much (r square = .16) of the variance in competitive IOR linkage density. Only the level of community unmet need showed at least a low correlation, yet it only accounted for nine percent of the variance. All other independent variables had insignificant Beta F's, low correlation

coefficients, and in combination only explained seven percent of the variance. Thus, the overall regression equation F of .58 with p=.76 was insignificant.

In Tables 57 and 58 the multiple regression results for Lansing and Kalamazoo in 1979 were much different than those results found in 1972. We see in both tables that organizational age surfaces in 1979 as a major determinant of competitive IOR linkage density. In Lansing, organizational age accounts for 34 percent of the variance and in Kalamazoo it accounts for 16 percent of the variance in competitive IOR linkage density. The Beta F was significant in both Lansing (p=.001) and Kalamazoo (p=.03), and both communities had moderate correlation coefficients for organizational age with r=.6 and .4 respectively. The combination of all other independent variables, in both Lansing and Kalamazoo, had insignificant Beta F's only accounting for 19 and ?6 percent of the variance respectively, and only in Lansing was the overall F of 4.77 significant with p=.001, whereas the multipleregression equation overall F for Kalamazoo of 1.99 was insignificant at p=.09.

In sum, in the attempt to discover what determines cooperative IOR linkage density we find that in 1972 and in 1979, in both Lansing and in Kalamazoo, organizational size seemed to be the most important factor, and none of the other independent variables emerged as very important. However, in 1972 and 1979, in both communities, a considerable amount of the variance remained unexplained. In contrast, different conclusions can be drawn from the results related

to determining competitive IOR linkage density. Organizational age was found to be the most important factor for determining competitive IOR linkage density in both communities in 1979. But, overall, the attempt to account for cooperative and competitive IOR linkage density yielded no consistent pattern, in either community, and the combined independent variables did not account for much of the variance.

TABLE 57: Multiple Regression Results for Competitive Links

LANSING 1979

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Age	2.79	***.001	.59	.34	***.001
Perceptions of Competition	.59	.11	.30	.40	***.001
Perceptions of Cooperation	.98	.14	.20	.45	***.001
Internal Conflict	-.12	.21	-.28	.48	***.001
Influence	.27	.32	.28	.50	***.001
Level of Need	.47	18	-.34	.53	***.001

MULTIPLE R	OVERALL F	SIGNIFICANCE
.73	4.77	***.001

*** = significant at p = .001

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

TABLE 58: Multiple Regression Results for Competitive Links

KALAMAZOO 1979

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Age	2.31	**.03	.40	.16	**.03
Perceptions of Competition	-.86	.22	-.17	.20	**.04
Size	-.10	.14	.12	.27	**.04
Influence	.23	.20	.15	.31	**.04
Perceptions of Cooperation	.47	.31	.14	.34	**.04
Level of Need	-.33	.62	-.06	.35	.08
Internal Conflict	.62	.15	.08	.40	.07
Service Diversity	-.72	.44	.12	.42	.09

MULTIPLE R	OVERALL F	SIGNIFICANCE
.65	1.99	.09

** = significant at p = .05

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

Longitudinal Regression Models of Cooperation & Competition

The previous multiple regression ~~multiple regression~~ results for each community and for each time period have given us some evidence as to the determinants of inter-organizational cooperative and competitive linkages that are operating for each city within each time period. But, we still need to know how well the linear combination of independent variables that were measured in 1972 account for the variation in both cooperative and competitive IOR linkage density in 1979. To do this, we must construct a panel designed multiple regression model by using only those human service agencies that participated in both the 1972 and 1979 studies (about 70% overlap). We must include the two dependent variables used in the 1972 study, cooperative and competitive IOR linkage density, and use them as independent variables to see how well they predicted cooperative and competitive IOR linkage density in 1979.

In Table 59 the 1972 cooperative IOR linkage density accounted for nearly 80 percent of the variance and organizational size, second ranked among the other independent variables, accounted for 5 percent of the variance in cooperative IOR linkage density in Lansing in 1979. Only these two variables had a significant Beta F ($p=.001$ and $p=.04$ respectively) and both were highly correlated with the dependent variable. In all, the combination of independent variables accounted for 91 percent of the variance, had a multiple $r=.95$, and an overall multiple regression equation

F= 4.79, (p=.004).

TABLE 59: Longitudinal Regression/Lansing Cooperative IOR

Lansing 1972-1979

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
1972 Cooperative IOR Density	.53	***.001	.88	.78	***.001
Size	.48	*.04	.77	.83	***.001
Influence	.14	.13	-.10	.85	***.001
Service Diversity	-1.80	.26	.25	.86	***.001
Perceptions of Cooperation	.57	.16	.03	.89	***.001
Perceptions of Competition	-.37	.39	-.24	.89	***.001
1972 Competitive IOR Density	.22	.58	.42	.90	***.001
Level of Need	.60	.63	.41	.90	***.001
Age	.77	.51	.09	.90	***.001
Internal Conflict	.64	.65	.47	.91	***.004

MULTIPLE R	OVERALL F	SIGNIFICANCE
.95	4.79	***.004

*** = significant at p = .001

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

In Table 60 we find similar results for Kalamazoo. Again, we see that the 1972 cooperative IOR linkage density accounts for the largest proportion of the variance, 55 percent, in 1979 cooperative IOR linkage density, and is highly correlated with the dependent variable. But, this seems to be where the similarity between Lansing and Kalamazoo ends. Unlike the Lansing results, Kalamazoo regression results show that organizational age has a significant Beta, and age has a moderate negative correlation with the dependent variable, and accounting for 16 percent of the variance in cooperative IOR linkage density in 1979.

Also, we see in Table 60 that the level of community unmet need has a significant Beta (p=.02), somewhat correlates with the dependent variable, and accounts for nine percent of the variance. Taken together, the three varibles, cooperative density, age, and level of unmet need accounted for 80 percent of the variance in the dependent variable. Three of the remaining six variables, administrator perceptions of competition, organizational service diversity, and organizational size, did have a significant Beta, these were moderately correlated with the dependent variable, but in combination accounted for only 15 percent of the remaining variance. Therefore, we find a multiple r=.99 and an overall regression equation F= 17.39, significant with p=.001.

TABLE 60: Longitudinal Regression/Kalamazoo Cooperative IOR

KALAMAZOO 1972-1979

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
1972 Cooperative IOR Density	.53	***.001	.74	.55	***.001
Age	-3.41	**.01	-.34	.71	***.001
Level of Need	.14	*.02	.32	.80	***.001
Perceptions of Competition	-.87	**.01	-.44	.86	***.001
Service Diversity	1.62	**.01	.36	.92	***.001
Size	.38	**.01	.45	.95	***.001
Influence	-.59	*.03	-.08	.97	***.001
1972 Competitive IOR Density	.35	**.01	.13	.98	***.001
Internal Conflict	.18	.13	-.02	.98	***.001
Perceptions of Cooperation	-.32	.73	-.14	.98	***.001

MULTIPLE R	OVERALL F	SIGNIFICANCE
.99	7.39	***.001

*** = significant at p = .001

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

TABLE 61: Longitudinal Regression/Lansing Competitive IOR

LANSING 1972-1979

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
Perceptions of Cooperation	1.51	.13	.36	.16	.13
Age	2.64	.11	.25	.26	.09
Total Influence	.51	.51	-.01	.29	.16
Level of Need	.43	.49	.01	.31	.24
1972 Competitive IOR Density	.38	.75	.17	.31	.37
Service Diversity	1.35	.75	-.02	.32	.46
Internal Conflict	-.11	.71	.01	.32	.50
Size	.23	.71	-.02	.34	.73
1972 Cooperative IOR Density	-.22	.66	.06	.35	.81
Perceptions of Competition	-.18	.75	-.10	.36	.88

MULTIPLE R	OVERALL F	SIGNIFICANCE
.60	.45	.88

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

TABLE 62: Longitudinal Regression/Kalamazoo Competitive IOR

KALAMAZOO 1972-1979

Variable	Beta Weight	Beta F Signif.	Simple R	R Square	Overall F Signif.
1972 Competitive IOR Density	.74	.12	.35	.16	.12
Size	-.19	.27	-.27	.18	.17
Perceptions of Cooperation	-.37	.31	-.22	.23	.21
Level of Need	-.73	.41	.01	.26	.27
Age	1.20	.39	.25	.30	.32
Internal Conflict	.40	.45	.11	.33	.38
Perceptions of Competition	-.31	.44	-.02	.36	.44
Service Diversity	.32	.83	-.06	.37	.55
1972 Cooperative IOR Density	-.89	.78	-.13	.37	.69

MULTIPLE R	OVERALL F	SIGNIFICANCE
.60	.72	.69

Note: SPSS Step-Wise Hierarchial Multiple Regression Results. R square and overall F are presented cummulatively.

In Tables 61 and 62 the results show that finding the longitudinal factors for determining competitive IOR linkage density in 1979 from factors in 1972 is not a simple matter. In Table 61 and 62 we find that none of the independent variables have a significant Beta, only one of the independent variables in each community accounts for at most 16 percent of the variance, and, in each community, both of the variables, were not significant. Thus, we find that the linear combination of independent variables in both Lansing and Kalamazoo in 1972 do not explain much regarding competitive IOR linkage density in 1979. Keep in mind that the previously found determinant of competitive IOR linkage density, organizational age, was only evident for both communities in 1979, and this analysis does not include any of the independent variables from the 1979 study.

CHAPTER VI

DISCUSSION

The Structure and Behavior of Human Service Networks

The first question raised by this study was whether or not human service interorganizational networks actually exist. It was argued that we cannot assume a set of HS organizations constitute a network of interacting social actors simply because they share common boundaries, goals, interests, or environment. But, it was here we confronted our first major theoretical and methodological problem; how do we go about defining who the relevant members are, and how do we define and specify their network boundaries? Extrapolating from Blau and Scott's (1962) organizational type criterion, cui bono (who benefits?), human service organizations were defined as those formal organizations who give direct human services and who's prime beneficiary was the public-in-contact. These then were the relevant social actors for this study, and it followed that their network boundaries were drawn according to the population of human service organizations residing within the boundaries of a particular community setting that serves a specified client population.

Persons interested in social network analysis should note here that these definitions do not circumvent the

long-debated sociological question of defining a social group. Sociologists have defined social groups according to types, attributes, relations, statuses, and the like. The definitions only serve research and/or theoretical purposes and their claims of "truth" can never be proven or disconfirmed. In this regard, defining who the relevant human service organization members are, and specifying their network boundaries, were both abstract constructions of the researcher. An attempt was made in the Methodology Chapter to argue that social network analysis cannot, nor makes claims that it can, define, locate, or discover social groups other than those bounded by the initial definitions and assumptions of the researcher.

It was pointed out that this study views community networks as a bounded system containing all organizational units. Lansing and Kalamazoo, Michigan, were selected as the community settings for this study and we tried to make it clear that the sampled human service organizations from Lansing and Kalamazoo demarcated subsets of community organizations that existed within the boundaries of larger community networks. These human service organization sets, then, are viewed as community subnetworks. Admittedly, the examination of these subsets may, and more likely does, ignore other community organizations that play key roles in the delivery of human services. But, in this study we have limited the scope of the analysis by focussing only on the horizontal relationships between human service oganizations,

rather than on both horizontal and vertical (e.g. hierarchial) relationships between all community organizational units. Furthermore, the scope of this study recognizes, but ignores, vertical relationships between human service organizations within the subnetworks themselves.

The decision to examine two community human service subnetworks instead of one was based on the idea that case study comparisons might reveal those behavioral and structural features of human service networks that are consistent and stable, and those that seem to reflect idiosyncratic characteristics based on community differences (see page 1, opening paragraph of the Introduction in this study.) In addition, a decision was made to make the study of these two community human service subnetworks longitudinal. The underlying logic of this decision was the idea that longitudinal comparisons might reveal those behavioral and structural features of human service subnetworks that appear to be fixed and persistent, and how those features change over time. Although using only two community subnetworks hardly constitute a sufficient number of cases for making accurate comparative and longitudinal inferences, we nonetheless increase the reliability of our conclusions concerning human service networks.

After defining the type of organizations examined in this study, specifying the subnetwork boundaries of this organizational type, and sampling nearly all human service organizations from both communities, we then addressed the most fundamental question asked by social network analysis;

are organizational contacts made, and if so, what are the various types of human service interorganizational network relationships? From extensive fieldwork interviews with human service agency directors conducted by the Social Science Research Bureau team in 1972, in both communities, twelve types of interorganizational relationships were suggested to be common to both communities in 1972 and 1979 (see Methodology Chapter, Table 8). These twelve types of human service interorganizational relationships do not exhaust all substantive types of interactions occuring between human service organizations, but drawing from the preliminary field work, they seemed to be the most important and most frequently occurring types of interorganizational relationships.

Considering the possible number of linkages that could exist between human service organizations, (N (N-1)/2), for any one of the twelve types of linkages, we found that the actual number of reported linkages never exceeded 27% of the possible number of linkages, and generally the ratio of actual to possible linkages for most types of interorganizational linkages was around 10 percent (see Table 22). Aggregating the number of reported linkages across the twelve types of ties, ((N (N-1)/2) * 12), we found that the ratio of actual to possible number of linkages in Lansing was 12% in both 1972 and 1979, and in Kalamazoo the ratio was 8% in 1972, and 15% in 1979. Three things seem important here; (1) 85% or more of all possible human service IOR linkages

remain inactive or uninitiated, (2) the IOR ratios for Lansing from 1972to 1979 showed that no change hadoccurred, and (3) the IOR ratios in Kalamazoo from 1972 to 1979 showed an increase from 8% to 15%, but the IOR ratio differences between Kalamazoo and Lansing was smaller in 1979 than in 1972.

The unchanged level of IOR activity in Lansing over time, and the smaller differences found between the two communities in 1979 suggest that an IOR ratio figure of 15% may be a stable, fixed, or persistent feature of human service network activity (if we interpret Kalamazoo IOR activity as increasing at a decreasing rate over time.) If this interpretation is correct, it also suggests that a human service IOR inactivity rate of around 85% may be an overall network preference state. Aldrich (1979) argues that that we should not be too surprised to find a relatively low level of IOR network activity for several reasons. First, he contends that the focus on subnetworks may overlook important linking-pin organizations (e.g. United Way) existing in the larger organizational network that may have IOR linkages to most or all of the subnetwork members. Secondly, a loosely-coupled interorganizational subnetwork is more adaptive and resilient to externally imposed disturbances that would otherwise have a more negative impact on subnetwork members. Lastly, a loosely-coupled subnetwork, particularly in human service networks, may be viewed by the organizational members as a preferred state because of the costs incurred to

organizational autonomy that often accompany establishing IOR.

Nonetheless, we do find considerable variation in IOR linkage activity among the twelve types of ties. We found that in both communities in 1972 and 1979, that among the highest IOR linkage activities, human service agencies reported a high number of cooperative linkages and it appears that this cooperation was in the form of referring clients to other agencies within the network (see Table 26). In contrast, human service agencies in both communities, in 1972 and 1979, reported that formalized agreements or relationships with other agencies were infrequent. This suggests that formalized IOR may be viewed by agencies as involving greater losses to organizational autonomy. In 1979 the case seems to be more clear. In both communities the agencies reported that a relatively low number of agencies had influence over what their agency does and the decisions it makes, very few organizations within the network run programs for their agency, and they tended not to rely on ~~on~~ other agencies for the delivery of their own services or programs. Overall, then, IOR linkage activity was very high for cooperative types of IOR and very low for those types of IOR involving high costs to organizational autonomy. And, the level of competitive IOR activity was somewhere near the middle among the twelve types of IOR.

There were several differences found among the twelve types of IOR between Lansing and Kalamazoo in 1972 (see Table 24). Lansing agencies in 1972, in comparison with

Kalamazoo agencies, reported a significantly higher number of agencies within the network that provided similar services had influence over what their agency does or decisions it makes, whose good opinion is important, and they compete with. While cooperative IOR types of activity remained somewhat constant for both communities in 1972, the significant differences found between Lansing and Kalamazoo seem to suggest that a higher level of organizational influence and competition in Lansing best characterize community differences found between levels of IOR activity. However, in 1979 all but one of the types of IOR showed no significant differences between Lansing and Kalamazoo (see Table 24), and this difference was a significant one in 1972 as well. Kalamazoo agencies, more so than Lansing agencies, relied on the same source of money. In light of the higher competitive IOR activity in Lansing in 1972, one interpretation would be that network competition for organizational domain is greater than competition for resources.

Longitudinal changes found in both communities for the twelve types of network IOR linkage activity, from 1972 to 1979, suggest how network IOR linkage activities evolve over time. Significant changes found in Kalamazoo, that did not occur in Lansing, seem to have the effect of minimizing nearly all differences between Lansing and Kalamazoo in 1979. One way of viewing this trend is to suggest that the Lansing IOR network should be characterized as having a relatively stable distribution of IOR activities, whereas

the IOR network in Kalamazoo is evolving from an unstable to a more stable distribution of IOR network activities.

The common longitudinal changes that occurred in the distribution of IOR linkages for both communities may tell us something about how the distribution of IOR network linkage, in general, changes, and the direction of those changes. In both Lansing and Kalamazoo we found that over time human service agencies reported a significantly higher number of IOR linkages with those agencies that they exchange information and ideas with, and with those agencies that they are involved with on community committees. They also reported more agencies with which they share a common source of money, and more agencies with whom they compete with. However, over time, no changes occurred in the number of human service network IOR cooperation or referral linkages, or in the number or interorganizational formal or reliance linkages with other agencies to help facilitate the delivery of human services. It appears that cooperative IOR network activity that directly facilitates the achievement of client goals remains at the same level, cooperative activity that facilitates the achievement of organizational goals increases, while at the same time, the overall IOR network competition continues to increase over time.

Human Service Network Cooperation and Competition

In the Introduction Chapter it was contended that the twelve different types of human service IOR are basically

either cooperative or competitive IOR behavior. In the Methodology Chapter we used a factor analysis to test a model that contained those (of the twelve) types of IOR that were believed to be characteristic of cooperative behavior, and those that were believed to be characteristic of competitive behavior, for each community, within each time period. There were two reasons for attempting to reduce the twelve types of IOR linkages to two dimensions. First, it seemed important to know what various types of IOR had similar linkage patterns that could be subsumed as being different aspects of either IOR cooperation or competition. Secondly, the analysis would have been much too complex if we tried to explain the variation in twelve dependent variables, particulary considering the problems of possible multicolinearity. In sum, then, two dependent variables seemed more appropriate.

The factor analysis results (see Table 12) showed that, in both Lansing and Kalamazoo, and in 1972 and 1979, the cooperative dimension of network IOR behavior include interorganizational influence, support, referral, and reliance. In contrast, the competitive dimension of network IOR included interorganizational relations among organizations that had the same money source and that competed with one another for resources. Although it was expected that those organizations who provided similar services would also be in competition with one another, we only found evidence for this expectation in Lansing and Kalamazoo in 1979. In 1972,

the results show that organizations providing similar services did not seem to be in competition with one another.

In sum, the network analysis of interorganizational relationships between and among human service organizations shifted our attention away from organizational and individual characteristics and attributes. The central focus was on the interorganizational relationships themselves. As suggested by agency directors from preliminary fieldwork interviews, the twelve types of human service interorganizational relationships were found to be, in varying degree, both active and important. Although we assume that human service organizations have multiple relational linkages with each other, we have tried to show by comparison and contrast the independent contribution of each type of IOR in both communities, and how those contributions to overall network behavior change over time. But we argue, and find supportive evidence for arguing, that human service interorganizational relationships are essentially either cooperative or competitive ones. In a somewhat backwards fashion, our discussion here began with an examination of the twelve types of human service IOR that led us to the two major dependent variables to be explained in this study- network interorganizational cooperation and competition.

Administrator Perceptions of IOR Cooperation

We argued that administrators' perceptions of, or attitude towards, initiating or maintaining interorganizational relationships should be, to some extent, a determinant of

the number of cooperative and competitive IOR. It was also believed that human service agency directors would at least commit themselves in principle, if not in actual behavior, to the development of cooperative and collaborative IOR participation. But, we found that in 1972 both Lansing and Kalamazoo directors, on the average, felt that such participation was between slightly to somewhat important (see Table 25). Over time, and in both Lansing and Kalamazoo, agency directors, on the average, felt that cooperative participation was a little more than somewhat important. Yet, no significant differences between means were found for Lansing and Kalamazoo in 1972, 1979, or 1972-1979. Hence, in general, and over time, agency directors on the average felt that cooperative IOR participation was somewhat important.

Administrator Perceptions of IOR Competition

How administrators assessed the extent of competition for resources between their agency and other agencies also seemed a likely determinant of the number of cooperative and competitive IOR. Competition for resources implies that resources are scarce, and if the resource-dependency model is correct, we should then expect that in order to acquire scarce and needed resources, human service organizations will adopt strategies of increasing both the number of cooperative and competitive IOR. But, one has to wonder how much to expect when agency directors in Lansing and Kalamazoo in 1972, 1979, and 1972-1979, on the average, felt that only "some" IOR competition was present (see Table 28).

Nonetheless, it is noteworthy to point out that human service organization directors' perceptions of IOR cooperation and IOR competition, in both communities, remained unchanged from 1972-1979.

Intraorganizational Conflict

Following the research done by Aldrich (1976) and Hall et al. (1977) in which it was shown that internal staff conflicts result in negative attitudes towards establishing or maintaining IOR cooperation, we tried to see whether or not negative attitudes resulting from internal conflicts between administrative and professional staff determinr the extent of IOR cooperation and competition. But, we also recognized that internal conflicts arise from several different types of issues. There are differences of opinion existing between administrative and professional staff regarding; how resources are to be acquired and allocated to clients and organizational staff members; personnel policies and procedures concerning agency work environment; and policies and procedures concerning agency programs and services.

Our findings show (see Table 30) that directors in both communities and in both time periods felt that intraorganizational conflict existed to less than "some extent" regarding all the aforementioned issues. Although no significant differences were found between Lansing and Kalamazoo directors' perceptions of internal conflict in either 1972 or 1979, significant differences were found between Lansing and Kalamazoo directors, and those directors in 1979,

concerning programs or services for new client groups. Interestingly enough, however, acquiring organizational resources typically generated the least amount of internal conflict, whereas allocating organizational resources seemed to generate the greatest amount of internal conflict, in both communities and in both time periods.

But, all in all, a factor analysis of the internal conflict measures showed that all the measures partially contribute to a common dimension that could be used to estimate the extent of intraorganizational conflict. But, keep in mind that perceptions of intraorganizational conflict, on the average, and much like those perceptions of IOR cooperation and IOR competition, was felt only to exist to "some" extent.

Level of Community Unmet Needs

The last perceptual assessment examined in this study thought to be related to IOR cooperation and competition was administrators' estimation of the level of community unmet needs. From previous research done by Rogers and Glick (1973) and Turk (1973) it was believed that the greater the perceived level of unmet community needs, the greater the number of network cooperative IOR linkages. Agency directors' assessment of 17 unmet community need items used in this study showed that on the average directors felt that the level of unmet need for any one of the items was no lower than "moderate" (mental health treatment programs) and no higher than slightly above "great" (senior citizen

needs). There were very few significant differences found between Lansing and Kalamazoo directors' assessments in either 1972 or 1979. But, using the grand mean average of the 17 unmet need items, 1972 directors, in both communities, felt that the level of unmet community needs was "great", whereas 1979 directors, in both communities, felt that the level of unmet community needs was "moderate". In both communities, from 1972 to 1979, directors' perceived level of unmet community needs significantly declined on all items except one; the need for coordinated planning for new and improved services.

Internal and External Sources of Influence

Generally, human service organizations try to balance three types of needs; client needs, organizational needs, and community needs. There are various internal and external persons, groups, or things that influence organizational decisions about how these various needs are to be met. One might reason, then, that the greater the felt impact of internal and external influence over organizational decision making, the greater the number of cooperative and competitive IOR required to meet the various types of needs. But, research by Whetton and Aldrich (1979) has shown that the structure of an organization's decision making process is a poor predictor of the number of interorganizational linkages that organizations has.

We found that total internal/external influence over organizational decision-making was somewhat higher in

Lansing than in Kalamazoo in 1972. In particular, significant differences were found in 1972 regarding the amount of influence over decisions concerning modifying programs, budgets and salaries, and professional staff. But, in 1979 no significant differences were found between Lansing and Kalamazoo in respect to the degree of internal/external influence over decision-making (see Table 52). The most important finding, however, was that from 1972 to 1979 the extent of internal external influence over all decision-making types in Lansing, and most of the types in Kalamazoo, decreased.

Finally, we tried to disentangle the combined effects of internal and external sources of influence so we could compare and assess the extent of influence exerted by each independently. We expected, and our findings support, that those groups or persons who appear to have a high stake in an organization's successfulness will have more influence over its decision-making. Although it was no surprise to find that the board of directors has the greatest influential impact over human service organizational decision making, in both communities, and over time, we also found that that the impact of all internal sources of influence was at least three or more times greater than that of external sources; regardless of the type of decision, community, or time period. Yet, from 1972 to 1979 the impact of internal influence decreased, while the impact of external influence remained relatively unchanged. Therefore, if influence over

human service organizational decision-making is a determinant of cooperative and competitive IOR, we should expect that internal sources of influence will have a far greater impact on determining the number of those IOR linkages.

Organizational Status Characteristics

After examining administrators' perceptions of IOR cooperation and competition, we shifted the level of analysis from the individual and intraorganizational level to the interorganizational level so that we could examine the relationship between organizational status characteristics and IOR cooperation and competition. In Chapter III we cited the research by Warren, Rose, and Bergunder (1974) that showed that agency directors' status characteristics, such as age and ethnicity, influence organizational decision-making and cooperative IOR networks. We also cited the research of Allen (1974), Galaskiewtz (1978), and Galaskiewtz and Shatin (1981) who document that large organizations tend to have more cooperative links with other large organizations than smaller organizations have. Common to both of these research types was the importance attached to status characteristics and their relationship to IOR, but clearly at different levels of analysis.

Continuing with this theme, we examined IOR cooperation and competition based on organizational status characteristic. But, unlike the previous research cited, we examined the relationship between IOR cooperation /competition and the organizational characteristic size, ignored individual

status characteristics, and expanded our analysis to include organizational age and service diversity. In addition, our analysis included both in-directed and out-directed IOR linkages- who cites whom and who is cited by whom.

Consistent with the results found by other researchers, the larger organizations in the 1972 study had a larger percentage of cooperative linkages with both small and large organizations alike than small organizations had; and this was evident in both communities. But, there is a distinct trend worth noting. In the 1979 study, small and large organizations had about the same percentage of cooperative IOR linkages with other small and large organizations (see Table 45). Thus, we see that in 1972, in both communities, both small and large organizations tended to have a greater percentage of their linkages with large organizations, whereas in 1979, in both communities, cooperative IOR does not seem to be based on organizational size. What seems to account for this change is the finding that in 1979, in both communities, the small organizations had a higher percentage of cooperative IOR linkages with organizations of similar size than they did in 1972.

In contrast, the results for competitive IOR based on organizational size show a much different trend. In 1972, in both communities, small and large organizations tended to have an equal percentage of competitive IOR linkages with other organizations of both dissimilar and similar size. But, in 1979, and in both communities, both small and large organizations tended to have a greater percentage of their

competitive IOR linkages with small organizations. In light of the results found for cooperative IOR based on organizational size, we see that from 1972 to 1979 cooperative IOR linkages became more equally distributed, whereas competitive IOR linkages over time, regardless of organizational size, were mostly those with small organizations.

The results for cooperative IOR linkages based on organizational age show a clear consistent finding. In 1972 and 1979, in both Lansing and Kalamazoo, young and old organizations alike had a greater percentage of their cooperative IOR linkages with old organizations. The only change we see is that the percentage of cooperative IOR linkages with old organizations, from both young and old organizations, increased from 1972 to 1979 in both communities.

On the other hand, the structure of competitive IOR linkages based on organizational age was quite different than that found for cooperative IOR linkages. We see that in 1972 and 1979, and in both communities, old organizations tended to have a much higher percentage of competitive IOR linkages with other old organizations than with young organizations. Yet, the competitive IOR linkages for young organizations seemed to have no clear pattern. In 1972, young Lansing organizations tended to have a high percentage of their competitive IOR linkages with other young organizations, whereas in 1979 their linkages were equally distributed between young and old organizations. In Kalamazoo we found exactly opposite results. In 1972, young organizations in Kalamazoo had equally distributed competitive IOR

linkages with both young and old organizations, whereas in 1979 those linkages were overwhelmingly between old and young organizations with old organizations.

The results for cooperative IOR linkages based on organizational services diversity does depict a strong pattern in 1972, but not in 1979. In 1972, and in both communities, both high and low diversity of services organizations hada greater percentage of their cooperative IOR linkages with high diversity of services organizations. In 1979 this pattern was consistent only with Kalamazoo high diversity of services organizations. In 1979 we see that low diversity of services organizations, in both communities, and high diversity of services organizations in Lansing, had an equal distribution of their cooperative linkages with both low and high diversity of services organizations.

The results for competitive IOR linkages based on organizational service diversity depicts a dissimilar pattern over time, but a consistent pattern for both Lansing and Kalamazoo. In 1972, and in both communities, both low and high diversity of services organizations had a higher percentage of their competitive IOR linkages with high diversity of services organizations. In 1979, and in both communities, both high and low diversity of services organizations had an equal distribution of their competitive IOR linkages with both low and high diversity of services organizations.

In conclusion, from the resource dependency perspective (Pfeffer and Salancik, 1978) we expected to find that human service organizations, in order to manage and/or control

environmental exigencies, would attempt to enlarge their resource base by establishing cooperative IOR with large, high diversity of services, and old organizations. In 1972 this is precisely what we found. But, in 1979 this tendency was only true for cooperative IOR linkages based on organizational age. In contrast, in 1972 competitive IOR linkages, in both communities, tended to be those between old organizations and other old organizations, and between both high and low diversity of services organizations with high diversity of services ones. In 1979, competitive IOR linkages, in both communities, tended to be those between both small and large organizations, and between old and other old organizations.

Overall, then, cooperative IOR linkages based on organizational status characteristics conform to the expectations of the resource dependency perspective in 1972, and to some extent, in 1979, in both communities. But, competitive IOR linkages based on organizational status characteristics were more inconsistent with the resource dependency perspective, and showed more inconsistencies between communities and time periods. However, we can conclude that the structure of cooperative IOR linkages based on organizational status characteristics is not the same as the structure of competitive IOR, and it is not clear as to how the two structures are related to one another.

Determinants of IOR Cooperation and Competition

We began this discussion by describing the consequences of human service interorganizational network behavior, that is, by describing the dependent variables interorganizational cooperation and competition. We then turned the discussion towards an examination of a set of independent variables, suggested by previous research and the resource dependency perspective, thought to be relevant for explaining increases or decreases in both IOR cooperation and competition. We now need to examine the relationship between the set of independent variables and IOR cooperation and competition. To do this, we used a step-wise hierarchial multiple regression analysis. Independent variables were entered into a linear equation, one at a time, from best to worst predictor while controlling for confounding effects of the other independent variables, in order to establish the relative contribution of each independent variable to the accounting of the variance in IOR cooperation and competition.

The previous discussion of the independent variables attempted to describe the variables as thoroughly as was thought necessary, while at the same time trying to make it clear that these variables operate at different levels of analysis. Therefore, we can outline the relationship between the set of independent variables and dependent variables, that will subsequently discussed, in the following way:

Set of Independent Variables	Dependent Variables
A. Individual Level of Analysis	IOR Network Cooperation
(1) Perceptions of Cooperation	IOR Network Competition
(2) Perceptions of Competition	
B. Intraorganizational Level of Analysis	
(1) Internal Conflict	
(2) Influence Over Decision-Making	
C. Organizational level of Analysis	
(1) Organizational Size	
(2) Organizational Age	
(3) Organizational Service Diversity	

Among the set of independent variables we found that organizational size was the best predictor of the extent of IOR network cooperative linkages, in both Lansing and Kalamazoo, and in both 1972 and 1979. In 1972, in both communities, organizational size was strongly correlated with IOR network cooperation and accounted for at least 38% of the explained variance. In contrast, the combination of the other seven independent variables accounted for a cummulative total of only 21% of the variance in Lansing, and 19% of the variance in Kalamazoo. Common to both Lansing and Kalamazoo in 1972 were the findings that perceptions of competition were negatively and moderately correlated, and organizational service diversity was moderately correlated, with IOR cooperation. But neither, as well as the other five independent variables, had significant betas ($p < .05$). In short,the organizational size results, beta =.63 at $p < .001$, shows that tne larger the human service organization,

the greater the number of cooperative IOR linkages the organization has.

In 1979 we find similar results for determining cooperative IOR network linkages. Only this time we see that organizational age accounts for nine percent of the variance (beta significant at $p < .05$) in Lansing. However, organizational size, like Lansing in 1972, remains highly correlated with cooperative IOR network linkages and accounts for 36% of the variance (beta = .29 and significant at $p < .001$). The other independent variables in 1979 Lansing cummulatively only accounted for only 17% more of the variance. Kalamazoo, in 1979, showed markedly different results. Again, organizational size accounted for the greatest percentage of the variance in determining cooperative IOR network linkages. But, in Kalamazoo we find that organizational size was moderately correlated, had a beta = .31 and significant at $p < .01$, accounting for only 18% of the variance. All the other independent variables had insignificant betas and cummulatively accounted for 18% more of the variance.

In 1972, finding the determinants of competitive IOR network linkages, in both communities, was quite problematic. The only finding was that, in Lansing, organizational service diversity was moderately correlated with competitive IOR network linkages, had a significant beta ($p < .02$) and accounted for 21% of the variance. All other independent variables in Lansing, and all independent variables in Kalamazoo, had insignificant betas ($p < .05$) and accounted for very little of the variance. Yet, finding nothing is

nonetheless a finding. We can conclude that in 1972, and in both communities, whatever determines IOR network cooperative linkages does not seem to determine competitive IOR network linkages.

In 1979 organizational age emerges in both communities as a determinant of competitive IOR linkages. We find that organizational age in Lansing is highly correlated with IOR competitive linkages, has a significant beta ($p < .001$), and accounts for 34% of the variance. Similar results were found for kalamazoo, but organizational age was clearly less important than it was in Lansing. Organizational age in Kalamazoo was moderately correlated with IOR network competitive linkages, had a significant beta ($p < .03$), and accounted for only 16% of the variance. Thus, only organizational age, in both communities, had a significant beta and accounted for the greatest percentage of the variance. The overall interpretation, then, is that in 1979, the older the human service organization, the greater the number of IOR network competitive linkages the organization has.

Finally, in order to find the longitudinal determinants of cooperative and competitive IOR network linkages, we used a panel designed longitudinal multiple regression analysis that used the same linear combination of independent variables that were used in the 1979 regression model. However, this time we added the dependent variables from the 1972 regression model and used them as independent variables. More concretely, we wanted to see how well the cooperative and competitive IOR network linkages existing in

1972 predicted the number of cooperative and competitive IOR network linkages in 1979.

The results were somewhat surprising. We found that in 1979, in both Lansing and Kalamazoo, the number of cooperative IOR network linkages was a strong determinant of 1979 cooperative IOR network linkages. In Lansing the 1972 cooperative IOR network linkages was strongly correlated with 1979 cooperative IOR network linkages (Pearson r= .9), had a significant beta ($p < .001$), and accounted for 78% of the variance. In Kalamazoo the results were quite similar. The correlation between 1972 and 1979 cooperative IOR linkages was strong (Pearson r = .7), there was a significant beta ($p < .001$), and accounted for 55% of the variance. Organizational size remained to be a partial determinant of cooperative IOR network linkages, but only accounted for five percent of the variance in Lansing, and three percent in Kalamazoo.

The overall longitudinal multiple regression equation for determining cooperative IOR linkages was significant in both Lansing and Kalamazoo ($p < .004$ and $p < .001$ respectively) and more than 90% of the variance was accounted for in both communities. Therefore, we can state with some confidence the assertion that the greater the number of cooperative IOR network linkages human service organizations have at one point in time, the greater the number of cooperative IOR network linkages they will have at a future point in time. If this interpretation is correct, it suggest

that once cooperative IOR are initiated, they remain a permanent structural feature of the network over time.

On the other hand, one persistent finding in this study is that nothing we have tried seems to adequately explain what determines human service competitive IOR network linkages. The longitudinal multiple regression analysis for Lansing and Kalamazoo showed that not one of the independent variables had a significant beta, nor could the linear combination of independent variables account for more than 37% of the overall variance. Again we suggest, whatever determines cooperative IOR network linkages in human service organizational networks, does not seem to determine competitive IOR linkages. The structure of human service IOR network cooperation appears to be different from the structure (undiscernable at this point) of IOR network competition.

The Environment and IOR Network Cooperation and Competiton

We argued early in this study that according to the resource dependency perspective, the underlying theoretical perspective used in tnis study, environmental resource capacity should be the most important determinant of human service IOR network cooperation and competition. It should be clear to the reader by now that we are not adequately prepared to answer this question fully. There are, of course, only four environments; 1972 and 1979 Lansing and 1972 and 1979 Kalamazoo. Only two longitudinal environmental examinations or comparisons can be made, making it extremely difficult to directly connect environmental measures with

any of the other measures used in this study. Although attempts were made to dummy environmental measures in the longitudinal regression analysis, the results were insignificant- and it is not clear how to interpret or justify the results even if they were significant.

Nonetheless, this study can make two important contributions. First, this study can attempt to rule-out variables thought to be important determinants of IOR network cooperation and competition. In this regard we have found very little evidence to support the contention that how administrators perceive IOR cooperation or competition, or the amount of external or internal influence over decision-making, explains very much concerning cooperative and competitive IOR network behavior. Secondly, by monitoring environmental elements in 1972 that were present in both Lansing and Kalamazoo, and by examining how those elements changed or did not change in 1979, we can at least rule-out those elements that did not change, or did not seem to change all that much. We are then left with a set of changing elements that may be used to direct future research efforts.

Our discussion of the relationship between IOR network cooperation and competition and environmental resource capacity begins with the finding that both the number of human service IOR cooperative and competitive network linkages significantly increased ($p < .05$) from 1972 to 1979 in Kalamazoo. In Lansing there was no significant increase in the number of cooperative IOR network linkages from 1972 to 1979, but there was a significant increase in the number of

competitive IOR network linkages. In conjunction with these findings we can then look at two dimensions of environmental resource capacity, the resource supply side and demand side, that may be determinants of human service cooperative and competitive IOR network linkages.

The demand dimension of environmental resource capacity consists of those elements in the environment that typically draw upon human service organization resources. In order to simplify the analysis, Table 63 shows the environmental resource demand elements and the rank order of their change magnitude of difference between the two cities (1 or 2). Also, we designate no change from 1972 to 1979 as (0), an increase as (+), and a decrease as (-).

TABLE 63: Environmental Resource Demand Change 1972 to 1979

	1972-1979 Ranked Difference of Demand Change	
Demand Element	Lansing	Kalamazoo
Percent Nonwhite Population	+1	+2
Percent Black Population	+2	+1
Percent Youth	-2	-1
Percent Elderly	+2	+1
Percent Below Poverty Level	-2	-1
Percent Low Income Families	+1	+2
Percent Net City Migration	-1	-2
Unemployment Rate	+1	+2

Although it is unclear as to how one would go about summing up these changes and the differences between communities, we can see, from the absolute changes and the community differences (see Chapter V), and from Table 63 that there seems to be no overtly evident overall change, in either community, in environmental resource demand from 1972 to 1979.

The supply dimension of environmental resource capacity consists of those elements that typically enlarge the resource base of human service organizations. Using the same procedure used for constructing Table 63, Table 64 shows changes and community differences in environmental resource supply capacity from 1972 to 1979. In addition, Table 64 also distinguishes between two types of resource supply, human service resources and the community resource base.

Table 64 does not show any sort of one-sided change in the community resource base for either Lansing or Kalamazoo. If we look at the absolute differences between the two community resource bases, and their change differences over time (see Chapter V), there does not seem to be any strong differences that would account for their differences in the extent of IOR network cooperation. However, we do find that the two communities do have great differences, in absolute terms as well, between their human services resource base. Adjusting for inflation, both communities showed a decrease in United Way funding, but the percentage decrease was nearly three times greater in Kalamazoo. Also, the percentage of health and welfare workers per capita, and the

percentage of health and welfare expenditures per capita, increased by nearly one-third more in Lansing than in Kalamazoo. Therefore, there appears to be a sharp decrease in the resource supply capacity in Kalamazoo, making interorganizational cooperation, an adaptive strategy for acquiring needed resources, more of an imperative for Kalamazoo. This might explain why the extent of cooperative IOR linkages showed more of an increase for Kalamazoo than for Lansing.

TABLE 64: Environmental Resource Supply Change 1972-1979

1972-1979 Ranked Difference of Demand Change		
	Lansing	Kalamazoo
Community Resource Base		
Median Family Income	+1	+2
Percent College Graduates	+2	+1
Percent Professional Workforce	+2	+1
General Revenues Per Capita	+2	+1
Local Governmental Officials Per Capita	+1	+2
Local Governmental Expenditures	+2	+1
Per Capita Income	+1	+2
Human Services Resource Base		
United Way Fund	-2	-1
Health & Welfare Workers Per Capita	+1	+2
Health & Welfare Expenditures Per Capita	+1	+2

CHAPTER VII

SUMMARY AND CONCLUSIONS

Interorganizational Relations and Environments

This study was guided, in large part, by what the more recent organizational literature refers to as the "resource-dependency" perspective (Pfeffer and Salancik, 1978; Hall, 1979). This perspective is certainly not a theory. It has no clear theoretical model, no formal system of related concepts or propositions, very few of the terms have been operationalized, and very few empirical studies exist that show that continued research in line with this perspective would yield a clear research agenda. The major problem is that resource dependency is neither a theory nor a perspective at all. It is simply a fundamental assumption about how organizations behave. The assumption is that as crucial and necessary resources become scarce in the environment, organizations will initiate IOR in order to acquire and manage the necessary resources needed for their own organizational survival.

This underlying assumption also lends itself to yet another assumption about organizational behavior. Since no one organization is solely responsible for the development, maintenance, or changing of its own environment, and typically cannot generate independently all its own required

necessary resources, we must also assume that organizational behavior is greatly affected by external constraints and/or controls.

As a general rule of thumb, we could make the claim that the organizational environment accounts for about 90% of the variation in organizational behavior, while the remaining 10% could be attributed to individual volition. This does not mean that the behavior of certain individuals within organizations is to be considered unimportant or inconsequential, organizational decision-makers do make decisions that greatly affect their own organization's efficiency and effectiveness. But, overall, the conditions, circumstances, and relevant events that confront organizational decision-makers are environmental givens.

These assumptions about organizational behavior clearly have a certain amount of face validity. Who could convincingly argue that environmental resources are neither necessary nor important for organizational survival? What organization is not concerned with its own survival? Yet, the importance of the environment and what is important in the environment are two related, but considerably different, issues. How do we go about determining what conditions, circumstances, events, or elements in the environment are relevant for explaining organizational behavior? In this study we drew from the previous attempts by human ecologists to measure organizational environments and we developed a set of measures thought to be both important and reliable indicators of the human services environmental resource

capacity. It was not known then, nor now, how these measures are theoretical related to one another, or how any one indicator item should be weighted. What was greatly needed in this study, and what is needed in future research, is a grounded theory of organizational environments.

For example, we found in this study that in both Lansing and Kalamazoo, from 1972 to 1979, per capita income increased, the unemployment rate rose, there was a great increase in the percentage of professionals in the two communities, there was an increase in local governmental officials per capita, local general revenues were much higher, the number of local health and welfare workers rose significantly, and most of the directors interviewed claimed that the organizational environment (in terms of funding, services, and needed resources) had greatly improved. On the other hand, we also found that the component elements of the population, particularly the at-risk or dependent population, showed very little compositional change from 1972 to 1979. In addition, although United Way funds had absolutely increased significantly over time, when adjusted for inflation it was discovered that United Way funding showed no real increase in either community. Overall, then, what should we conclude concerning the human services organizational environment?

There seems to be two sides to the human service organizations' environmental resource capacity- demand and supply. On the demand side we found that there were no real changes in the potential dependent population, with the one

exception that the level of unemployment increased significantly from 1972 to 1979 in both communities. On the supply side we found that the richness of resources available from the environment somewhat improved over time, with the one exception that United Way funding, which was thought to be a crucial source of resources, remained relatively the same.

With these findings in mind, we also found that human service organizations, on the average, have very few IOR linkages with other human service organizations for any one particular type of relationship (ranging from generally one to five IOR linkages.) Longitudinally we found that the number of cooperative IOR linkages remained about the same, whereas the number of competitive IOR linkages significantly increased from 1972 to 1979. Thus, we see that the demand side of human service organizations' environmental resource capacity remained about the same, the number of cooperative IOR linkages slightly increased (but not significantly), the supply side of human service organizations environmental resource capacity increased, and the number of competitive IOR linkages significantly increased from 1972 to 1979 in both communities. We are then left with the problem of explaining how environmental changes are related to changes in IOR cooperation and competition, while at the same time, recognizing that HS IOR linkages themselves constitute a partially enacted environment.

Admittedly, very few conclusions can be drawn from this study regarding which environmental elements should be considered the most crucial for understanding IOR network

behavior. This study examines only two independent environment cases over time, Lansing and Kalamazoo. What is greatly needed is empirical research that examines, both comparatively and longitudinally, several organizational environments. Until this has been done, substantive conclusions cannot be drawn from this study that make clear the relationship between human service organizations and their environment. Nonetheless, it is hoped that some of the findings in this study will be helpful for directing future research efforts that attempt to relate organizations with their environment.

Administrator Perceptions of IOR Cooperation and Competition

As previously noted, HS administrators in both Lansing and Kalamazoo generally felt that the environmental resource capacity had increased from 1972 to 1979. Alongside this finding we see that HS administrators also generally perceived IOR participation as "somewhat important" and the perceived level of IOR competition to be "slight." These administrator perceptions did not change significantly from 1972 to 1979 in either community. These findings seem to be logically consistent with the finding that the number of HS cooperative IOR network linkages did not significantly increase from 1972 to 1979. There seems to be no incentive for the initiation of IOR.

But, how do we account for the finding that the number of competitive IOR network linkages, in both Lansing and Kalamazoo, increased significantly over time? The findings

may suggest that cooperative IOR network linkages are initiated for acquiring one type of necessary and needed resources, whereas competitive IOR network linkages develop from a different type of necessary and needed resources.

In general, this study found that human service organization directors did not seem to have strong feelings concerning the importance of IOR participation, the level of IOR competition, the extent of IOR conflict, or the amount of internal/external influence over organizational decision-making. Overall, then, this study did not find sufficient evidence for supporting the contention that HS administrators' perceptions are important antecedents for the initiation for either cooperative or competitive IOR linkages.

HS Organizational Status Characteristics

Although administrator perceptions of IOR were not found to be all that important, the fact remains that decisions to initiate IOR linkages were, and are made. Decision-makers in HS organizations must decide on which other HS organizations they will cooperate or compete with in order to improve or maximize their ability to manage and control environmental exigencies. This places small, low diversity of services, young, HS organizations at a somewhat disadvantage because they typically lack sufficient resources for attracting cooperative IOR. In 1972, in both Lansing and Kalamazoo, the pattern of cooperative IOR linkages was clear and consistent; both small and large HS organizations had a majority of their cooperative IOR linkages with other large

HS organizations, both young and old HS organizations had a majority of their cooperative IOR linkages with other old HS organizations, and both low and high diversity of services HS organizations had a majority of their cooperative IOR linkages with other high diversity of services HS organizations.

The cooperative IOR linkage pattern that existed in 1972 also seemed to be evident in 1979. In both Lansing and Kalamazoo the cooperative IOR linkages based on organizational age and service diversity formed the same pattern as the one previously described for 1972. However, the one exception was that both small and large HS organizations had equally distributed their cooperative IOR linkages among other small and large HS organizations. This finding suggests that increases in environmental resource capacity from 1972 to 1979 created a situation in which the types of resources offered by larger HS organizations were not as critically needed as those types of resources offered by old and high diversity of services HS organizations.

Discerning the competitive IOR pattern for Lansing and Kalamazoo, in both 1972 and 1979, was troublesome. In 1972 both small and large, and young HS organizations had equally distributed their competitive IOR among other small and large and young HS organizations, and old HS organizations had a majority of their competitive IOR with other old HS organizations. But, both high and low diversity of services organizations had a majority of their competitive IOR with other high diversity of services HS organizations. In

contrast, in 1979, in both Lansing and Kalamazoo, small and large HS organizations had a majority of their competitive IOR with other small HS organizations, young HS organizations had equally distributed their competitive IOR with other young and old HS organizations, old HS organizations had a majority of their competitive IOR with other old HS organizations, and both low and high diversity of services HS organizations had equally distributed their competitive IOR among other high and low diversity of services HS organizations.

In sum, the cooperative IOR pattern in 1972 and 1979 tended to be initiated towards larger, older, and high diversity of services HS organizations. The competitive IOR pattern, on the other hand, can be best characterized in 1972 as competition between low and high diversity of services HS organizations, whereas in 1979 the competiti e IOR were those between old HS organizations and other old HS organizations.

Determinants of Cooperative IOR

Of all the independent variables examined in this study that were considered possible determinants of cooperative HS network IOR, only one variable emerged as a major determinant- organizational size. In both Lansing and Kalamazoo, in 1972 and 1979, organizational size was found to be a significant determinant of cooperative IOR linkages. Simply interpreted, the larger the HS organization, the greater the number of HS network cooperative IOR linkages the HS

organization has. The other variables such as administrator perceptions, internal and external influences over decision-making, internal conflict, organizational age, service diversity, or level of community unmet need did not account for much of the variance in determining the number of cooperative IOR linkages an HS organization had.

However, the longitudinal analysis of HS cooperative IOR showed that the number of cooperative IOR linkages an HS organization established in 1972 was the best predictor of the number of HS cooperative IOR linkages an HS organization had in 1979. Organizational size, although it remained highly correlated, accounted for very little of the variance. Thus, we find two distinct tendencies in HS network IOR linkages. First, we note that the basis for establishing cooperative IOR is according to organizational size. Secondly, this pattern in turn becomes both consistent and extremely persistent over time. As Weber (1978) claims, once a form of social organization has proven itself to be technically superior to other forms of social organization, it is practically indestructable.

Determinants of Competitive IOR

We found that, in 1972, none of the independent variables examined in this study were important determinants of competitive HS network IOR. But, in 1979 we found that organizational age was found to be an important determinant of competitive HS network IOR. In light of the increases in environmental resource capacity that occurred from 1972 to

1979, in both Lansing and Kalamazoo, we also see that competitive IOR linkages developed in 1979 according to organizational age. The two events occurred together over time, but how they are related, if at all, remains unclear.

The longitudinal analysis of competitive HS network IOR did not help explain what the major determinants of the number of competitive IOR linkages were. Unlike the cooperative HS network IOR longitudinal results, no consistent or persistent pattern was found. But, since organizational age surfaced only in the 1979 study, it may well be that future research will find organizational age to be an important dterminant of competitive HS network IOR.

Horizontal and Vertical HS Network IOR

This study has, for the most part, focussed on HS horizontal IOR and has essentially ignored HS vertical (hierarchial) IOR. The major conclusion to be drawn from this study is that HS network IOR cannot be fully explained without taking into account the stratification or hierarchial arrangement of HS network vertical IOR. For example, of all the independent variables examined in this study, only organizational size and age were found to be important determinants of HS network IOR. These two variables certainly suggest that a status hierarchy within the HS networks is present. It was found, and not previously reported in this study, that a small percentage of HS organizations accounted for a large percentage of the total HS network cooperative and competitive IOR linkages. HS networks, like other types

of organizational networks, are more likely politically motivated and should be examined as such.

To make the case more clear, it was well understood in this study that only HS organizations, as defined in Chapter IV, were included in the sample. Other types of community organizations, in particular United Way, were excluded. Since many of the sampled HS organizations are also members of United Way, there is little doubt that United Way plays an important role in determining the pattern of cooperative and competitive HS network IOR. United Way collects for, and distributes funds to, various community organizations. For all purposes then, United Way is also a political institution that, in order to acquire and maintain funds, must be recognized as a legitimate agency within the community. United way must decide which HS organizations will be allowed membership and which HS organizations will be excluded. As a consequence, it may well be the case that only old, non-controversial, conservative community organizations will be allowed membership. For this reason, it may not be all that surprising to find in future network research, as was found in this study, organizational age as an important determinant of competitive HS network IOR.

If this is the case, how would organizational change within human service networks come about? One could imagine the difficulties an organization that performed abortion services would have becoming a member of United Way. If becoming a member of United Way becomes necessary for

organizational survival, then HS organizations must first acquire a recognized legitimate role in the community. Again, this might explain why in 1979, in both Lansing and Kalamazoo, organizational age, as an expression of organizational legitimacy surfaced as a major determinant of competitive HS network IOR. When organizations such as United Way become more and more centralized in community networks, the competition for valued monitary or material resources snifts to competition for community legitimacy.

APPENDIX

APPENDIX A:

HUMAN SERVICES AGENCY SURVEY INSTRUMENT

I. Organization Identification

City/Time
1= Kalamazoo 1972
2= Kalamazoo 1980
3= Lansing 1972
4= Lansing 1980

Agency ID (see HS Agency Identification List)

What are the major services and/or programs offered by this agency?

What services or programs do people coming to your agency need that are not available within your own agency?

II. Network Interorganizational Relationships

1. Which agencies provide services that are similar to those yor agency provides?

2. Which agencies have influence over what your agency does and the decisions it makes?

3. Which agencies' good opinion is important?

4. Which agencies provide your agency with cooperation and support?

5. Which agencies do you send people to for services?

6. With which agencie do you exchange opinions, ideas, and information?

7 W ^h which agencies is your agency involved on community committees or planning task forces?

8. Which agencies does your agency rely on to deliver your own services/programs to clients?

9. Which agencies are likely to get money from the same sources as your agency?

10. Which agencies run programs for your agency?

11. Which agencies have formalized agreements with you to share staff, facilities or information about clients?

12. Which agencies compete with yours for resources?

APPENDIX A: (CONTINUED)

III. Which persons, groups, or things have an influence over:

1. Decisions about changing or modifying programs or services?

2. Decisions about agency budgets and salaries?

3. Decisions about providing new or different services or programs?

4. Decisions about seeking funds from new or different sources or seeking money in new or differentt ways?

5. Decisions concerning administrative and professional staff (e.g. promotions, hiring, discharging, etc.)?

6. Decisions concerning paraprofessional and clerical staff (e.g. promotions, hiring, discharging, etc.)?

7. Decisions about working conditions and agency procedures such as workload, job classifications or other rules and regulations about the workings of the agency?

Fixed Alternative Multiple Response Choices

1. Associate directors	8. Laws and Regulations
2. Board/Governing body	9. Money
3. Client groups	10. Paraprofessional staff
4. Community groups	11. Funding Organizations
5. Other agency Directors	12. Senior staff
6. General public	13. Sponsoring agency
7. Government officials	14. Other Agency staff

IV. Administrator Demographics

(1) Gender male/female

(2) Age
1= less than 29
2= 30-39
3= 40-49
4= 50-59
5= 60-69
6= older than 69

(3) What was your major during the work for your most recent degree?
1= social work
2= social science
3= business/economics
(4) arts and letters
(5) other

(4) How many times in the past year have you attended professional meetings and conferences?

APPENDIX A (CONTINUED)

V. HS Agency Director Perceptions

(1) How important is participation in cooperative or collaborative programs or services?

1= not important
2= slightly important
3= somewhat important
4= very important
5= very greatly important

(2) How much competition exists between your agency and others for resources in this community?

1= no competitionat all
2= slight competition
3= some competition
4= great competition
5= very great competition

(3) How much difference of opinion exists between the administrative and professional staff in your agency about each of the following:

1= none at all
2= slight difference
3= some difference
4= great difference
5= very great difference

a. fund raising and seeking grants and contracts

b.coordinating services with other agencies

c. allocating money and other resources (e.g., staff, equipment,space for services/programs)

d. modifying existing programs or services

e. Personnel policies and procedures (e.g., how promotions are determined, work load, job classifications, salary increases, etc.)

APPENDIX A (CONTINUED)

(4) To what extent do each of the following affect the coordination of services or agency collaboration:

1= not at all
2= slight extent
3= some extent
4= great extent
5= very great extent

a. collaboration takes too much time

b. financial costs are too great

c. it is difficult for staff from different agencies to work together

d. previously unhelped clients receive services

e. community resources are utilized in a better way

f. we cannot get cooperation from other agencies

g. other agencies do not need the services we provide

h. it is easier to expand your own agency than to work out joint programs with other organizations

i. we lack controlover other agency's staff

j. our agency receives new funds for collaborating

(5) How much are you pressured by each of the following to develop and/or participate in collaborative projects with other agencies:

1= no pressure at all
2= slight pressure
3= some pressure
4= great pressure
5= very great pressure

a. local United Way organization

b. other agency directors and staff

c. client groups

d. staff of your agency

e. board or governing body of this agency

APPAENDIX A (CONTINUED)

(6) For each of the following services please estimate the level of unmet need in this community:

1= none
2= low
3= moderate
4= great
5= very great

a. alcoholism and substance abuse programs

b. coordinated planning for new and improved services

c. counseling for children and youth

d. counseling for adults and families

e. day care for children

f. emergency assistance

g. employment services

h. family planning and programs

i. help for senior citizens

j. legal services for the poor

k. longterm financial assistance

l. mental health treatment programs

m. neighborhood development services

n. programs for the retarded

o. recreational programs for older adults

p. rehabilitation services for handicapped and disabled

q. vocational training

APPENDIX A (CONTINUED)

VI. Agency Information

(1) About how many individuals or families use the services or programs of your agency each month?

(2) How many paid staff positions does your agency have? Please express parttime in fulltime equivalents.

a. total number of employee positions

b. total number of administrative positions

c. total number of professional positions

d. total number of clericaltechnical positions

(3) If your agency relies on volunteers as staff, approximately how many volunteer hours are contributed each month?

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