

**The Role of Social Networks and Interpretation in Planned Organizational  
Change**

**Brenda Ellington Booth  
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# **The Role of Social Networks and Interpretation in Planned Organizational Change**

## **Introduction**

In the ever changing state and increasing complexity of our world, many organization leaders and members initiate and execute plans for dramatically changing the organizations to which they belong. Change can be traumatic for organization members, causing uncertainty and anxiety about the future. How organization members make sense and interpret their experiences as their organization undergoes a planned change is the focus of this study. Given that organizational members' experiences, by definition, occur in a social context, this paper explores the process of planned organization change through the lens of social networks.

Major planned organization change is the process by which an organization purposefully redirects or reorients its core patterns of action to meet a newly defined set of strategies and goals. Examples of major planned organization change include restructurings, mergers, major strategic reorientation's, new leadership, etc. How organization members interpret and carry out action during a major planned change determines the ultimate success or failure of the change process. Therefore, it is important to understand how organization members come to interpret the change process. In general, the theoretical and empirical developments concerning individuals and the process of organizational change is lacking; there is no systematic approach or theory that adequately explains this phenomena (Porras and Robertson 1987; Isabella 1990). To fill this gap, this study attempts to build on existing theories in the organizational literature and

empirically test them to further our understanding of about change process in an organizational setting.

One possible mechanism in which organization members experience planned organizational change is through social networks. That is, organization members interpret the change process through social network mechanisms. Social networks are patterns of relationships among actors in an organization (Knoke and Kuklinski 1982). I contend that these networks are a mechanism for processes of social influence which affect actors' interpretation of events and behaviors within a organization or system such as a planned organizational change. This study explores the change process by using social network analysis as an analytical tool to explore the change process as it unfolds. It also attempts to examine the underlying mechanisms of social networks in the process of a major planned change. Specifically, this study addresses the theoretical question: How do social networks impact organization members' interpretation of a planned organizational change? In the following sections, I describe the nature of a planned organizational change and discuss how past literature has dealt with the topic; explain the theoretical arguments and empirical findings of the social networks literature as it might relate to the change process; synthesize key ideas from the two literatures; develop and empirically test hypotheses; and hopefully draw conclusions from the analysis about the process of planned organizational change.

## **Findings from an inductive field study**

### Initial Research Method

I started this study with the notion of building a theory from grounded research via qualitative research. Several key works in the current organization

theory literature exploring on the process of organizational change have used this method (cf. Bartunek 1984; Sutton 1987; Isabella 1990; Dutton and Dukerich, 1991). Given that the process of planned organizational change is complex and theories are difficult to postulate (Porras and Robertson 1987), it appears that many theorists chose to study the phenomena in this manner to begin to understand and tease apart some of the some of the core characteristics involved in the change process. Thus, it seems appropriate that I used this stream of empirical work as a precedent for my study.

It was my goal to initially conduct grounded research and allow constructs, causal relationships, and possibly a to emerge from the data (Glaser and Strauss, 1967; Eisenhardt 1989). It was my hope to share the experience of Sutton (1987) describes his qualitative analysis of individuals' interpretations of organizational death:

"I began my research by developing a rough framework based on existing literature, conversations with colleagues and pilot interviews. I traveled back and forth between the emerging model and evidence throughout the data gathering and writing. In doing so, some elements suggested by the literature and prior intuitions could be grounded in evidence, while others could not." (p. 547)

Following the guidelines commonly subscribed to in the grounded theory approach, I developed semi-structured interview questions with a few a priori constructs (Glaser and Strauss, 1967; Eisenhardt 1989). Specifically, I was interested in three constructs: 1) how organization members interpreted the change process (interpretation of change), how involved they were in the process (participation in change process), and if they agreed or disagreed with the planned organization change being proposed (agreement with change).

Data Site: A Church Initiating an Organizational Restructuring

I collected the data for this entire study from the 123 year old, 1500 member church called Second Baptist Church located in Evanston Illinois. At the start of this project, the church was initiating a major strategic restructuring: it was planning to expand its role from a traditional place of worship to become a center for community outreach and Christian education. Prior to the start of the restructuring Second Baptist serviced its congregation by offering two Sunday worship services with two active choirs and an adult and youth usher board, several adult bible study courses, an extensive youth program (involving members and many non-members), a weekly soup kitchen for the homeless, and periodic outreach programs (e.g. career and entrepreneurial counseling services, health and drug intervention program for distressed church families, and limited foreign and domestic missionary services).

In early 1993, the senior pastor of the church, Dr. Hycel B. Taylor, initiated a "vision" -- a plan to transform or restructure Second Baptist from a place of worship with an activist orientation into a community outreach and Christian education center for the community. During his weekly Sunday sermons, Dr. Taylor strongly encouraged the congregation to participate in the planning process by speaking of biblical and philosophical reasons for this change. In addition, the pastor organized off-site leadership training programs and commissions to take responsibility for the planning and implementation of the restructuring. From February to June of 1993, a coordinating committee of approximately 60 members emerged from motivated congregational members. These members comprised seven "sacred commissions" or committees, each supporting a different part of the "vision". The committees were charged with the task of designing and implementing projects in 7 areas including: 1) the renovation and expansion of the physical structure of the church, 2) a center for Christian education, 3) a series of

community outreach "ministries" (or programs) for developing community empowerment, 4) a plan to improve the worship services, 5) a church finance commission to encourage increased giving, 6) a youth advocacy and mentoring commission, 7) and a senior advocacy and support program.

### Data Collection

Over a four month period from June to September 1993, I interviewed 10 church leaders: the senior pastor, two assistant pastors, the church historian, one trustee (trustees have fiduciary responsibilities in the church), three deacons (deacons have worship service and community outreach related responsibilities), and two auxiliary leaders (these leaders were coordinators of the church's youth programs). The tenure of those interviewed ranged from 7 to 50 years with Second Baptist; about half of those I interviewed had been with the church between 20 to 35 years. The non-clergy or lay members I interviewed were volunteer leaders in the church. All of those interviewed were actively involved with Second Baptist on a daily basis and had several areas of responsibilities (e.g. ranging from bible study course development to youth group coordination).

At the time of the interviews, my role at Second Baptist was that of a participant/observer. I was a member of the church, regularly attended Sunday services, weekly bible study courses, and served on the strategic planning committee that was overseeing the planning of the restructuring of the church. While I conducted formal semi-structured interviews, I continued to my involvement with the church. I took notes of my observations during my regular activities and the impromptu conversations I would have with members and church leaders (clergy, deacons, trustees, and auxiliary heads). I also attended several deacon and trustee meetings and other church meetings to observe if and how members talked about the change. At the conclusion of my interviews, as a

reciprocated service to the church, I presented my preliminary finding from the ten interviews to the pastor and the executive board of the church (comprised of roughly 70 deacons, trustees, auxiliary leaders and assistant pastors). I attended five subsequent deacon, trustee, and congregational meetings when topics related to the "vision" was on the agenda to gather more information. At present, I am still a member of the church and serve on the strategic planning committee.

### Why a Church

I decided to use a church as the research site for this topic because I believed it provided for a rich context for the study of organization change. From my observations, the church primarily differed from traditionally studied "for-profit" organizations in three notable ways: its membership was voluntary, there was an absence of monetary rewards for membership participation, and a religious tone coupled with a commitment to serve "the Creator" through the church pervaded many interactions. Despite these differences, I believed that the attitudes and behaviors associated with planned organizational change would be heightened and more salient in this environment. For many members, association and participation in the church was deep-rooted and emotionally based. As one elderly and extremely active member stated:

"I was brought up with Christian parents. They brought something to the church with them, and so do I. There were strong people, they worked in the church, I value working in the church. What's good for the church helps you. It helps me get better. It's hard work, but I really enjoy it. I do it with all my heart." (The late Mrs. Viola Balderus)

Thus, I saw that the initiation and implementation of a planned organizational change was likely to elicit strong reactions from the membership, thereby highlighting the observable attitudes and behaviors associated with the change

process and increasing the potential of the findings of the study to be generalizable to many types of organizations.

### Emergent Themes

From my interviews (both formal and informal), impromptu conversations, and observations, several interesting themes emerge. First, the church leaders I interviewed had very different perceptions of Second Baptist. For example, some described Second Baptist as a warm familial place: "People are friendly, they go out of their way to show affection." While others describe the church as being aloof: "Second Baptist is not as family oriented as other churches, Second Baptist is cliquish and status-oriented." Another leader described Second Baptist as being politically focused and socially active: "Second Baptist is a community leader. It is politically oriented and his [Dr. Taylor's] sermons are liberating and action oriented". In sharp contrast, another member painted Second Baptist as "a traditional church."

Second, I discovered that the church leaders have extremely divergent perceptions about the "vision" (i.e. the churches restructuring). No one (except a deacon who was designated the "vision" leader) mentioned the "vision" without prompting. That is, when I asked about what changes do you observe going on at the church, only one person spoke of the "vision". When I prompted the interviewee about the "vision" as referring to the restructuring, members gave a range of responses regarding their opinion of the proposed change. Many respondents seem to have a wait and see attitude. One leader said: "He [Dr. Taylor] goes through this vision thing once a year." Another recounted: "His vision is too philosophical and abstract. It will soon fizzle out." It is interesting to note that these comments were made just after the training sessions and commission meetings where over 60 typically non-active members put in three

months of evenings and weekends to develop and refine. Furthermore, many of these church leaders participated in training and brainstorming sessions for the "vision". Despite this involvement, church leaders expressed considerable reservations about the implementation of the "vision". As one auxiliary leader said: " I can't see any further [physical] expansion of the church within these walls. The foundation cannot support it." A deacon concurred: " Dr. Taylor's vision is good, but we don't have the foundation [physical or human resources] to carry it off. We aren't strong enough." Given these responses, I was quite surprised to find that many were comfortable with the direction the church was headed. There was a general consensus among the church leaders I interviewed that the vision was a sign of hope. As one assistant pastor reflected: "With the vision we can go places."

Lastly, I discovered that there were a "faithful few" (two deacons and a trustee I interviewed) who collectively had their hands in almost every aspect of the church's activities. I noticed that these "faithful few" seem to have very diffuse social networks. That is, these three interacted with very different groups of people who did not necessarily communicate with one another on a regular basis. For example, "the faithful few" were mentioned time and time again as being influential or someone they go to for information or advice. However, when I asked the "faithful few" with whom they communicated or sought advice, they mentioned different individuals and groups of church members.

Given these findings, I saw two important constructs materialize from this qualitative data. One, was the notion of interpretation. It was clear that different people had different interpretations of the change process. The second construct was that of social networks. I found it interesting that the faithful few (whom I interviewed) seem to communicate with different groups and individuals. I saw

the constructs of interpretation and social networks as inter-related. Namely, I observed organization members sharing different perspectives. I wondered if these perspectives might be similar among groups of people based on whom they were in frequent communication. I decided that the degree to which people have different perspectives on such basic concepts such as their perception of Second Baptist and the "vision", and the mechanisms of how these perspectives are shared throughout the organization would be an interesting phenomena to further explore. After I conducted the formal interviews, I began reading the literature on organization change and social networks, as these were the two themes or constructs that seem to emerge from my qualitative research. I developed the research question: How do social networks impact organization members' interpretation of a planned organization change?

Based on the insights I gained from the readings and my data, I propose that a possible mechanism by which organization members experience the process of planned organizational change is through interpretation via social network mechanisms. In the following sections of this paper, I discuss the relevant literatures that touch on organization change processes and social network studies. I then provide a potential framework and da set of hypotheses for how networks impact the change process. Lastly, I discuss the findings from a more rigorous and quantitative analysis I performed using the constructs described above.

### **The Process of Planned Organizational Change**

As mentioned above, planned organizational change is the process by which an organization purposefully redirects or reorients its core patterns of action to meet a newly defined set of strategies and goals. Much of the organization theory literature on organizational change is at the macro level. For example, strategic adaptation organization theorists examine the environmental and

organizational forces pressure an organization to change (Zajac and Kraatz 1993), while ecological and institutional theorists look at forces that push an organization to remain inertial (Hannon and Freeman 1984; DiMaggio and Powell 1983). Even though these theoretical perspectives tangentially touch on issues that individual organization members must handle during a major planned change, these theories focus on the organization or the population of organizations as the level of analysis.

### Lewin's Model

Kurt Lewin (1947) developed a general framework upon which much of the was built literature focusing on individuals and planned organizational change. Lewin developed a change process model that described three sequential phases individuals pass through as they experience a change: unfreezing, moving, and refreezing. Schein (1972) enhanced this basic model of change and described each phase. Specifically, Schein defined 'unfreezing' as the initial phase of a change process whereby the motivation to change is created. He characterized 'moving' as the creation of change through cognitive redefinition. Lastly, Schein described 'refreezing' as the stabilization or institutionalization (Goodman, Bazerman and Conlon 1980) of the change. While this conception of the process of change was clear and intuitively appealing, it was too broad and did not identify specific variables or explain underlying mechanisms involved in the change process (Goodman and Kurke 1982).

### The Organization Development Literature

The literature on planned organization change emphasizing the internal dynamic process of change is synonymous with the field of organization development. Theorists in this area focus on organizational strategies, structures and processes for improving organizational effectiveness (Northcraft and Neale

1990). Furthermore, the organization development literature is more practitioner oriented; its emphasis is on providing prescriptive activities for groups and individuals within organizations in order to implement organizational change efforts effectively (Goodman and Kurke 1982).

The organization development literature explores various elements internal of the change process. This literature discussed two broad types of theories are discussed: implementation theories and process theories (Porras and Robertson 1987). Implementation theories focus on organizational change agents and the role they play in an effective implementation of a planned organizational change, while change process theories explain the dynamics of the change process by identifying specific variables (Porras and Robertson 1987). Clearly, the change process theories provide the most relevant material for this discussion, therefore, I highlight this literature below.

Change process theories specify a plethora of variables related to the change process. I have (somewhat arbitrarily) classified these variables into three categories in an effort to condense the discussion (see table below). The first group of variables are related to the formation of change information. The main variables examine the status level of the communicator of change within an organization (Cartwright 1951; Dalton 1970) and the level of participation organization members have in the change process (House 1967; and Miles et al. 1969). The second group of variables are related to individual dynamics such as an individual's commitment to an organization and its goals (Goodman and Dean 1982), the perception of the change and their agreement with its necessity (Miles et al. 1969; Nadler 1974), an individual's self-assessment of their future value in an organization given the impending change (Goodman and Dean 1982; Lawler 1982), and an individual's perception of being rewarded or recognized (with

praise, promotions, and/or monetary gains) for adopting new behaviors (Miles et al. 1969; Nadler 1977; Lawler 1982). The third group of change related variables examine social networks and social influence. These group of variables deal with issues of conformity and consensus (Cartwright 1951; Goodman and Dean 1982; Dalton 1970) and social comparison processes and the communication of change (Miles et al. 1969; Goodman and Dean 1982).

### **Three Categories of Change Variables**

<b>Category</b>	<b>Variables</b>
1. Formation of change information	<ul style="list-style-type: none"> <li>• Status of communicator of change</li> <li>• Level of participation</li> </ul>
2. Individual dynamics	<ul style="list-style-type: none"> <li>• Commitment</li> <li>• Perception of change</li> <li>• Future value</li> <li>• Recognition</li> <li>• Agreement</li> </ul>
3. Social networks/influences	<ul style="list-style-type: none"> <li>• Consensus and conformity</li> <li>• Social comparison processes</li> </ul>

Even though theories in organization development have directly addressed issues of organization change processes at the individual level, this body of knowledge falls short of providing a comprehensive theory of the change process. (Porras and Robertson, 1987). Though organizational development theorists have examined several constructs and variables organization development, a great deal of confusion exists regarding their causal mechanisms, which renders change process theories unable to adequately specify to dynamics underlying planned organization change in organization settings (Porras and Robertson, 1987).

### Organization Theory Literature

When the organization development literature is compared to the organization theory literature regarding the process of change at the individual

level, the organization theory literature is relatively less well developed. Much of the writings on the process of change in organization theory literature relies on anecdotal evidence, lacking theoretical and/or methodological rigor (cf. Kochan and Useem 1992; Kanter 1983; Kanter, Stein and Jick 1992; Peters 1992; Pascale 1990; Miller 1990). Within the past decade, there are only a handful of empirical studies that address the topic at hand. The authors of these works use qualitative research methods tend to study selected types of organizational change and, in varying degrees rely on retrospective data. For example, Bartunek (1984) writes a case study of a restructuring within the Catholic church. Sutton (1987) uses qualitative methods to describe organizational death. And, Isabella (1990) analyses interviews bank managers about their recollection of experience with organizational change.

#### The Importance of Interpretation in the Change Process

It is interesting to note that all three of these organizational studies highlight the importance of an individual's interpretations as a part of the change process. Bartunek (1984) examines interpretative schemas involved in an organizational restructuring; Sutton focuses on the role of leadership's influence on members in dying organizations; and Isabella (1990) looks at managers' interpretation of change related organization events. All three researchers suggest that in order to understand how organization members experience the change process requires an understanding of interpretation and the interpretative phenomena (Bartunek 1984; Sutton 1987; Isabella 1990). In this study, the goal is to gain further understanding of the change process within an organization undergoing a major planned change and, quantitatively, attempt to uncover underlying causal mechanisms. I intend to build on these notion of interpretation and incorporate the key constructs and variables authors discuss in the

organization development literature. I hope to make a contribution to field by analyzing the process of planned organization change within organizations through the lens of social networks.

## **Social Networks**

Social networks are a pattern of relations among member of a social system (Knoke and Kuklinski 1982). While this concept is clear, an agreed upon theory of social networks does not exist; rather network researchers tend to use social networks as lens through which to examine a variety of social phenomena (Scott 1991; Powell and Smith-Doerr 1994). Studies of social networks span across both micro and macro levels of analysis. Within the macro area, network researchers explore such topic inter-organizational relations (Galaskiewicz 1985), alliance formation (Gulati 1993), and firm performance (Uzzi 1993; Burt, et al. 1993). Within the micro or intra-organizational level, network theorists examine political power (Krackhardt 1990), individual influence (Brass 1984), technology change within an organization (Burkhardt and Brass 1990), innovation (Nohria, Gulati and Ghoshal 1993; Albrecht and Ropp 1984), and group decision-making (Kilduff 1990; Ward and Riegen 1990). While the array of network studies is broad, it is deficient in providing a systematic and coherent direction (Powell and Smith-Doerr 1993).

### The Link Between Social Networks and Social Influence in the Change Process

The organization development literature points out to the importance social influence plays in the role of the change process (Cartwright 1951; Goodman and Dean 1982; Miles et al. 1969). Traditionally, in the field of social psychology, researchers use the concept of social influence to explain the similarity of attitudes among a groups of actors within a social systems in terms of shared attributes of the actors (e.g. individuals compare themselves with similar others in terms of occupation, or age) (Festinger 1954). In the organization theory literature, social information processing (SIP) theorists (Salancik and Pfeffer 1978) raise a similar argument. They contend that SIP influences individuals' attitude toward an

organizational event over and above the traditional sources of influence, such as membership in an occupational category (Salancik and Pfeffer 1978). Rice and Aydin (1991) make the distinction between the social influence and social networks perspectives. They argue that from a social networks viewpoint, actors in a social system develop shared attitudes through patterns of relations (Wellman 1983) and not necessarily similar others (in terms of age or occupational position). Knoke and Kuklinski (1982) suggest that social behavior can be explained from both the attributional *and* relational perspectives -- noting that while these two approaches to social behavior are conceptually distinct, there are not mutually exclusive. Knoke and Kuklinski (1982), they recommend that researchers incorporate both of these perspectives into their works. In recent studies, network theorists find evidence of an interaction between patterns of relations and similar others especially with regards to gender (Ibarra 1992) and suggest comparable interactions with gender and race (Ibarra 1993). Thus, it can be argued that social structure and individual attributes play a role in influencing the beliefs and attitudes of actors within a social systems.

With respect to the notion interpretation, social network studies implicitly assume that social action is socially constructed (cf. Berger and Luckmann 1966). That is, action is not based on external and objective aspects, but rather patterns of action are products of social interpretations (Granovetter 1992).

### Social Networks and Interpretation

Social network studies are successful in supporting the claim that social context surrounding actors can shape the attitudes and behaviors of those actors contained in a social system (Marsden and Friedkin 1993). Through social networks, organization members exchange information and develop similar perceptions (Rogers and Kincaid 1981) and can vicariously experience others'

behaviors (Hackman 1983). Thus, through the exposure of proximate others, actors within a network develop and share perceptions, attitudes, and norms (Ibarra and Andrews 1993; Wellman 1983; Dean and Brass 1985; Rice and Aydin 1991). Despite this growing pool of evidence supporting the importance of social networks, there is still a need to better designate specific conditions under which network mechanisms affect attitudes and perception (Ibarra and Andrews 1993).

### Social Networks and the Change Process

With respect to the topic of change, social psychologists find that group members shift in attitudes and choices who share information with one another (Isenberg 1986). In a recent network study in the field of marketing, there is evidence that shared knowledge within social structures contribute to the understanding of how group shifts in beliefs and choice occur (Ward and Riegen 1990). Furthermore, social network studies in the organizational theory literature contend networks also prove to play a central role in interpretation and the change process by way of reducing uncertainty created by a change event. A change event within the environment of a system of actors can create uncertainty and ambiguity among the actors (Pfeffer 1981). Uncertainty is an uncomfortable state for individuals, therefore, they attempt to structure, organize and interpret their world (Katz 1980). By communicating more frequently with others in a social system, individuals work to reduce their uncertainty (Van de Ven, Delbecq, and Koenig 1976; Burkhardt and Brass 1990, Tichy 1973). In sum, given this body of evidence, I contend that social networks can play an important role in interpretations of organizational events when uncertainty is involved -- events such as planned organizational change.

## Social Network Mechanisms

The mechanism by which social networks contribute to shaping and/or shifting an individual's perception of an event is a topic of debate among social network theorists. There are two empirical accounts of social influence within the social network paradigm: structural equivalence and social cohesion (Marsden and Freidkin 1993). Structural equivalence describes actors in a social network that have identical patterns of relations to one another. Structurally equivalent actors may or may not have direct communication ties with one another, but share information through mutual third party contacts within a network (Marsden and Freidkin 1993; Knoke and Kuklinski 1982).

Social cohesion is the other empirical account of how social networks work. Social cohesion is defined as the direct communications link between actors within a network (Knoke and Kuklinski 1982; Marsden and Freidkin 1993; Burt 1987). Both social cohesion and structural equivalence mechanisms are examined in this study.

### **Social Networks, Interpretation, and the Process of Organization Change**

As mentioned above, Lewin's (1947) general framework describing the process of change as unfreezing, moving, and refreezing is clear and intuitively appealing; however, it is too broad and does not specify any measurable variables or mechanisms through which an individual moves from one state to another (Porras and Robertson, 1987). While Schein (1972) makes this model more robust with description, other than providing anecdotal evidence, he does not support it with any empirical or methodological rigor. Isabella (1990) attempts to test Lewin's (1947) model analytically through her study of managers' interpretation of the change process. The findings of her study support the notion that individuals do go through the stages of unfreezing, moving, and refreezing;

however, I find her study methodologically weak and therefore inconclusive because she relies totally on retrospective data. She asks the respondents in her study what they remembered about organizational changes they experienced over a five year time period.

Like Schein (1972) and Isabella (1990) I plan to use Lewin's general framework as a basis for understanding how individuals experience the change process. However, I hope to test specific variables occurring in a particular stage of the change process as it unfolds in order to more rigorously draw out the underlying causal mechanisms. In this study, I focus on Lewin's (1947) unfreezing and moving stages. Because the change process is very complex and difficult to study (Porras and Roberston 1987), I believe that it is prudent to study change in pieces as it unfolds. (In future research, I hope to examine the unfreezing stage).

### **Hypotheses**

Based on my inductive study, I observed the beginnings of the change process -- an organization initiating a restructuring. My observations were in line with theoretical discussions involving the beginning stages of organizational change. The literature explains that a change event within an environmental system can create uncertainty among the actors (Pfeffer 1981). As a result, there is an increased need for interpretation and sense making of the event (Katz 1980). It is through social networks that organization members exchange information and develop similar perceptions (Rogers and Kincaid 1981). Actors within a network develop and share perspectives, attitudes, and norms (Ibarra and Andrews 1993; Wellman 1983; Dean and Brass 1985; Rice and Aydin 1991). I suggest that similar perceptions of members who interact in a network can be discovered by comparing individuals' perceptions of the organization's culture and their

perception of the change underway. If culture can be thought of as the norms and values that guide patterns of action (Denison 1980; Schein 1985), I contend that an organization member's perception of the organization's culture is a meaningful way to examine if actors within a network share perspectives. Similarly, I argue that an organization member's perception of their organization making a change is another way to test for shared perceptions. Thus, in an organization undergoing a major planned change, I would expect to see similar perspectives among organization members who have communication ties regarding their conception of the organization measured via organizational culture and the change it is undertaking.

Hypothesis 1 & 2:

1. *Organization members' (leaders') perception of the organization's culture is shared by individuals who have (direct or indirect) communication ties.*
2. *Organization members' (leaders') perception of the organization's change is shared by individuals who have (direct or indirect) communication ties.*

Individual Factors and Interpretation in the Change Process

In addition to social network influences, I contend that there are other individual factors that contribute to an organization members' interpretation of the change process. According to the organization development literature, several individual dynamics are salient in the change process. The degree to which individual organization members feel that they have participated in the change process play a role in determining whether or not the individual comes to accept or resist a change initiative (House 1967; Miles et al. 1969). An individual's level of commitment to the organization and its goals also affect whether or not an individual comes to accept or resist change depending on the degree to which the change is congruous or in conflict with the organization's current posture (Goodman the Dean 1982). An individual's perception of the proposed change and

the necessity of that change can also play an important role (Miles et al. 1969; Nadler 1974). Depending on whether an individual's self-assessment of their future value in the organization (i.e. the applicability or obsolescence of this current skill set) is congruous or at risk with the new direction of the proposed change can be significant in determining one's perspective of the change. Lastly, the individual's perception of being reward, or in this case recognized (this church does not use monetary incentives) for adopting new behaviors can also be significant in one's interpretation of the change process (Miles et al. 1969; Nadler 1977; Lawler 1982).

#### Hypotheses 3 & 4

*3. Organization members who have (direct or indirect) communication ties will share similar feelings of participation, recognition, future value and commitment.*

*4. Organization members who have (direct or indirect) communication ties and share similar feelings of participation, recognition, future value and commitment will also share similar views regarding their level of agreement with the organization's change.*

Based on previous literature and my preliminary inductive field study, I argue that social networks both social networks and individual dynamics are important in an organization members interpretation of planned organizational change. In the next section, I discuss the variables to be measured and develop several hypotheses to test this claim.

#### Unit of Analysis and Variables

The unit of analysis of this study is the individual. In network terms, I my unit of analysis is called an egocentric network. This is the most basic level of analysis in network studies. The egocentric network consists of all nodes and relationships (Knoke and Kuklinski 1982). The level of analysis of this study is the social network and the subgroups which comprise the network.

The dependent variable is an identified subgroup of the entire network in which one actor is tied to another actor or actors by way of a communications tie. A tie can be direct or indirect. If two or more actors are directly tied, then their link is consistent with the concept of social cohesion. Social cohesion occurs when there is a direct communications link between actors within a network (Knoke and Kuklinski, 1982; Marsden and Freidkin, 1993; Burt 1987). I operationalize a direct communications tie (social cohesion) when one actor indicates that they obtain/give advice, or information to another actor, or when the actor indicates that s/he interacts with another actor socially.

If two or more actors are indirectly tied through mutual third party contacts, then their link is consistent with the concept of structural equivalence (Marsden and Friedkin, 1993; Knoke and Kuklinski, 1982). I operationalize an indirect communication tie (structural equivalence) when two or more actors indicate they are linked to one another through mutual third party contacts via advice, information or socially related communications.

There are several independent variables in this study. The first independent variables is an individual's perception of the organization's culture. I use organizational culture as an indicator variable to tap into the meaning of the organization to the individual. I define organizational culture as the norms and values that guide patterns of action within an organization (Denison 1990; Schein 1985). The second independent variable is an individuals' perception of the organization's change. I use this variable to tap into how an organization member perceives the change process in terms of its magnitude, their understanding of the change, and whether or not they perceive a fit with the new direction the change represents and the current organization.

The third independent variable is a set of variables concerning an individual's feelings and experiences about the organizational change. These variables include participation, recognition, future value and commitment. I operationalize participation by looking at an organization member's indication of the degree to which they feel as if they are participating in the change process. I operationalize recognition by looking at an organization member's indication of the degree to which they are praised or encouraged to initiate ideas or incorporate existing projects with the proposed change. I operationalize future value by looking at an organization member's indication of the degree to which they envision themselves in the redefined organization as specified by the plans for change. I operationalize commitment by looking at an organization member's indication of the degree to which they feel committed to the organization.

The last independent variable is agreement. This variable is a measure of the degree to which an organization member agrees with the direction the change is taking the organization.

## **Methods**

### Sample

I used the 73 church of leaders of Second Baptist Church as my sample. The leaders consisted of 29 deacons (who have worship service and community outreach related responsibilities), 25 trustees (who have fiduciary responsibilities in the church), 11 auxiliary leaders (who have specific "ministries" or committee responsibilities such as the youth ministry, the career counseling ministry, the young adult ministry, etc.), 6 ordained clergy (who comprise the paid ministerial staff), and 2 administrators (the church secretary and the church clerk in charge of membership records). I chose this group as a sample for two reasons. One, because they either have decision-making authority or significant influence in the

decision-making process -- the deacons and the trustees have decision-making power over any structural or financial decisions that is put forth before the congregation.<sup>1</sup> Two, because these leaders constitute a contained unit within the church who meet and/or interact regularly, thereby making a network analysis feasible. In a sense this leadership body is akin to a small organization housed in the church, with the senior pastor having the role of CEO and the general membership equivalent to customers.

### Data Collection

I distributed and collected questionnaires to the church leaders over a three month period (from December 1993 - February 1994). All of the church leaders did not attend meetings consistently, so I had to attend several meetings and church functions in order to distribute the questionnaire to as many people as possible. After four attempts, my response rate was still low, so in January I mailed questionnaires to all the church leaders who did not attend meetings during December or January. Two to three weeks after the mailing, I followed up with calls to everyone who had not completed the questionnaire. to ensure they received it and to encourage them to mail it in.

During the data collection period, the "vision" had somewhat lost its momentum relative to all the attention it got during the first half of the year; however, it was still discussed periodically among church leaders at deacon or trustee meetings. But, at this time a strategic planning committee (of which I was a member) compiled all the efforts the congregation members in previous months, developed an action plan and presented their recommendations to a joint board

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<sup>1</sup>In the Baptist church, all members have decision-making rights. The pastor, deacons or trustees must present any major decisions regarding the church to the congregation for a vote before action is taken. The congregation should vote on any action regarding major resource allocations. Presently at Second Baptist, the congregation votes at an annual church meeting in which all resource allocation decisions are presented in the church's annual budget.

meeting in January 1994. (Also at that meeting, I presented highlights of the interviews I conducted during the summer as part of the presentation).

### Survey Design

The survey consisted of two parts. The first part was designed to capture network information. I asked four sociographic questions: In a typical week:

- 1) Who do you go to for advice?
- 2) Who comes to you for advice?
- 3) From whom do you get general information about Second Baptist?
- 4) How often do you socialize with your friends from Second Baptist?

Below each question was list of all 73 church leaders. Respondents were asked to place an "X" next to the church member to which the question applied. Based on these responses I would use algorithms commonly in network analysis to determine subgroups within the network of church leaders. This format is typical in network research (Ibarra 1992, 1993).

The second part of the survey was designed to capture information about church leaders' perception of the Second Baptist's culture and perception of the change being proposed. (See Appendix for list of questions and description of each "culture" category). The church culture questions were taken from an existing instrument developed by Roozen, McKinney, and Carroll (1984) which measures a church's orientation to its mission. This instrument provides four dimensions in which describes a church's mission orientation as activist, civic, evangelistic or sanctuary. (Carroll, Dudley and McKinney, 1986). While this instrument is not specifically designed to measure organizational culture, it provides a reasonable surrogate that has been statistically validated.

Based on the responses to the surveys, the desired result would be to obtain information about how church leaders' perceptions differed by various groups or

subgroups. That is, I hoped to be able to designate subgroups based on the advice, information and/or friendship network data collected and show that an individual's perceptions of the church and their perception about the change differed by subgroup. For example, I would expect that a group of five friends who were church leaders would have similar perceptions about the culture of Second Baptist and their view of the "vision".

## **Results**

### Descriptive Statistics

#### Demographics

Based on the responses, the "average" church leader at Second Baptist is 45 years old, has been a member of the church for 17 years, and has held their current position for 8 years. Most of the leaders are African-American (94%) and about half of them are married. They are highly educated -- 80% of the church leaders are college graduates or post graduates. Most are employed full-time (86%) in a variety of industries with the high tech and education fields are primarily represented (39% and 35%, respectively). (See Appendix for details).

#### Response Rates

The total responses rate was a modest 48%. The response rates varied by role. See table below.

#### **Response Rate by Group**

Group	Total N	Response Rate
Deacons	29	51%
Trustees	25	28%
Auxiliary Heads	11	73%
Ministerial Staff	6	50%
Administrative Staff	2	100%
Total	73	48%

For network studies, missing data is problematic. In fact, it is to be avoided at all costs (Knoke and Kuklinski, 1982; Scott 1991). Thus, despite my persistent efforts, I was not able to avoid this problem. As a result, there are 38 missing cases out of 73 which render the findings from this study inconclusive.

Variables measured

I performed a Cronbach's alpha test on the culture related and individual change variables. The table below illustrates that not all of the variables proved to be reliable. Several of the variables did not pass the 0.7 hurdle rate which is considered to be modestly reliable in the early stages of research (Nunnally 1978: 245-246).

**Reliability of Variables**

<b>Variable</b>	<b>Alpha</b>
<b>Culture Variables</b>	
Activist	0.7
Civic	0.5
Evangelistic	0.8
Sanctuary	0.8
<b>Change Variables</b>	
Participation	0.9
Recognition	0.5
Future Value	0.7
Perception of Change	0.3
Agreement with Change	0.8
Commitment	0.1

Of the culture variables, "civic" is the only variable that did not prove to be reliable. Of the individual change variables, recognition and commitment are not reliable. Therefore, I excluded these three variables from the analysis.

General Findings

Looking at the aggregated responses of the all the respondents, some clear overall sentiments exists about Second Baptist and the change. In general, church leaders view Second Baptist as more of an activist church rather than evangelistic or a place strictly for worship (sanctuary). With respect to the proposed changes, the church leaders that responded to the survey felt that they "somewhat" to "very little" participated in the initial planning stages of the change. However, most were stronger in their degree of agreement with the change and could see themselves as having a place in the new Second Baptist the "vision" represented. The table below reports these results. (Note: only the results of the variables that were reliable were used).

### **Overall Perspectives**

	Mean Response	S.D.
Activist	1.8	0.8
Evangelist	2.2	1.0
Sanctuary	2.4	0.9
Participation	3.5	1.1
Future Value	1.6	0.8
Agreement	1.7	0.9

Scale: 1=very much, 2=somewhat, 3=very little, 4=not at all

### Network Analysis

In network analysis, a network's density is a descriptive statistic commonly reported. Density is a characteristic of an entire network. It represents the proportion of the number of ties actually occurring over all possible ties -- thus, it can take on a value between zero and one. The various networks measured in this study (advice, information, and friendship) are not particularly dense. All four networks measured had a density score of 0.04. This is a very low score which is probably due to the incomplete data.

Another descriptive measure in network analysis reported is centrality. This measure indicates how "central" an actor is in a network. The centrality scores from the four networks measures show that nine church leaders are most central. They include, the senior pastor, the church secretary, five deacons, and two trustees. Based on my interviews in the precursory inductive field study, I would label these members as the core of the "faithful few". (See Appendix)

#### Subgroups Identified Through Network Analytics

Based on the networks literature, there are typically two ways to operationalize communication ties -- the way in which two or more actors are connected in a network: structural equivalence and social cohesion. Social cohesion is defined as the direct communications link between actors within a network (Knoke and Kuklinski 1982; Marsden and Freidkin 1993; Burt 1987). I used an algorithm that calculates cliques to measure cohesion.

The cliques algorithm generated six groups for the first advice network (Who do you go to for advice?), nine cliques for the second advice network (Who comes to you for advice?), four cliques for the information network, and seven cliques for the friendship network (see Appendix). The cliques algorithm allows for overlapping membership in a group. That is, one person can be put in several cliques. In this data set there are a lot of overlapping memberships. For example, in the friendship network, one deacon (Howlett) is put into all seven cliques. Furthermore, there is little variation from clique to clique within each network. For example, the difference between clique1 and clique2 is one deacon (Rodgers) -- If Rodgers were not in clique2, then the two cliques would have identical members. (See Appendix friendship clique solution). Unfortunately, given this degree of overlap in the various clique, not much variance is to be expected among the various groups.

Structural equivalence is defined as actors in a social network that have identical patterns of relations to one another. Structurally equivalent actors may or may not have direct communication ties with one another, but share information through mutual third party contacts within a network (Marsden and Freidkin 1993; Knoke and Kuklinski 1982). I use complete-linked cluster analysis to measure structural equivalence.

The cluster analysis yielded six groups of church leaders for the advice and friendship networks and five groups for the information network. These groups range in size from 2 to 48 members (see Appendix). This wide disparity in group is probably due to missing data. Discouragingly, due to missing data I do not have information for several members in the groups the cluster analysis formed. This is particularly true for many of the two member subgroups -- there are many instances where I only have data for one of the two members. Thus, the analysis done to test the hypotheses is restricted.

#### Subgroups Selected for Hypotheses Tests

Given the disappointing groupings that the network analysis yielded, I chose to only look at two possible solutions for testing the hypotheses. I chose the clique algorithm's solution for the friendship network and the complete-link cluster analysis solution for the advice1 (Who do you go to for advice?) network. Each of these solutions represented the network concepts of cohesion and structural equivalence, respectively, thus allowed the testing of both network mechanisms. I selected the friendship network from the clique analysis because it represented the cohesion concept well -- cohesion meaning the direct communications link between actors within a network (Knoke and Kuklinski, 1982; Marsden and Freidkin, 1993; Burt 1987).

As for the cluster analysis solutions, the groups were very disparate in size and only the information and two advice networks appropriately represented the structural equivalent concept -- which is defined as actors in social networks that have identical patterns of relations to one another, but may or may not have direct communication ties with one another (Marsden and Freidkin, 1993; Knoke and Kuklinski, 1992). I specifically chose the advice1 solution because it provided the most even distribution of people per group for which I had data. The other cluster analysis solutions often had only members in a subgroup (see Appendix) and in many cases, I only had data for one of the two members.

### Hypotheses Outcomes

To test the first hypothesis, I used ANOVA to see if there were significant differences among the subgroups identified from the clique (cohesion) and cluster analysis (structural equivalence) algorithms based on individual's perception of the culture of Second Baptist and their perception of the changes being proposed in the "vision". (I did not test the second hypothesis because the Cronbach's alpha score (0.3) rendered the "perception of change" variable unreliable). The results from a simple one-way ANOVA and the clique solution for the friendship network showed that there was a significant difference among the subgroups classified by the clique algorithm at the .05 significance level. When I further analyzed the data using contrast codes to find out which subgroups differed, I found that subgroup #5 was significantly different from all the other groups. (That is, group #5 was significantly different from group #1, group #2, group #3, group #4, and group #6) at the .05 level. This result supports the first hypothesis.

To test the third hypothesis, I used ANOVA to see if there were significant differences among the subgroups identified from the clique (cohesion) and cluster analysis (structural equivalent) algorithms based on individual's feelings of

participation, their future value and their agreement with the change. The results from a simple one-way ANOVA and the clique solution for the friendship network showed that there was not a significant difference between the subgroups classified by the clique algorithm; therefore, hypothesis 3 was not supported.

Hypothesis 4 was contingent on the support of the results from hypothesis 3. Because there was not a significant difference among the subgroups based on their feelings of participation, future value or agreement with the change, I did not test this last hypothesis.

### **Discussion and Conclusion**

Overall, the findings are inconclusive given that I was only able to test two of the four proposed hypothesis due to missing data and unreliable measures. The results that I did find were, however, somewhat encouraging. With the friendship clique solution, there was an significant difference between subgroups and their perception of the culture of the organization. This result supports hypothesis 1. I think this result is particularly interesting given that many of the subgroups the clique algorithm identified had a lot of overlap in membership. However, the group that was proven to be significantly different from the other groups (i.e. group#5), had different members than the other groups. This finding shines a small ray of hope that subgroups within a network have different perspectives of an organization and the change process.

The problem of missing data is a real threat to the interpretation of network analysis in this study. It is recommended that incomplete network data should be avoided at all costs (Scott 1991). Specifically, eliminating a case removes N-1 possible relationships involving other network actors (Knoke and Kuklinski, 1982). Thus, even though the data may look promising, it is not reliable.

In addition to the fatal flaws that rendered the finding of this study inconclusive, there are still other alternative explanations. One possible explanation for the variance of perceptions among different subgroups is that perceptions may differ on attributional characteristics. That is, a group of actors within a network might share perceptions based on age (Festinger 1954) or by tenure or loosely speaking "cohorts" (Pfeffer 1983). Another possible explanation may be that perceptions about change may depend on power relationships among the actors within the network. Leaders who stand to gain from the change may band together, creating new "power" networks which cannot be determined by advice, information or social networks.

The design of this particular study is also limited because it only looks at a network at a single point in time. With planned organizational change, it is likely that the structure of these networks would change. Also, because of the volunteer nature of this particular organization, leaders involvement may change over time due the individual's ability to provide time to the church above and beyond their employment and family obligations. Network compositions can also change due to normal, naturally occurring circumstances. For example, during the course of this study, one central member to the network passed away and was replaced. Given this shift in responsibilities, the network patterns must have changed.

The dynamic nature of organizations and the networks and subgroups within them call for longitudinal studies to adequately capture the process of organizational change. If the reliability of the measures in this study had held, it would have been interesting to periodically redistribute the survey to get a sense of the characteristics and shifting in networks involved during the change process. (However, re-administering the survey again might be a difficult task given the

original response rate was only 48% with a tremendous amount of effort made to collect the data).

Another improvement to the study would be to use an instrument that more directly measured organizational culture within a church. The instrument used here was only a surrogate measure of culture; it measured a church's "mission orientation" (Carroll, Dudley and McKinney, 1992). If there are no such instruments available, then a researcher should attempt to adapt a culture instrument used in "for-profit" organizations to be meaningful in a church environment.

Lastly, more reliable measure of the constructs needs to be developed before the design of this study could be carried out again. A more rigorous effort to pretest questions to capture the constructs of interest should be done.

In sum, I still believe the "guts" of the design is feasible. However, many adjustments need to be made to obtain reasonable results. This study could be significantly enhanced if it had a longitudinal component. In addition, the generalizability of the study could be enhanced if it were performed in a "for-profit" organization as well as other non-profit organization or church. However, despite its many shortcomings, this study did reveal a ray of hope about the idea that social networks play an important role in organization members interpretation of the change process. Therefore, I believe that future research efforts on this topic could be worthwhile

## APPENDIX

### Questions in Survey

Based on 4 point Likert scale (1=very much, 2=somewhat, 3=very little, 4=not at all)

#### **Church Culture Questions**

##### Activist (Alpha = .7)

- Second Baptist sponsors organized social action groups within the congregation. (Q1)
- Second Baptist promotes social change through organized, collective influence. (Q8)
- Members of Second Baptist encourages the pastor to speak out on social and political issues. (Q10)
- Second Baptist provides financial support for social action activities. (Q14)
- Second Baptist supports corporate congregations participation in social and political issues. (Q 18)

##### Civic (Alpha = .5)

- Second Baptist cooperates with other religious groups for community improvements (Q2)
- Second Baptist encourages members, as individuals, to be involved in social issues. (Q9)
- Second Baptist provides aid and services to people in need. (Q12)
- Second Baptist helps persons understand themselves as agents of God's love and hope. (Q13)
- Second Baptist encourages members to reach their own decision on matters of faith and morals. (Q16)

##### Evangelistic (Alpha = .8)

- Second Baptist maintains an active evangelism program inviting the unchurched to participate. (Q3)
- Second Baptist protects members from the false teachings of other religious groups. (Q6)
- Second Baptist reaches out to members of other religious groups with the message of true salvation. (Q17)
- Second Baptist encourages members to make explicit faith declarations to friends and neighbors. (Q19)

### Sanctuary (Alpha = .8)

- Second Baptist resists the temptation of contemporary "pleasures" and lifestyles.(Q4)
- Second Baptist prepares members for a world to come in which the cares of this world are absent (Q5)
- Second Baptist encourages obedience to civil laws as a religious duty. (Q7)
- Second Baptist accepts one's condition and status as controlled and determined by God. (Q11)
- Second Baptist fosters a sense of patriotism as a religious duty. (Q15)

### **"Individual Level" Questions**

#### Participation (Alpha = .6)

- Do you feel as if you were involved in developing the Vision? (Q30)
- Do you feel as if you participated in the Vision process? (Q31)
- Did you take part in the initial phase of the Vision process? (Q36)

#### Recognition (Alpha = .5)

- Do you feel as if church members and leaders will recognize you for any efforts you do make to incorporate the Vision's ideas into your responsibilities? (Q32)
- Do you feel as if the church members and leaders will value any efforts you make to include ideas presented in the Vision in other church activities? (Q41)

#### Future Value (Alpha = .7)

- Do you believe your talents will be useful as the church moves forward with the Vision process? (Q33)
- Do you feel as if you have the abilities to perform your responsibilities in light of the changes the Vision may bring? (Q38)
- Do you think you can make more meaningful contributions with the opportunities the Vision may represent? (Q40)

#### Perception of Change (Alpha = .8)

- Does the Vision seem like a major change in direction for Second Baptist? (Q34)
- Do you feel as if you understand the Vision? (Q43)
- Do you feel that the goals of the Vision fits with the current objectives and activities of Second Baptist ? (Q48)

### Agreement

- Do you feel the vision is necessary? (Q35)
- Do you believe Second Baptist is in need of the change the Vision represents? (Q37)
- Is Second Baptist more attractive to you given the direction of the church as spelled out by the Vision? (Q44)
- Do you feel Second Baptist will be more attractive to its members given the direction of the church as spelled out by the Vision? (Q45)
- Do you agree with the ideas presented in the Vision report? (47)

### Commitment (Alpha = .1)

- Do you feel you will be more committed to Second Baptist because of the Vision? (Q39)
- Would you leave Second Baptist if you strongly disagreed with the change the Vision represented? (Q42)

### Other (Expectation)

- Did the information in the presentation about the Vision meet your expectations? (46)

## Description of "Culture" Categories

### Activist

This world is the arena of God's redemptive activity and also, therefore, the arena in which God calls the congregation to speak out on issues and engage in corporate action, working for social change and transformation towards a more just and loving society. The activist orientation includes a critical stance towards existing in a social and economic structures and does not shy away from controversy in the interest of maintaining harmony.

### Civic

This world, as for the Activist, is the arena in which God calls Christians to act and to take responsibility for public life; however, the civic orientation is more comfortable with the existing social and economic institutions. It is more concerned with making them. Furthermore, the congregation itself resists acting as a corporate body in public; rather it provides a forum in which social issues can be discussed and debated in a way that enables individual members to act responsibly as Christian, though not as representatives of the congregation.

### Evangelistic

This world is devalued in favor of the world to come. To call persons to salvation and the promise of eternal life in the world to come, members are encouraged to witness their faith, sharing the message of salvation with those outside the fellowship and leading them to membership in the church. The spirit of the Great Commission is at the center of congregational life, and the power of the redeemed life is sufficient to overcome members' hesitancy to proselytize among members of other religious traditions as well as among the unchurched.

### Sanctuary

Also otherworldly in emphasis, this orientation encourages the view that church exists mainly to provide persons with opportunities to withdraw, in varying degrees, from the trials and vicissitudes of daily life into the company of committed fellow believers. A sharp distinction is made between the sacred and secular, between the spiritual and temporal realms. The temporal realm is sinful, but nevertheless God-given and necessary to human existence. Thus Christians are expected to live in the world, accepting it as it is, and to uphold its laws; but they are to be "not of this world" in the deepest loyalty which belongs only to God.<sup>2</sup>

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<sup>2</sup>Source: Carroll J.W., C.S. Dudley, and W.McKinney (1992). Handbook for Congregational Studies. Nashville: Abington Press.

## Descriptive Statistics

	<b>N</b>	<b>Mean</b>	<b>S.D.</b>
No. of Years at Second Baptist	32	17.2	14.0
No. of Years in Current Position	34	8.1	8.3
Age	26	45.2	9.9

## Descriptive Statistics

	N	Percentage
<b>Gender</b>		
Male	18	51%
Female	17	49%
<b>Marital Status</b>		
Single (Never Married)	5	15%
Married	17	50%
Divorced/Separated	9	26%
Widowed	3	9%
<b>Residence</b>		
Evanston	18	53%
Chicago	4	12%
Skokie	4	12%
Wilmette	1	3%
Other	7	21%
<b>Ethnicity</b>		
African-American	33	94%
Caucasian (non-Hispanic)	1	3%
Other (African)	1	3%
<b>Education</b>		
Did Not Complete High School	2	6%
High School Graduate	2	6%
Some College	3	9%
College Graduate	14	40%
Post Graduate	14	40%
<b>Employment Status</b>		
Full-year/full-time	30	86%
Part-year/full-time	1	3%
Retired	4	11%
<b>Employment Industry</b>		
Hi Tech	12	39%
Financial	3	10%
Services	2	6%
Manufacturing	1	3%
Skilled Labor	1	3%
Transportation/Utilities	1	3%
Other (mainly education)	11	35%

## Network Centrality

Advice 1		Advice 2*		Information		Friendship	
Name	Role	Name	Role	Name	Role	Name	Role
Lee	Admin	HBTaylor	Pastor	Lee	Admin	Benson	Deacon
HBTaylor	Pastor	Lee	Admin	HBTaylor	Pastor	Gardner	Deacon
Brown	Deacon	Benson	Deacon	Balderus	A H**	Davis	Trustee
Davis	Trustee	Green	Deacon	Brown	Deacon	Waddy	Deacon
Guillbx	Trustee	Davis	Trustee	Guillbx	Trustee	HBTaylor	Pastor
Balderus	A H**	ITaylor	Pastor	Gardner	Deacon	Brown	Deacon
Ranson	Trustee	Brown	Deacon	Davis	Deacon	Green	Deacon
McKay	Trustee	Gardner	Deacon	Benson	Deacon	Howlett	Deacon
Howlett	Deacon	Guillbx	Trustee	Green	Deacon	Ford	Trustee
Sims	Deacon	Sims	Deacon	Howlett	Deacon	AJohnson	A H**

\* Advice 1: From whom do ask advice?

\* Advice 2: Who comes to you for advice?

\*\* AH: Auxiliary Head

## Centrality

### Summary Table

Name	Role	No. of Categories	Advice 1*	Advice 2*	Information	Friendship
HBTaylor	Pastor	4	X	X	X	X
Brown	Deacon	4	X	X	X	X
Davis	Trustee	4	X	X	X	X
Lee	Admin	3	X	X	X	
Guillbx	Trustee	3	X	X	X	
Howlett	Deacon	3	X		X	X
Benson	Deacon	3		X	X	X
Green	Deacon	3		X	X	X
Gardner	Deacon	3		X	X	X
Balderus	AH**	2	X		X	
Sims	Deacon	2	X	X		
Ranson	Trustee	1	X			
McKay	Trustee	1	X			
ITaylor	Pastor	1		X		
Waddy	Deacon	1				X
Ford	Trustee	1				X
AJohnson	AH**	1				X

\* Advice 1: From whom do ask advice?

\* Advice 2: Who comes to you for advice?

\*\* AH: Auxiliary Head

## Cluster Analysis Solutions Clique Solutions

### Who Do You Go To For Advice? -- 6-Cliques Solution

	<b>Clique 1</b>	<b>Clique 2</b>	<b>Clique 3</b>	<b>Clique 4</b>	<b>Clique 5</b>	<b>Clique 6</b>
1	Brown	Creed	Brown	Green	Green	Brown
2	Creed	Green	Green	Howlett	Davis	Green
3	Green	Howlett	Howlett	Davis	HBTaylor	Davis
4	Howlett	Davis	Davis	HBTaylor	Hamilton	HBTaylor
5	Davis	HBTaylor	HBTaylor	Hamilton	ITaylor	Hamilton
6	HBTaylor	Lee	Hamilton	Lee	Lee	ITaylor

### Who Comes To You For Advice?-- 9-Cliques Solution

	<b>Clique 1</b>	<b>Clique 2</b>	<b>Clique 3</b>	<b>Clique 4</b>	<b>Clique 5</b>	<b>Clique 6</b>	<b>Clique 7</b>	<b>Clique 8</b>	<b>Clique 9</b>
1	Creed	Creed	Creed	Creed	Creed	Benson	Brown	Green	Green
2	Green	Green	Green	Green	Gardner	Creed	Green	Howlett	Davis
3	Howlett	Howlett	Howlett	Howlett	Howlett	Howlett	Howlett	Davis	Donaldsn
4	Sims	Waddy	Davis	AJohnson	Waddy	Davis	Davis	HBTaylor	HBTaylor
5	HBTaylor	HBTaylor	HBTaylor	HBTaylor	HBTaylor	HBTaylor	HBTaylor	ITaylor	ITaylor
6	Lee	Lee	Lee	Lee	Lee	Lee	Lee	Lee	Lee

### From Whom Do You Get General Information About 2nd Baptist?--

#### 4-Clique Solution

	<b>Clique 1</b>	<b>Clique 2</b>	<b>Clique 3</b>	<b>Clique 4</b>
1	Creed	Creed	Creed	Gardner
2	Howlett	Gardner	Green	Howlett
3	Sims	Howlett	Howlett	Rodgers
4	Waddy	Waddy	Waddy	Waddy
5	JSpivey	JSpivey	Davis	JSpivey
6	HBTaylor	HBTaylor	HBTaylor	HBTaylor
7	Lee	Lee	Lee	Lee

### Friendship -- 7-Clique Solution

	<b>Clique 1</b>	<b>Clique 2</b>	<b>Clique 3</b>	<b>Clique 4</b>	<b>Clique 5</b>	<b>Clique 6</b>	<b>Clique 7</b>
1	Chavis	Dawkins	Dawkins	Brown	Brown	Benson	Dawkins
2	Dawkins	Gardner	Howlett	Dawkins	Dawkins	Dawkins	Howlett
3	Gardner	Howlett	Pitts	Howlett	Green	Gardner	Watkins
4	Howlett	Rodgers	Waddy	Waddy	Howlett	Howlett	HBTaylor
5	Waddy	Waddy	Davis	Davis	Davis	Rodgers	Lee

**Cluster Analysis  
Complete-Link Solution  
(Similarities)  
(Filename:Advice1dist)  
Who Do You Go To For Advice?**

<b><u>Group 1</u></b>	<b><u>Group 2</u></b>	<b><u>Group 3</u></b>	<b><u>Group 4</u></b>	<b><u>Group 5</u></b>	<b><u>Group 6</u></b>
Green	Duncan	Davis	HBTaylor	Brannon	Donaldson
Boone	BJThomas	Benson	Garnett	Horne	Duncan
Sims	Howlett	Sutton	Brown	Creed	Turner
RWilliams	AJohnson	Ferrell	Anderson	ITaylor	Pitts
JWilliams	Hamilton	Watkins	Liddell		Smith
Rodgers		Gardner	Doolin		Watson
Waddy		Walker	Mitchell		Shelby
		Barksdale	Adams		Brunt
		Morris	McCalister		Chavis
		Balderus	Sanders		EJohnson
		Tate	McKay		CThomas
		Heffner	Watkins		Evans
			Ford		Dawkins
			Derrick		EWilliams
			Mayo		Kirkland
			Woods		JSpivey
			Borden		CSpivey
			Shelton		Strong
			Switchett		
			Ranson		
			Hudson		
			OThomas		
			Guillbeaux		
			Waters		
			NJohnson		
			Morton		
			Lee		

**Cluster Analysis  
Complete-Link  
(Similarities)  
(Filename: Advice2dist)  
Who Comes To You For Advice?**

<b><u>Group 1</u></b>	<b><u>Group 2</u></b>	<b><u>Group 3</u></b>	<b><u>Group 4</u></b>		<b><u>Group 5</u></b>
Sims	Green	BJThomas	Duncan	Watson	Barksdale
Davis	Hudson	Creed	Waddy	JSpivey	Boone
Balderus		Horne	Morris	Adams	Doolin
Duncan		Hamilton	CThomas	Chavis	Brannon
			Kirkland	Derrick	Ferrell
			Guillbeaux	Mayo	Benson
<b><u>Group 6</u></b>			EWilliams	McKay	AJohnson
Donaldson			Walker	Sutton	ITaylor
Howlett			Brunt	Shelton	
Turner			Sanders	Ranson	
Rodgers			Gardner	RWilliams	
JWilliams			Smith	Ford	
EJohnson			McCalister	Watkins	
Dawkins			NJohnson	Garnett	
Strong			Borden	Brown	
			CSpivey	Evans	
			Liddell	Shelby	
			Watkins	Morton	
			Mitchell	Tate	
			OThomas	Switchett	
			Woods	Anderson	
			Pitts	Heffner	
				Waters	

**Cluster Analysis  
Complete-Link  
(Similarities)  
(Filename: Infodist)**

**From Whom Do You Get General Information About Second Baptist?**

<b><u>Group 1</u></b>	<b><u>Group 2</u></b>	<b><u>Group 3</u></b>		<b><u>Group 4</u></b>	<b><u>Group 5</u></b>
Howlett	Davis	Rodgers	Guillbeaux	JSpivey	Waddy
Turner	HBTaylor	Evans	Sanders	MorrisStrong	
		BJThomas	Adams	EJohnson	
		Green	McCalister	JWilliams	
		Pitts	Ford	Benson	
		Woods	NJohnson	AJohnson	
		Liddell	Ferrell	Hudson	
		Gardner	Morton	Dawkins	
		Duncan	Borden	CSpivey	
		Duncan	Brunt	Donaldson	
		Barksdale	RWilliams	EWilliams	
		Watkins	Mitchell	Chavis	
		Smith	Horne	Anderson	
		Hamilton	Shelton	Shelby	
		Creed	Ranson	CThomas	
		Boone	McKay	Kirkland	
		Brown	OThomas	Lee	
		Walker	Watkins	Sims	
		Mayo	Garnett	Watson	
		Doolin	Tate	ITaylor	
		Switchett	Balderus		
		Sutton	Waters		
		Brannon	Heffner		
		Derrick			

**Cluster Analysis  
Complete-Link  
(Similarities)  
(Filename: Frienddist)  
Friends at Second Baptist**

<b><u>Group 1</u></b>	<b><u>Group 2</u></b>	<b><u>Group 3</u></b>	<b><u>Group 4</u></b>	<b><u>Group 5</u></b>	<b><u>Group 6</u></b>
Davis	Garnett	Waddy	Woods	Morris	Hudson
Hamilton	Benson	Green	Howlett	Pitts	Gardner
	BJThomas	Turner		Watson	Barksdale
	HBTaylor	Creed		Rodgers	Brannon
	Donaldson	Anderson		CSpivey	Shelton
	Dawkins	Brown			Liddell
	JWilliams	Horne			McCalister
	Boone	RWilliams			Guillbeaux
	Doolin	Krikland			Sims
	Adams	Lee			ITaylor
	Borden				Balderus
	Waters				Walker
	EWilliams				Sanders
	Heffner				Duncan
	Ferrell				Watkins
	Mitchell				Switchett
	Morton				Duncan
	OThomas				Waktins
	Derrick				Duncan
	McKay				Evans
	Shelby				EJohnson
	Sutton				Chavis
	Brunt				JSpivey
	CThomas				AJohnson
	Mayo				Smith
	Ford				Strong
	NJohnson				
	Ranson				
	Tate				

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