

DIFFUSION OF LOCALLY DEVELOPED APPLICATIONS ACROSS
THE UNITED STATES JUDICIARY

by

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Abstract

DIFFUSION OF LOCALLY DEVELOPED APPLICATIONS ACROSS
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Current literature suggests that networks impact the diffusion of innovations. This dissertation seeks to uncover the reasons behind diffusion patterns of locally developed applications (LDAs) across the United States judiciary. Due to a lacuna in the relevant diffusion literature, the effects of professional networks on diffusion patterns are of particular interest in this study. Professional networks include inter-agency networks, national organizational networks, or external personal-professional networks.

LDAs are products, mostly software, created within a judicial district to enhance its effectiveness or efficiency. Often these applications are developed to address an internal issue in a district. However, the issue is not typically unique to an individual district, but one that is prevalent across the entire judiciary. There have been instances when LDAs have been adopted by other districts seeking solutions to similar problems. This dissertation seeks to determine the factors that influence the spread of LDAs amongst federal district clerk's offices just as previous researchers have with respect to hybrid corn seed amongst rural farmers (Ryan & Gross 1943), tetracycline prescriptions by physicians (Coleman, Katz, and Menzel 1966), and the adoption of state lotteries (Berry and Berry 1991). In particular, this study answers the following questions about the diffusion of innovations in the United States judiciary: (1) Do the professional

networks of judiciary decision makers influence the adoption of LDAs?; (2) What characteristics of the professional networks of judiciary decision makers influence the adoption of LDAs?; and (3) To what extent are regional or national interaction diffusion models applicable to the professional networks of judiciary decision makers? Although data was collected and analyzed as to internal determinants, the effects of structural, cultural, and personal characteristics are controlled in this research.

The literature suggests that networks have a positive effect on the diffusion of innovations, and this research uses a cross-sectional survey of chief deputy district court clerks to gather and analyze data using a sociogram and linear regressions in hopes of contributing to the literature in terms of the effects of professional networks on diffusion. The analyses suggest that network ties have a positive relationship with the adoption of LDAs, in that, discovery of the LDA during the awareness stage and the ultimate adoption of the LDA at the end of the persuasion stage are influenced by networks. For those connected via networks, this study shows that the number of networks in which the respondent is involved positively impacts the number of LDAs adopted. However, it finds that the network type, mode, and frequency of contact have no bearing on adoption. Additionally, this study finds that the “go to” network connections of decision makers can be seen to influence diffusion patterns of LDAs, and that national interaction networks and jurisdictional networks are more influential than regional networks.

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Chapter 1

Introduction

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers 2003, 11). Diffusion of innovations can occur in any situation where innovations can potentially assist both private and public, for- and non-profit entities to become more efficient and more effective. Individuals and organizations exhibit characteristics that may affect whether or not an organization adopts a certain innovation. Networks also play a role in the diffusion of innovations. This dissertation is specifically interested in professional networks and whether or not the characteristics of those networks influence the adoption of innovations.

As an operations manager in the judiciary, I had the opportunity to work on a locally developed application (LDA) in my home district. This quality control application is a Windows-based platform that interfaces with a docketing program used in every federal judicial district. Several courts were interested in this application as a result of word of mouth communication, in addition to electronic postings, and my participation at a conference where this application was demonstrated. Despite the efficiency and effectiveness of the application, approximately 3 out of 92 possible courts adopted this application. This low adoption rate led me to want to know more about the diffusion and adoption of innovations. Thus, the overarching question guiding this research is: what factors influence the spread of LDAs amongst district clerk's offices? This study is particularly concerned with the effects of professional networks on diffusion. Professional networks include inter-agency networks, national organizational networks, or external personal-professional networks. In an effort to uncover network effects on diffusion in the judiciary and answer the overarching research question, this study seeks to answer the

following sub-questions: (1) Do the professional networks of judiciary decision makers influence the adoption of LDAs?; (2) What characteristics of the professional networks of judiciary decision makers influence the adoption of LDAs?; and (3) To what extent are regional or national interaction diffusion models applicable to the professional networks of judiciary decision makers?

Previous research on diffusion has considered the effects of diffusion at the individual and state level. Rural sociology was the backdrop for the seminal study of diffusion in the United States. Ryan and Gross (1943) were hired to analyze the spread of hybrid corn seed among farmers in the rural Midwest. The results of their study indicated that even though others succeeded with this new corn seed, uncertainty remained in the minds of the potential adopters, which caused concern and a reluctance to adopt. This uncertainty led to a slow rate of adoption amongst the farmers. The initial thought that any rational businessman would immediately adopt a proven innovation was contested as a result of this study. Ryan and Gross's (1943) work paved the way for many different avenues of diffusion research.

One such avenue suggested a relationship between organizational culture and the diffusion of an innovation. As Greenhalgh, et al (2004, 607) notes, strong quality leadership, clear strategic vision, and a climate conducive to experimentation, risk taking, and knowledge sharing make an organization more receptive to innovation adoption. Likewise, the organizational structure, including organizational size, internal division of labor, slack resources, and specialization may affect the adoption of an innovation, thus the diffusion of that innovation. Individual decision maker perceptions (Dearing and And 1994, 11; Rogers 2003, 16) and individual thresholds for adoption (Valente 1995, 17) may also affect the adoption and diffusion of innovations; therefore, characteristics like the adopter's education, tenure, position, and openness to change may affect adoption.

In addition to individual decision maker characteristics, networks of decision makers have also been shown to affect the adoption of innovations. Coleman, Katz, and Menzel (1966) found that interpersonal networks affected the rate of diffusion of physician prescribing behavior with a new drug called tetracycline. The survey data resulted in a finding that out-of-town networks were positively related to early adoption by physicians; while physician isolation was negatively related to adoption (Coleman, Katz, and Menzel 1966).

Numerous scholars have conducted research on diffusion on the state level. Berry and Berry (2007, 224) discuss the two schools of thought with respect to diffusion on the state level: internal determinants and diffusion models. The internal determinants model indicates that internal political, economic, and social factors are involved in and help explain state adoption patterns (Berry and Berry 2007, 224). In their purest forms, internal determinants models assume that influences outside of the state have no effect on adoption (Berry and Berry 2007, 231). Diffusion models, on the other hand, view adoption as intergovernmental in nature and explain diffusion and adoption as a state's emulation of another's preceding adoption (Berry and Berry 2007, 224). This dissertation seeks to understand diffusion patterns in a differing governmental unit, the United States District Courts, by considering and controlling for the internal determinants – organizational structure, organizational culture, and adopter characteristics – and testing network data through the lenses of national interaction and regional diffusion models. The national interaction model assumes that a national communication network among state officials exists and that through that network, officials learn about programs from their contemporaries in other states (Berry and Berry 2007, 226). The regional diffusion model assumes that states are influenced by neighboring states (Berry and Berry 2007, 226). In conducting this research, it appears that another related diffusion model

deserves consideration. The jurisdictional model is similar to the regional model; however, instead of a network relationship based on proximity, this network is based on jurisdiction.

Balla (2001, 221) studied the relationship between state insurance commissioner involvement in a professional association, the National Association of Insurance Commissioners, and their states' adoption of the HMO Model Act. His findings indicate that involvement in a professional association is positively related to adoption, and therefore, to diffusion. Jack Walker's state diffusion research of 1966 suggests that innovations diffuse between organizations via inter-organizational networks (Walker 1969, 898). Walker examined 50 state governments and each of those states was ranked in terms of its innovativeness with respect to adopting 88 programs ranging from welfare to education to conservation. Certain states were considered opinion leader states and if a program was adopted by a non-opinion leader state early on, the diffusion of that program slowed and sometimes stalled. Walker, therefore, determined that there was a communication network factor involved in state diffusion (Rogers 2003, 319). In a further study in 1971, Walker observed 10 out of the 50 states and discovered that state government officials looked to the behavior of neighboring states when searching for information on innovations (Rogers 2003, 320). This regional or neighborhood mentality was thought to be based on a belief that neighboring states were similar in terms of resources, problems, and administrative styles (Rogers 2003, 320). Proximity and homophily are at the heart of this regional view.

This study follows along the traditions of Coleman, Katz, and Menzel (1966) and Balla (2001); whereas, it attempts to determine what factors play a role in the diffusion of innovations, but focuses on LDA adoption in judicial districts rather than the adoption of prescription or law making behavior. This study analyzed data obtained from a survey of

Chief Deputy Clerks and other executives similarly situated in the United States District Courts to determine if there is a relationship between diffusion and networks while controlling for the effects of organizational structure, organizational culture, and individual adopter characteristics. In order to determine these relationships, a sociogram was created via Microsoft PowerPoint and frequency/regression analyses were conducted using SPSS. This study fills a void in the diffusion literature on the impact of professional associations and builds upon Balla's (2001, 221) work by conducting an empirical study on the effects of professional associations on diffusion.

This study contributes to the existing literature in three main ways. First, this study involves the judiciary, an uncharted territory in terms of diffusion research. Second, the internal determinants model suggests that factors involved in a state adopting a policy or program are the political, economic, and social characteristics of the state itself (Berry and Berry 2007, 231). Therefore, part of this study tests to see if the internal determinant logic is sound with respect to another governmental entity, judicial districts, or if networks, in fact, affect adoption. Third, the analysis sheds light on whether regional or national interaction patterns via networks are at play. Because this research determines that professional networks are important factors, it will likely be necessary to include a network analysis in all future research to have a complete picture of diffusion (Balla, 2001, 223).

The sections that follow help to explain the basis and methodological approach for this study. A discussion of the relevant literature will frame this study as a continuation of previous network research. The methodology section describes the methods used in selecting participants, obtaining consent, administering the survey, and analyzing the data. It also discusses the limitations and threats to validity, and frames the anticipated findings of this research study. The research analysis section discusses

the findings with respect to the three major questions (Do professional networks of judiciary decision makers influence the adoption of LDAs? What characteristics of networks influence the adoption of LDAs? And are regional or national interaction models at play?). The findings and conclusions section summarizes the findings of this research and discusses potential future research endeavors. The reference list catalogs the sources of information used to create this dissertation.

Chapter 2

Relevant Literature

This dissertation seeks to uncover the reasons behind diffusion patterns of locally developed applications (LDAs) across the United States judiciary. The main question being asked is what factors influence the spread of LDAs amongst district clerk's offices? Within that overarching question lie several sub-questions that seek to uncover information about network effects on diffusion. These sub-questions include: (1) Do the professional networks of judiciary decision makers influence the adoption of LDAs?; (2) What characteristics of the professional networks of judiciary decision makers influence the adoption of LDAs?; and (3) To what extent are regional or national interaction diffusion models applicable to the professional networks of judiciary decision makers? Although data was collected with respect to structural, cultural, and personal characteristics, the effects of these determinants were controlled in this research.

The innovation diffusion literature is diverse in scope and covers several sub-topics including organizational culture, organizational structure, network communication, and decision making. As the diverse literature suggests, many different factors play a role in adoption decisions and diffusion. The bulk of the literature suggests that adoption is not necessarily rational in the purest sense, and that many different factors are at play when adoption decisions are made. The literature also suggests that organizational culture and structure, organizational aptitude, individual decision maker characteristics, and networks affect adoption decisions, and ultimately diffusion. When maneuvering through the literature, however, a noticeable lack of information regarding the effects of professional networks is evident. This study seeks to fill that void in the literature by providing an empirical study on the impact of professional networks on diffusion. Professional networks include inter-agency networks, national organizational networks, or

external personal/professional networks. If the network factor is important, then it may be necessary to include it in all future research in order to have a complete picture of diffusion (Balla 2001, 223). Therefore, a study of the effects of peers in terms of professional networks is needed to further the breadth of network diffusion research.

The most common definition of diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers 2003, 11). Diffusion is a unique type of communication, according to Rogers (2003, 12), in which the messages relate to new ideas. The newness of these ideas or innovations is also unique to diffusion, in that, there is a degree of uncertainty amongst the receivers or requesters. Newness, as Rogers (2003, 12) asserts is not necessarily time bound, as the idea or innovation may not be a recent one, but may be considered new by a potential adopter previously unaware of its existence. The newness creates uncertainty which is defined as, "...the degree to which a number of alternatives are perceived with respect to the occurrence of an event and the relative probability of these alternatives" (Rogers 2003, 6).

Origins of Diffusion Studies

Initially understood under the guise of the rational actor theory, decision making was thought to be performed by an individual maximizing his utility by exploring every alternative available to him, comprehending the consequences of all of the alternatives, and then selecting the best or most appropriate one (Simon 1997, 87). Since it involves decision making, the rational actor assumption has been studied across disciplines regarding numerous phenomena and was also the concern of early diffusion theorists, with many noting limitations in the rational decision making process. Herbert Simon suggested that the rational model is the ideal, yet in reality, rationality is bounded (Gormley 2004, 29). Bounded rationality purports that decision makers face three

difficulties when considering options. These difficulties include the individual's knowledge of the consequences of possible choices, the fact that the experience of value differs from the anticipation of the same value, and the fact that only a few alternatives can be considered (Gormley 2004, 29). Satisficing is the action of making decisions using bounded rationality, and it occurs when an individual, "...considers options only until finding one that seems acceptable given what the bureaucrat knows about his or her values and the probable consequences of that option" (Gormley 2004, 29). Networks may assist satisficing individuals by providing quick access to alternatives, and those without access to networks may be less likely to consider alternatives because of their isolation. Coleman, Katz, and Menzel (1966) discovered interpersonal networks affected the rate of diffusion of prescribing behavior of doctors for a new drug called tetracycline. Their results indicate non-rational decision making behavior due to the relative isolation of doctors. This isolation had a negative relationship with adoption which means that even though these Doctors were aware of the benefits of this new antibiotic, they were still uncertain because they lacked colleague interaction (Coleman, Katz, and Menzel 1966). Ryan and Gross's 1943 hybrid corn seed diffusion study was one of the first network studies that shed light on the non-rational nature of decision making and paved the way for many future diffusion network scholars.

This seminal work in the area of diffusion research was sponsored by the Iowa Agricultural Experiment Station as the administrators of that program were perplexed as to why the use of hybrid corn seed took so long to spread amongst rural Iowan farmers (Rogers 2003, 55). This slow pace was counter to the assumption that commercial farmers would make rational economic decisions, according to Rogers (2003, 55). The rational model of decision making assumes that a rational actor is one who will maximize his utility by exploring all potential alternatives, comprehend the consequences of those

alternatives, and presumably, select the most appropriate alternative (Simon 1997, 87). This agricultural study introduced the notions that uncertainty and risk played a role in the rate of hybrid corn seed adoption among commercial farmers in Iowa, and that interpersonal networks played an important role in overcoming those concerns (Rogers 2003, 34). As a result, the hybrid corn research paved the way for studies concerned with the effects of relationships and networks on decision making, as opposed to ones centered on calculated choice. Prior to discussion of diffusion network theory it is important to discuss previous research related to structural and non-structural factors which will then lead into a discussion of network theory and provide a framework for this dissertation.

Individual and Organizational Factors that Influence Diffusion

Various structural aspects of organizations play a role in adoption decisions. For instance, Carter and LaPlant (1997, 18) suggest that larger sized and wealthier states adopt innovations more readily than those that are smaller and poorer. According to Greenhalgh, et al (2004, 591), "...size, functional differentiation (an internal division of labor), slack resources, and specialization (the organization has a clear "niche" in which it offers expertise and specialist resources)," affect the innovativeness of an organization. Specialization may contribute to a concept known as absorptive capacity. The absorptive capacity for new knowledge is discussed and described by Greenhalgh, et al (2004, 606) as, "...an organization that is systematically able to identify, capture, interpret, share, reframe, and recodify new knowledge; to link it with its own existing knowledge base; and to put it to appropriate use will be better able to assimilate innovations, especially those that include technologies." Prerequisites for an organization that is receptive to innovation adoption include skills, existing knowledge, quality leadership, and a culture that stresses the importance of knowledge sharing, according to Greenhalgh, et al (2004,

592). The characteristics for such a culture include clear strategic vision, good managerial relations, visionary staff in pivotal positions, a climate conducive to experimentation and risk taking, and effective data capture systems (Greenhalgh, et al 2004, 607).

The characteristics of those making the adoption decisions have also been determined to be relevant in the literature. For instance, Valente (1995, 17) discusses a threshold network model; wherein, individuals have either a low, medium, or high threshold for adopting innovations, in that the lower the individual's threshold, the lower the resistance to innovation adoption. Individual adopter characteristics like tenure, education, position, and openness to change may play a role in adoption decisions and the resulting diffusion. Rogers (2003, 34) indicates that diffusion may be determined by the characteristics of the innovation itself; however, he cleverly adds the presupposition that these characteristics are the ones perceived by the potential adopter. The perception of relative advantage, compatibility, complexity, trialability, and observability (all discussed in the diffusion literature section below) indicates the personal and individual nature inherent in adoption decisions. This notion of human perception is also employed by Dearing and And (1994, 19) when they note that, "...the decision to adopt and/or use the innovation is based on individual perceptions of the innovation's worth relative to other ways of accomplishing the same goal." Because the literature suggests that the perceptions of an adopter have an effect on whether an innovation is adopted, individual characteristics may be important to consider when studying diffusion.

Network Influences on Diffusion

As previously discussed, the ideal rational man has the ability to choose among all alternatives open to him, and there are no limits on the complexity of the computations he can perform with respect to deciding the best alternative (Simon 1997, 87). Simon

(1997, 119) asserts that the ideal rational man does not exist and that in reality, decision makers go through a process of satisficing by looking for a course of action or alternative that is good enough because they have time or cognitive limitations that do not allow all alternatives to be taken into consideration. Because they satisfice, decision makers do not have to examine all of the alternatives; instead, they can choose the first good alternative that they encounter. Networks provide an avenue for decision makers to use in their satisficing process. The literature provides three significant contributions regarding network influences on diffusion: (1) the notion that uncertainty forces individuals to turn to their peers for reassurance; (2) the importance of imitation on diffusion; and (3) the effect of the type and structure of networks on diffusion.

As previously discussed, diffusion is characterized as the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers 2003, 11). Diffusion is a unique type of communication, according to Rogers (2003, 12), in which the messages relate to new ideas. The newness of these ideas or innovations is also unique to diffusion, in that there is a degree of uncertainty amongst the receivers or requesters. Acquiring information is a strategy to reduce such uncertainty. Valente (1995, 5) asserts that, "...risk and uncertainty force individuals to turn to their peers to gain more information and/or reassurance about potential adoption decisions." Rogers (2003) and Valente (1995) would agree that an uncertainty or an uncertain state creates a need for further information. There are also various stages during the decision making process in which information is gathered and provided. These stages are as follows: awareness, persuasion, decision, implementation, and confirmation (Rogers 2003, 37). Networks may provide access to information through social contacts at any and all of these stages.

Networks act as a communication hub between the creators and/or users of an innovation and those who are potential adopters; therefore, it would seem that information regarding perceived relative advantage, compatibility, complexity, trialability, and observability may be more easily achieved when and if these individuals are socially connected. As discussed by Rogers (2003, 266), the aforementioned five innovation characteristics as perceived by the potential adopter are defined as:

Relative advantage – the degree to which an innovation is perceived as better than the idea it supersedes; compatibility – the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters; complexity – the degree to which an innovation is perceived as difficult to understand and use; trialability – the degree to which an innovation may be experimented with on a limited basis; and observability – the degree to which the results of an innovation are visible to others.

All of these innovation characteristics are based on the perceptions of the potential adopter and as stated above, one may assume these characteristics might be more easily informed through networks.

Ahuja (2000, 425) also attempts to determine if inter-firm collaborations, a type of network connection, have a positive effect on a firm's innovation; he determines that there are two types of network benefits. First, resource sharing allows firms to combine knowledge, skills, and physical assets. Second, knowledge spillovers allow firms to communicate information regarding fresh technical breakthroughs, first-hand insights, or failure reporting on approaches and problems. Ahuja (2000, 448) found that inter-firm collaboration did positively affect a firm's innovation output. Greenhalgh, et al (2004, 598) also discuss the positive effects of collaborative discourse with respect to diffusion by noting that, "...people are not passive recipients of innovations...rather, they seek innovations, experiment with them, evaluate them, find (or fail to find) meaning in them, develop feelings (positive or negative) about them, challenge them, worry about them, complain about them, 'work around them', gain experience with them, modify them to fit

particular tasks, and try to improve or redesign them – often through dialogue with other users.”

This type of peer-to-peer dialogue engenders the delivery of information about an innovation, “...especially information about their subjective evaluations of the innovation” (Rogers 2003, xx). Rogers (2003, xx) further notes that, “this information exchange about a new idea occurs through a convergence process involving interpersonal networks.” Rogers (2003, xx) also establishes that, “the diffusion of innovations is essentially a social process in which subjectively perceived information about a new idea is communicated from person to person.” The meaning of an innovation, therefore, is socially constructed based on this interaction (Rogers 2003, xx).

Networks may also play a role in enhancing adopter imitation behavior. As previously discussed there are two main network diffusion models with respect to states: the regional diffusion model that indicates states are influenced by those in close proximity, and the national interaction model that assumes a national communication network among state officials exists through which officials learn about programs from their contemporaries in other states (Berry and Berry 2007, 226). Gray (1973, 1180) asserts that although neighboring states are useful referents, given understandable similarities, emulation or imitation is not restricted to border sharing states. National intervention, according to Gray (1973, 1180), may play a significant role in the diffusion of innovations among the states. Balla (2001, 222) agrees that professional interstate organizations are in part responsible for, “...a blurring, although by no means disappearance, of regional diffusion patterns.” Rogers sees these organizations as resources that combat the obstacle of uncertainty, and Balla sees professional network associations in the same light.

In his 2001 work, Balla seeks to connect state policy adoption with decision maker membership in national professional associations. The adoption of the Health Management Organization (HMO) Model Act, which was a comprehensive regulatory instrument developed by the National Association of Insurance Commissioners, represents the basis for this article in which Balla (2001, 222) asserts that associations do affect policy diffusion, and that in the case of the 1989 HMO Model Act, involvement in an association was positively related to a state's imitation and adoption.

Adoption decisions are also affected by the makeup and structure of networks. Valente (1995, 14) purports that, "individuals are likely to imitate adoption behavior if they witness that behavior among others who are similar to themselves, or even a slightly higher status." Rogers (2003, 305) discusses the importance of homophilous networking by asserting that adoption of innovations is more likely to occur amongst individuals that have similar cultural, professional, socioeconomic, and educational backgrounds. Valente also discusses this aspect in terms of both positional and structural equivalence. Positional equivalence, "...is the degree two individuals are similar in their relations to all others in the network" (Valente 1995, 54). According to Valente (1995, 55) individuals are likely to monitor and be influenced by the behavior of those similar to themselves; therefore, individuals' adoption behavior will likely reflect the behavior of their near peers. Similar to positional equivalence is structural equivalence which, "...is the degree two individuals occupy the same position in a social system" (Valente 1995, 56). I assert that we can extend the positive relationship between the homophilous ties of individuals to the homophilous ties of the organizations; therefore, organizations with similar characteristics would be more likely to share information and therefore adopt the same LDAs.

Greenhalgh, et al (2004, 603) also note that, "the adoption of an innovation by individuals in an organization is more likely if key individuals in their social networks are

willing to support the innovation.” A key individual would be someone like a champion or a boundary spanner. A champion is someone within a social network who champions the innovation. In this dissertation, a champion may take the form of a decision maker in the creating district court or an early adopter in another district who strongly believes in the LDA. Backer and Rogers's (1998, 17) study investigated diffusion of AIDS programs amongst four large companies. In all four cases, a champion was a key factor in a company's adoption of an AIDS program. The vice-president of BellSouth, for instance, one of the companies observed in this study, had a previous relationship with an AIDS outreach organization and became an advocate for an AIDS program within the company (Backer and Rogers 1998, 24). Champion roles as discussed by Greenlagh, et al (2004) include:

(1) the organizational maverick, who gives the innovators autonomy from the organization's rules, procedures, and systems so they can establish creative solutions to existing problems; (2) the transformational leader, who harnesses support from other members of the organization; (3) the organizational buffer, who creates a loose monitoring system to ensure that innovators properly use the organization's resources while still allowing them to act creatively; and (4) the network facilitator, who develops cross-functional coalitions within the organization.

Just as champions assist in the adoption of innovations, opinion leaders influence the adoption through their beliefs and actions (Greenhalgh et al 2004, 602). Opinion leaders are generally well respected individuals within a network who persuade others to adopt innovations. Boundary spanners are individuals who have social ties within and outside an organization. These ties link the organization with the outside world in relation to a particular innovation (Greenhalgh, et al 2004, 603). In essence, these individuals create adhesion points of contact between various networks. Valente (1995, 41) indicates that social ties can be integrated (dense) or radial (not dense). A dense network is one in which all of the participants are connected to or integrated with

each other but not necessarily to those outside of the network; whereas, a radial network is one in which the participants have wide ranging connections via networks. The denser the network, the less likely an individual from within that network will receive outside information; therefore, those in denser networks tend to be later adopters. Likewise, the less dense the network, the more likely an individual is to receive information from outside the network; therefore, those in less dense networks tend to be early adopters. A radial network assists an innovation's spread to a wider amount of people, and an integrated network, although providing an avenue for spread amongst a group, constrains an innovation's spread. The notion of radial networks relates to Granovetter's belief that weak ties are necessary for diffusion to occur across subgroups within a social system (Valente 1995, 50). Weak ties amongst individuals, "...create more and shorter ties between individuals in a network, thus accelerating the rate of diffusion" (Valente 1995, 50). Therefore, radial networks and weak ties predict a more robust diffusion and adoption pattern for innovations. Little or no network communication would likely have a negative relationship with adoption. Also, the presence of opinion leaders and champions within networks might predict a more robust diffusion and adoption pattern.

Additionally, Berry and Berry (1990, 396) use Mohr's theory of organizational innovation as a lens with which to study the diffusion of state lottery policies. According to Berry and Berry (1990, 396), Mohr's theory states, "...that the propensity to innovate is a function of the motivation to innovate, the strength of obstacles against innovation, and the availability of resources for overcoming such obstacles." Berry and Berry (1990, 410) assert that, "the probability of state innovation is directly related to the motivation to innovate, inversely related to the strength of obstacles to innovation, and directly related to the availability of resources for overcoming these obstacles." Networks can be viewed as resources or vehicles that assist a potential adopter in overcoming the obstacle of

limited information and providing reassurances of an adoption/non-adoption situation. These networks can provide access to information during the awareness and persuasion stages of innovation adoption.

Summary of Literature

The aforementioned diffusion literature and literature regarding the effects of organizational structure, organizational culture, individual adopter characteristics, and networks provide a framework within which to view this dissertation. Data on all of these characteristics were collected as they relate to the diffusion of innovations within the judiciary. The literature suggests a relationship between organizational culture and the diffusion of an innovation. As Greenhalgh, et al (2004, 606) notes strong quality leadership, clear strategic vision, and a climate conducive to experimentation, risk taking, and knowledge sharing make an organization more receptive to innovation adoption. Likewise, the organizational structure, including organizational size, internal division of labor, slack resources, and specialization may affect the adoption of an innovation, thus the diffusion of that innovation. Individual perceptions (Dearing and And 1994, 11; Rogers 2003, 16) and individual thresholds for adoption (Valente 1995, 17) may also affect the adoption and diffusion of innovations; therefore, characteristics like the adopter's education, tenure, position, and openness to change may affect adoption. Networks have also been shown to affect the adoption of innovations. Coleman, Katz, and Menzel (1966) discovered interpersonal networks affected the rate of diffusion of prescribing behavior of doctors for a new drug called tetracycline. As a result of survey data, out-of-town networks had a positive relationship with early adoption; while doctor isolation had a negative relationship with adoption (Coleman, Katz, and Menzel 1966). Balla (2001, 223) indicated that involvement in a professional association was positively related to adoption and therefore, to diffusion; however, he noted a lack of empirical

studies on the impact of professional associations in his work. If the network factor is important, then it may be necessary to include it in all future research in order to have a complete picture of diffusion (Balla 2001, 223).

Based on the relevant literature, any study interested in identifying the effects of professional networks must also consider the effects of organizational structure, culture, and individual adopter characteristics on adoption decisions. In an effort to uncover network effects on diffusion in the judiciary, this study seeks to answer the following questions: (1) Do the professional networks of judiciary decision makers influence the adoption of LDAs?; (2) What characteristics of the professional networks of judiciary decision makers influence the adoption of LDAs?; and (3) To what extent are regional or national interaction diffusion models applicable to the professional networks of judiciary decision makers? The network associations among Chief Deputy Clerks are at the heart of this dissertation; however, the data regarding organizational structure, culture, and personal adopter characteristics was analyzed yet controlled as to their effects on diffusion.

Chapter 3

Methodology

Research Design

This dissertation employed a mixed-methods research design. Quantitative and qualitative data were collected through surveys of key decision makers, and sociograms and linear regressions were used to analyze the data. The research design was modeled after the diffusion-based traditions of the Ryan and Gross (1943) and Coleman, Katz, and Menzel (1966) research studies. Ryan and Gross's (1943) paradigmatic methodological approach used by most diffusion researchers since 1943 involves, "...retrospective survey interviews in which adopters of an innovation are asked when they adopted, where and from whom they obtained information about the innovation, and the consequences of the adoption" (Rogers 2003, 33). Coleman, Katz, and Menzel (1966) compiled network data by asking doctors in four neighboring communities to recall three doctors they most frequently contacted for three specific reasons: discussion, friendship, and advice. The respondents were instructed to list three doctors that they contacted for each reason. From the data, the researchers were able to determine who talked to whom by creating a sociogram (a graphic of the communication structure that indicates who communications with whom).

Research Focus

Researchers studying diffusion have distinguished between both active and passive diffusion of innovations. Greenhalgh, et al (2004, 582) described diffusion as an innovation's passive spread and dissemination as a purposeful, active, and planned effort. In this research, a distinction is not made between passive or active diffusion, as the key research questions are not focused on the promotion of innovations, but rather on the characteristics, attributes, and networks of the decision maker responsible for

adoption. In terms of LDAs, both active and passive diffusion are possible via networks, as sometimes champions actively disseminate information campaigning for certain LDAs, while in other instances, LDAs spread via word of mouth in a more passive manner.

It is important to identify the two main aspects of diffusion that are being studied in this dissertation: communication and decision making. Communication takes into consideration how individuals first learn about LDAs and what type of network, mode, and frequency are involved as individuals are considering and either persuaded to or not to adopt the LDA. The term professional network includes inter-agency networks, national organizational networks, or external personal-professional networks. Decision making takes into consideration the actual decision to adopt, which although maybe informed by networks, may also be predicated on other organizational, cultural, and personal internal determinants. Furthermore, although there are five traditional stages of decision making, according to Rogers (2003, 100), this dissertation is only concerned with the first two stages: awareness and persuasion through the actual decision to adopt. The decision, implementation, and confirmation stages are not considered necessary to this work.

Sample Population

Because of the specific subject matter, a random sample of respondents was not applicable. The respondents were chosen because of their familiarity with the subject matter. Ninety-five percent of the respondents were Chief Deputy Clerks within the judiciary. Chief Deputy Clerks are the second highest ranking officials at the district court level; Clerks of Court are the highest. In instances where a Chief Deputy was not available, I contacted the Clerk of Court, and in instances where neither was available, I contacted a senior manager in either IT or operations.

Instrumentation

Given the locations of the respondents across the United States and its territories, an online survey was the best choice for data collection. Electronic surveys are convenient tools to retrieve the information needed from a large population with a short turnaround time (Creswell 2009, 146). The Internet and use of email provided an easy and user-friendly way to collect data. Given the non-random selection of research participants and their roles as high ranking managers in the United States Judiciary, there was no risk of excluding potential participants. Additionally, I contacted the individuals via telephone to confirm their agreement to receive and participate in this study. I asked whether or not they were comfortable using the online survey, and all those with whom I spoke indicated that accessing the survey via their email was the preferred method. I had previously answered a professional survey using Survey Monkey and felt very comfortable doing so. Having that experience with an online survey and after discussions with my committee during the dissertation proposal process, I chose the Survey Monkey tool to conduct this research.

The cross-sectional survey (See Appendix A) asked a series of questions, each requesting relevant data points for regression, sociogram, and further analyses. The survey consisted of 24 questions of varying types including "Yes" or "No," fill in the blanks, and multiple choice. The questions were developed based on the relevant literature and fell into the three basic categories regarding networks, organizational characteristics, and personal information. Table 1 sets forth the generalized question data requested and the corresponding data points. The survey was piloted by five individuals who were not respondents. Four out of the five were individuals that work in the federal court system, and one was not. All provided both positive and negative feedback, and as a result, the survey was modified prior to the data collection stage.

Table 3-1 Variables

Question Data	Data Points
Dependent Variable:	Adopted in last 5 yrs (y or n)
<i>Adoption</i>	Adopted in last 5 yrs (y or n) based on #of LDAs adopted
	List LDAs adopted in last 5 yrs & developing district
Indep. Variable:	List from whom and in what mode respondents first found out about LDA
<i>Networks</i>	Select points of contact prior to adoption
	Select all network associations
	Select mode and frequency of contact in all network associations
	Circuit in which their court is situated (Structural)
Org. and Control Variables:	
<i>Location</i>	Court in which they work which also provides circuit information
<i>Org. Structure</i>	How many employees in district
	How decisions are made
<i>Org. Culture</i>	Adopted in last 5 yrs (y or n)
	Openness to innovation
<i>Personal Attributes</i>	Respondent's education level
	Respondent's years of experience
	Openness to innovation
	Perceived innovation characteristics

The data points listed in Table 3-1 were grouped into the following categories as it relates to the key variables of interest in the study.

Dependent Variable

Adoption or non-adoption: A question asked if the respondent has adopted an LDA over the last 5 years. This provided a dependent variable to use in the regression. The main dependent variable was number of LDAs adopted. Another question requested that the respondent list the LDA adopted and its corresponding developing district. The LDAs listed were used for a further analysis based on network size per LDA adopted, and provided another layer to this investigation.

Independent Variables of Main Interest

Network Characteristics of the Decision Maker: A question asked the respondent to list from whom and in what mode he first found out about the LDA his court adopted. For instance, the respondent may indicate that he heard about the LDA from someone outside of his district at a national conference. Another question asked the respondents to list points of contact prior to adoption via a preselected list. For this question, the respondent might answer that he contacted the developing district prior to adoption. Other questions asked the respondent to select all of their network associations via a preselected list, and to select the mode and frequency of contact in all network associations via a preselected list. For example, the respondent may indicate that he is involved in a professional network outside of the district and that he has contact with that group via in person meetings once every month. The final question asked the respondents to list their individual “go to” courts in order to provide a basis for the sociogram and subsequent “go to” analyses.

Organizational and Control Variables

Location: The respondent was asked to list the district in which they work. For instance, the respondent might indicate that he works in the Northern District of Iowa. The district

location also provides an indication about the circuit in which the court resides which was obtained using administrative records.

Organizational structure: The respondent was asked to select how many employees are in the district, how decisions are made via a preselected list, and if there is a specific group that evaluates LDAs.

Organization Culture: In order to capture the innovativeness of the court, the respondent was asked whether his district has developed an LDA over the last 5 years. The respondent was also asked to rank his district's openness to innovation via a preselected list which would indicate the organization's mindset in terms of innovations.

Personal Attributes of the Decision Maker: The respondent was asked to select his highest level of education from a predefined list, his years of experience from a predefined list, his openness to change, and his perceived innovation characteristics via ranking order of relative advantage, compatibility, complexity, trialability, and observability in order to determine what characteristics of the LDA itself are important. The ranking of these characteristics sheds light on the individual's decision making process with respect to LDA adoption.

Data Collection and Procedures

A cross-sectional survey was used to capture data regarding LDA diffusion. All of the respondents were called¹ to determine if they would be willing to participate in this study. The respondents were located in every state and territory of the United States. In total, 92 individuals from the 92 individual district courts were called. Out of the 92

1. Being an employee of the judiciary, there were many professional considerations taken during the data collection stage. Instead of sending out a blanket email, the respondents were called individually first to request their participation in the study. Judiciary resources were not used and I called these individuals using my personal phone during lunch hours and on my own personal time. The survey was sent using my U.T. Arlington email account.

individuals, I received partial responses from 79 and completed responses from 56. An additional 8 individuals answered approximately 90% of the questions; therefore, they were also included in the main analyses.

A completed response means that every question was answered. I called approximately 5 individuals per day for a period of time ending approximately 1 month from the starting day. I took notes on my conversations and made notes when I left messages. I created a spreadsheet listing each respondent's contact information and color coded it based on the data collection stage. For instance, those that agreed and to whom I sent the link to the survey, I coded as red; those that completed the survey, I coded as blue. Those for whom I left messages remained black so that I would know they were still pending and had not been sent the survey. Once a period of approximately one week had passed, I called again those that had not yet returned my initial call. Several of those individuals agreed to participate in the survey; however, some individuals never returned my call. Due to professional considerations and given my dual role as researcher and employee of the judiciary, I determined that a third call and/or message would be too intrusive. Understanding that approximately 10% did not respond, I do believe that making the effort to call prospective respondents increased the response rate as I had the chance to personally ask for permission to send the survey request as opposed to sending an impersonal blanket email.

Once the individuals agreed to assist me by taking the survey, I sent them an email introduction to the study and the consent form in accordance with University of Texas at Arlington's (UTA's) Institutional Review Board (IRB) procedures for soliciting electronic consent. I informed the participants of their rights in the research process, and that the information they would be providing was anonymous and would remain

confidential, as the data would be safeguarded and secured in accordance with UTA's IRB procedures (See Appendix B).

Data Analysis Plan

The data were categorized into two main sections: responses based on court and responses based on LDA adopted. I used those two data sets to triangulate the analysis in five main ways: (1) general results were analyzed; (2) a subgroup analysis was conducted based on the number of adoption rankings of high, medium, and low; (3) a regression based on the number of adoptions per court was conducted; (4) a sociogram based on LDA adoption and "go to" data was created and analyzed; and (5) a subgroup analysis was conducted based on LDA rankings of large, medium, small, and very small. First, the general survey responses provided a basic overall impression of the results. Second, a subgroup analysis was conducted based on the number of adoptions per court. The respondents' courts were ranked high, medium, and low based on the number of adoptions per court and a comparison was conducted using the main independent variables relevant to this study. Third, a linear regression was conducted using the number of LDAs adopted as the dependent variable in an effort to determine the significance of the independent variables, in particular, those involving networks while controlling for internal determinants like organizational and personal decision maker characteristics. The key independent variables were the network characteristics, such as, number of networks in which an individual was involved, network type, mode and frequency of contact, and length within network. The control variables were structural: organizational size, type of decision making; cultural: attitudes towards new ideas; personal: adopter characteristics including tenure, education level, attitudes towards new ideas, and perceived innovation characteristics in terms of relative advantage, compatibility, complexity, trialability, and observability as perceived by the adopter. The

variables were created using the previously coded data collected from the survey. The dependent and independent variables are listed in Table 3-2 below.

Table 3-2 Variables with SPSS Data Points

Dependent Variable	
	Data Points
# LDAs	# of LDAs adopted per court
Independent Variables	
	Data Points
<i>Personal (Control)</i>	
Education	1=Bachelor, Grad, or Law Degree; 0=Else
Years of Experience	1=11 years of experience or more; 0=Else
<i>Organizational (Control)</i>	
Decision Making	1=Team decision; 0=Else
District Comfort Level	1=Comfortable to very comfortable; 0=Else
Size	1=101 or more employees; 0=Else
Innovation	1=Developed own LDA; 0=Else
<i>Networks</i>	
Total Networks	# of Networks in which involved
Mode	1=In person network contact; 0=Else
Communication Frequency	1=Contact with network monthly and once every three months; 0=Else
Length	1=10 or more years in network; 0=Else
List Serve	1=Involvement in list serve; 0=Else
National Committee	1=Involvement in national committee; 0=Else
Circuit Level Workgroup	1=Involvement in circuit level workgroup; 0=Else
Other Professional Network	1=Involvement in other professional network; 0=Else
Federal Bar	1=Involvement in federal bar; 0=Else
State Bar	1=Involvement in state bar; 0=Else
County/Parish Bar	1=Involvement in county/parish bar; 0=Else

Fourth, the data were examined based on LDA adopted and information solicited about “go to” court connections. A sociogram was created in an effort to examine connections between networks and LDA diffusion. This sociogram mapped the “go to” connections of respondent courts. The sociogram was then used to uncover the existence of networks based on LDA adoption; wherein, each LDA was examined and the underlying network of adopters analyzed. Fifth, a subgroup analysis was conducted to specifically analyze network effects during the awareness and persuasion stages by analyzing network information based on LDA rankings: large (11+ adopters), medium (6-10 adopters), small (2-5 adopters), and very small (1 adopter).

The analyses are split into two sections (1) Research Analysis: Networks and (2) Research Analysis: Control Variables. The findings and conclusions section is split into three parts based on the main questions: (1) Do the professional networks of judiciary decision makers influence the adoption of LDAs?; (2) What characteristics of the professional networks of judiciary decision makers influence the adoption of LDAs?; and (3) To what extent are regional or national interaction diffusion models applicable to the professional networks of judiciary decision makers?

Coding

Once the data collection period was over and the respondents answered the questions, I analyzed each response using the Survey Monkey interface. Once I evaluated each answer, I wrote down my first impressions and questions about what the raw data might be indicating. Once I had fully evaluated this raw data using the Survey Monkey interface, I downloaded the information into an Excel spreadsheet.

An initial coding was necessary for many of the responses. For instance, question #3 asked respondents to list the LDA adopted and the developing court. Based on my agreement with the respondents vis-a-vis the consent form, those responses

needed to be coded to protect the privacy of all involved; therefore, I coded the information giving each court and each LDA its own unique numerical designation. Because I allowed for free text entries in this question, each LDA entry had to be cleaned and standardized. This standardization was based on a universal list of LDAs acquired through administrative records. Once I standardized that language, I created a key listing the LDAs and their corresponding LDA code. Each adopting court, origin court, “go to” court, or circuit listed in any of the utilized responses was coded using the process above to hide its identity.

In many instances the regression required that the data be transformed into dummy variables to be properly placed into the model. A process of trial and error was conducted in order to arrive at the main model; wherein, some variables were transformed into dummies and others were combined. There were blank entries within the survey results; however, in many cases those empty slots appeared in the multi-part questions. These questions gave the respondent multiple options; therefore, even though there was blank in one category, the respondent had answered in another. In these instances, the blanks were coded as “0” to indicate “no.” In a minor amount of cases, the respondent skipped a question or chose not to answer it. In those instances, the answer was coded as “-1” which indicated “NA.”

Limitations

There are several issues that could be limitations or threats to the validity of this study including personal bias, research bias, survey question administration and content, and coding issues. I personally may be biased with respect to this subject matter and the respondents as I am an insider, currently employed by the U.S. judiciary. While my current employment in the judiciary does not put me in a capacity of leadership over survey participants, I understand that my previous conceptions about the operations of

my judicial district and of the other courts in which I have worked may bias my analysis and conclusions in this study. That experience may also bias the configuration and content of the survey questions, which could lead to respondent confusion, incorrect answers, and ultimately, the coding of incorrect answers. In order to limit these threats and to overcome my person bias, the survey was piloted by a group of five individuals not familiar with this study to evaluate the questions. That pilot process yielded feedback and led to the modification of some questions and a retooling of the logic which automatically bypassed certain questions based on previous answers within Survey Monkey.

Surveys have been the standard tool in previous diffusion studies, but recall data is sometimes not as accurate as that of real-time data. In order to reduce concerns about recall, I limited the time period for recall to the previous five years. I also cross-checked the answers with respect to LDAs with the Administrative Office's master list of LDAs.

The sociogram and LDA connections within it assume that "go to" courts have information about LDAs based on their network connections. This assumption is based on the fact that the respondents were asked to whom they spoke with when considering the adoption of LDAs. The analysis and findings are also limited by participation in the survey. Although 79 out of 92 potential respondents partially answered the survey, 56 out of 92 answered all of the questions. An additional 8 answered approximately 90% of the questions; therefore, their answers were included in the regression and the two subgroup comparisons. As with all studies, there is missing information that may support the findings in this work or refute them. Because the analysis was based on responses from only a portion of the target population, other connections and adopters of LDAs listed or others not listed may exist and may explain or partially explain the adoptions without network connections.

Chapter 4

Research Analysis: Networks

The following network analysis seeks to answer three main research questions:

(1) Do the professional networks of judiciary decision makers influence the adoption of LDAs?; (2) What characteristics of the professional networks of judiciary decision makers influence the adoption of LDAs?; and (3) To what extent are regional or national interaction diffusion models applicable to the professional networks of judiciary decision makers? The main variables for this study are located in Table 4-1 below.

Table 4-1 Mean, Standard Deviation, and Range

Variables	Mean	SD	Range
Dependent			
# of LDAs Adopted	2.38	1.33	0-4
Independent			
Personal			
Education	0.828	0.38	0-1
Years Experience	0.781	0.417	0-1
Organizational			
Decision Making	0.62	0.488	0-1
District Comfort	0.781	0.417	0-1
Size	0.359	0.484	0-1
Innovation	0.56	0.5	0-1
Network			
Total # Networks	2.83	1.78	0-7
Mode	0.406	0.495	0-1
Frequency	0.813	0.393	0-1
Length of Time	0.625	0.488	0-1
Network Type			
Listserve	0.83	0.38	0-1
National Committee	0.44	0.5	0-1
Circuit Level	0.22	0.417	0-1
Other Professional	0.52	0.504	0-1
Federal Bar	0.37	0.488	0-1
State Bar	0.25	0.436	0-1
County/Parish Bar	0.2	0.406	0-1

An overwhelming majority (90.91%) of the respondents indicated that they had adopted an LDA from another district, bankruptcy, or circuit court over the last five years. This high percentage indicated that LDA diffusion is occurring on a large scale within the

judiciary. The respondents were asked to list up to four LDAs that they had adopted over the last five years and indicate from which court the LDA originated. In total, they indicated that 60 LDAs from 41 different district, bankruptcy, and circuit courts had been adopted during that time period. Figure 4-1 provides a listing of those LDAs, numerically coded, and their courts of origin. For example, LDA 14 was developed by Court 5 and LDA 20 was developed by Court 18.

LDA #	Origin Court	LDA #	Origin Court	LDA #	Origin Court	LDA #	Origin Court	LDA #	Origin Court	LDA #	Origin Court
1	Court 1	11	Court 11	21	Court 19	31	Court 27	41	Court 5	52	Court 37
2	Court 2	12	Court 12	22	Court 20	32	Court 28	42	Court 33	53	Court 29
3	Court 3	13	Court 13	23	Court 21	33	Court 29	43	Court 34	54	Court 41
4	Court 4	14	Court 5	24	Court 8	34	Court 3	44	Court 35	55	Court 1
5	Court 5	15	Court 9	25	Court 22	35	Court 23	45	Court 36	56	Court 23
6	Court 6	16	Court 14	26	Court 23	36	Court 31	46	Court 37	57	Court 42
7	Court 7	17	Court 15	27	Court 24	37	Court 32	47	Court 38	58	Court 43
8	Court 8	18	Court 16	28	Court 25	38	Court 7	48	Court 39	59	Court 35
9	Court 9	19	Court 17	29	Court 26	39	Court 25	49	Court 31	60	Court 41
10	Court 10	20	Court 18	30	Court 7	40	Court 18	50	Court 40		

Figure 4-1 List of LDAs and Origin Court

In the following sections, I discuss the overall patterns of networks and LDA adoption, then I move to a discussion of distinguishing patterns between high and low adopters. This research is interested in whether networks influence the adoption of LDAs during the awareness and persuasion stages of the adoption decision. The data provided some indication that networks do influence the adoption of LDAs at both stages. In an effort to uncover the respondents' communication patterns during the awareness stage, they were asked from whom they learned about their adopted LDAs and in what mode or circumstance they learned about them. According to the analysis, networks do have a positive impact on adoption during the awareness phase; wherein, networks introduce potential adopters to LDAs by facilitating the flow of information about unknown

LDAs. The data showed that 74.34% of respondents learned about the LDAs they adopted from a source outside of their district indicating that a connection outside of their home court provided the information about the LDA. Figure 4-2 displays the sources from whom the adopters learned about their adopted LDAs. The question asked them to list up to 4 of the LDAs they adopted over the past 5 years which is the reason for the LDA numbers 1-4.

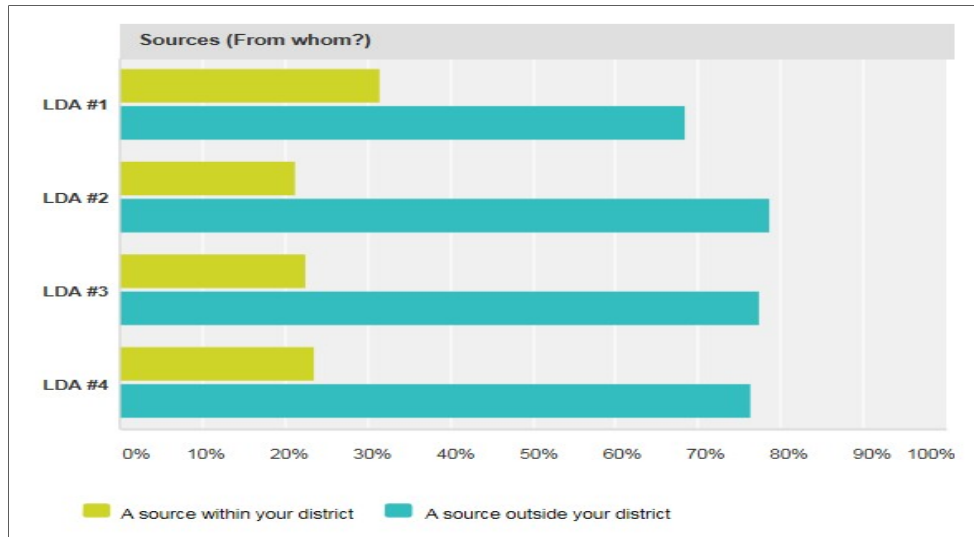


Figure 4-2 LDA Sources

The mode in which the respondents learned about the innovations suggests that networks impact the initial contact with LDAs. The results showed that 39.47% of the respondents indicated that they learned about their adopted LDAs at a national conference, while 21.05% first learned while attending a meeting, 16.45% learned via telephone conference, and 7.23% learned through a list serve (see Figure 4-3).

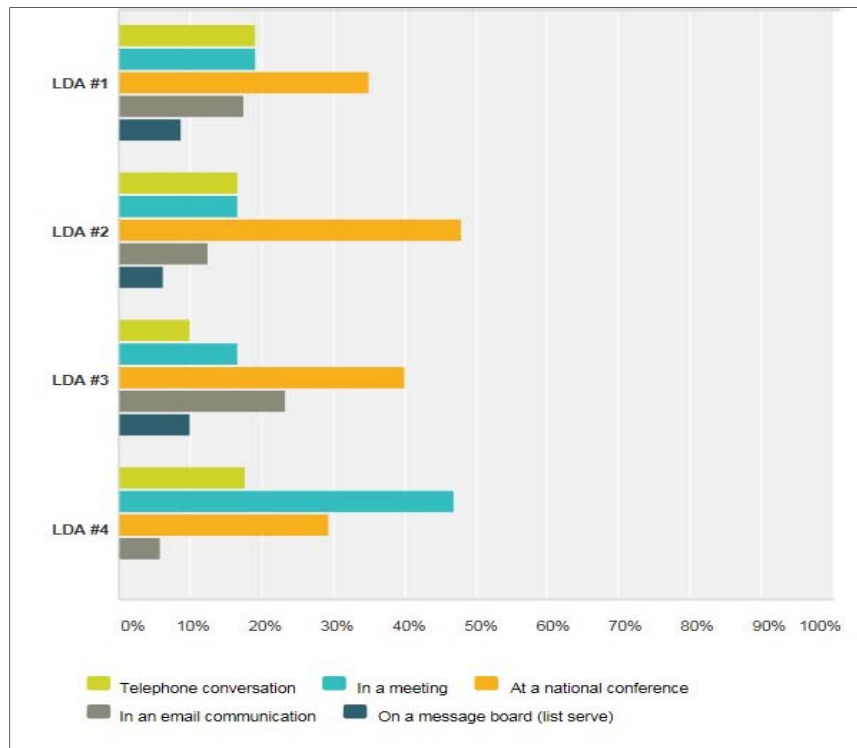


Figure 4-3 Communication Mode

This data suggests that attendance at a national conference is an essential networking opportunity that starts the diffusion process.

With respect to the persuasion phase, the respondents were asked to check all of the people they contacted to discuss the LDA prior to their decision to adopt, and the overwhelming majority (80.52%) indicated that they had contact with the developing district during this phase. A smaller majority (53.25%) had contact with another district court, and still smaller percentages of individuals indicated that they contacted more than one district court (37.66%) and had contacted individuals within a professional association outside of their district (2.60%) (See Figure 4-4). These numbers indicate that in the persuasion stage there is a strong connection between adoption and contact

with the developing court and a strong connection between adoption and contact with at least one other district court.

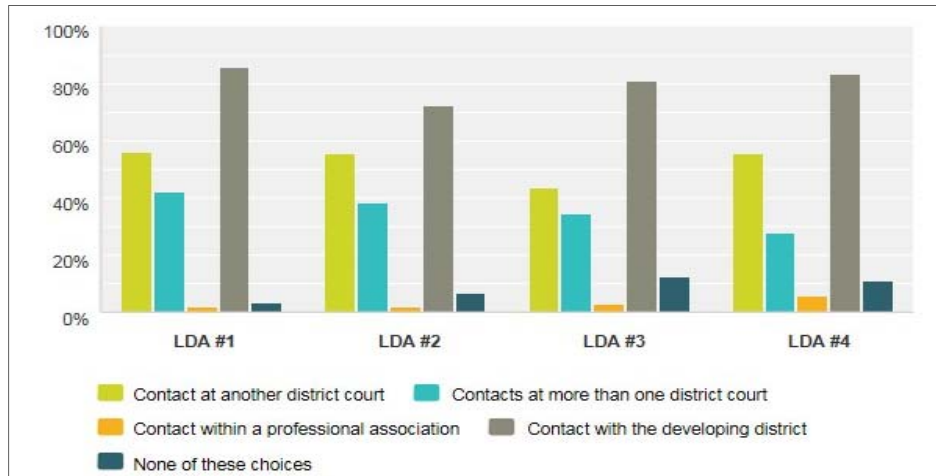


Figure 4-4 Contacts Prior to Adoption

To determine the various networking avenues of the respondents, they were asked questions about their networking affiliations, and in particular, asked to which groups or associations they belonged, for how long they participated in those organizations, and how often and in what mode they communicated with those networking partners. There were 35.71% of respondents who indicated they were involved in a national committee for a period of 0-3 years. A smaller percentage, 7.14% indicated they were involved in a national committee for a period of 3-5 years, while 5.36% indicated they were involved in a national committee for a period of 5-10 years and 1.79% for 10+ years. Therefore, 50% of the respondents were involved in a national committee for some period of time (See Figure 4-5).

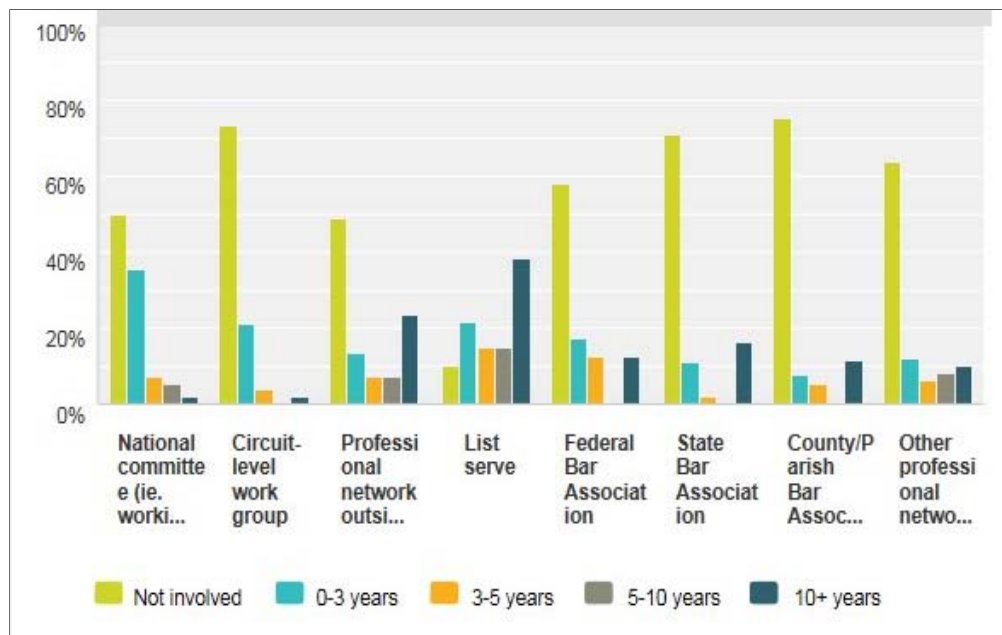


Figure 4-5 Network Involvement

The data also showed that 50.85% of respondents were involved in a professional network outside of their home district for some period of time. The list serve was by far the most popular form of network communication with 90% of respondents having been involved in that network. Of those, 38.33% indicated they had been involved in the list serve for over 10 years; therefore, there is a strong connection with that networking avenue.

When analyzing communication method and frequency, it was found that of the respondents who were involved in a national committee, 42.86% primarily networked via in-person meetings (See Figure 4-6). Of those involved in a list serve, 92% used the list serve on a monthly basis (See Figure 4-7). This indicates the list serve's popularity amongst the respondents.

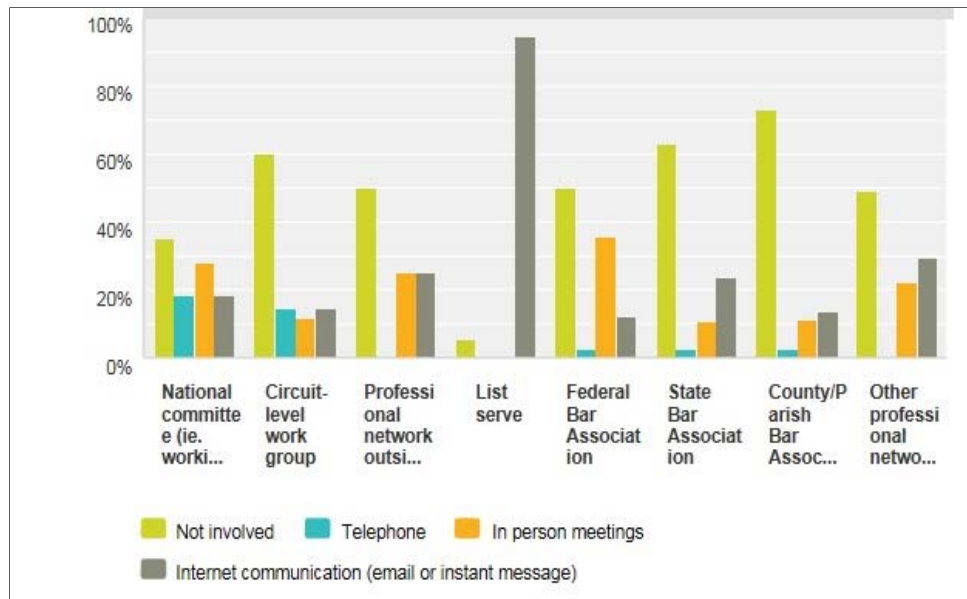


Figure 4-6 Communication Method

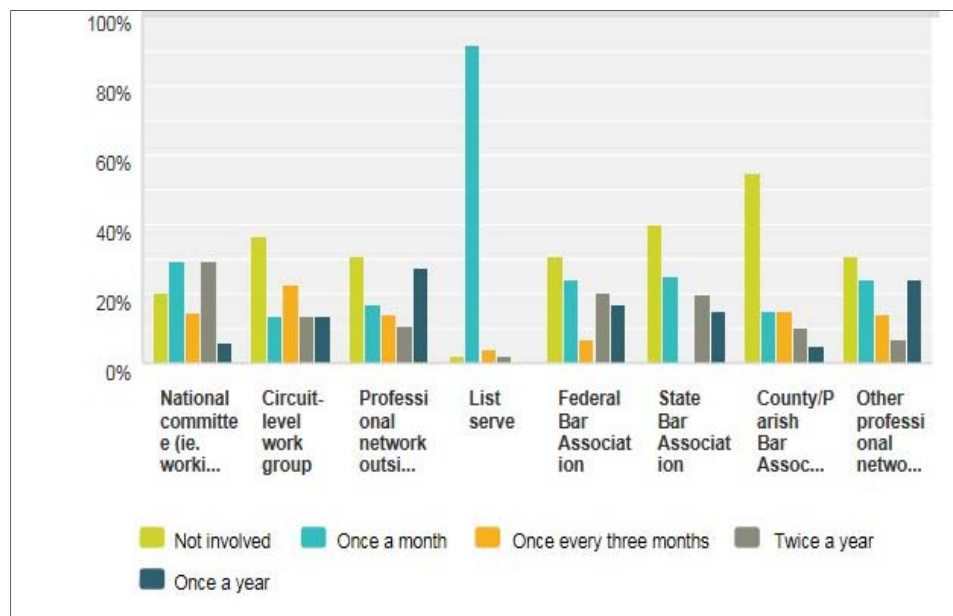


Figure 4-7 Communication Frequency

Subgroup Analysis (High, Medium, Low): Number of Adoptions

An analysis was conducted to compare and contrast courts based on how many LDAs each court adopted. This analysis examines the main independent network variables. Each court was ranked based on how many LDAs they adopted: high (4 LDAs); medium (2-3 LDAs); and low (1-0 LDAs). Each was examined based on a series of independent variables to determine if there were comparisons to be made.

High Adopters: 4 LDAs

Seventeen courts were high adopters, adopting at least 4 LDAs over the previous 5 year period. As displayed in Table 4-2 high adopters tend to be involved in networks, communicating often, leveraging the Internet, and remaining involved for a long period of time. When responding to the type of networks used, 94.1% of high adopters are involved in a list serve, while 64.7% are involved in a national committee, and 64.7% are involved in other professional networks.

Table 4-2 High Adopter Summary

	High (4 LDAs)
# Courts	17
<u>Network Characteristics:</u>	
Involved in a Network	94.1%
Communicated via Internet	94.1%
Communicated Frequently (monthly or once/3 months)	88.2%
Involved 10+ Years in a Network	82.4%
<u>Type of Network:</u>	
Listserve	94.1%
National Committee	64.7%
Circuit Level Workgroup	35.3%
Other Professional Network	64.7%
Federal Bar	47.1%
State Bar	23.5%
County/Parish Bar	17.6%

Medium Adopters: 2-3 LDAs

Thirty courts were medium adopters, adopting 2-3 LDAs. As Table 4-3 shows, medium adopters are involved in networks, communicating often and via the Internet; however, only 56.7% have been involved in a network for 10 years or more. Only 80% of medium adopters are involved in a list serve; 50% in another professional network; and 40% in a national committee.

Table 4-3 Medium Adopter Summary

	Medium (2-3 LDAs)
# Courts	30
<u>Network Characteristics:</u>	
Involved in a Network	93.3%
Communicated via Internet	83.3%
Communicated Frequently (monthly or once/3 months)	86.7%
Involved 10+ Years in a Network	56.7%
<u>Type of Network:</u>	
Listserve	80.0%
National Committee	40.0%
Circuit Level Workgroup	23.3%
Other Professional Network	50.0%
Federal Bar	46.7%
State Bar	33.3%
County/Parish Bar	23.3%

Low Adopters: 0-1 LDAs

Seventeen courts were low adopters, adopting 0-1 LDAs. As Table 4-4 shows, only 82.4% of low adopters are involved in a network, and only 52.9% have been involved more 10 or more years. Approximately 77% of low adopters indicated they are involved in a list serve, 41.2% in another professional network, and just 29.4% in a national committee.

Table 4-4 Low Adopter Summary

	Low (0-1 LDAs) 17
<u>Network Characteristics:</u>	
Involved in a Network	82.4%
Communicated via Internet	70.6%
Communicated Frequently (monthly or once/3 months)	64.7%
Involved 10+ Years in a Network	52.9%
<u>Type of Network:</u>	
Listserve	76.5%
National Committee	29.4%
Circuit Level Workgroup	5.9%
Other Professional Network	41.2%
Federal Bar	11.8%
State Bar	11.8%
County/Parish Bar	17.6%

The cross-group analysis suggests as network involvement increases, adoption of LDAs also increase (See Figure 4-8).

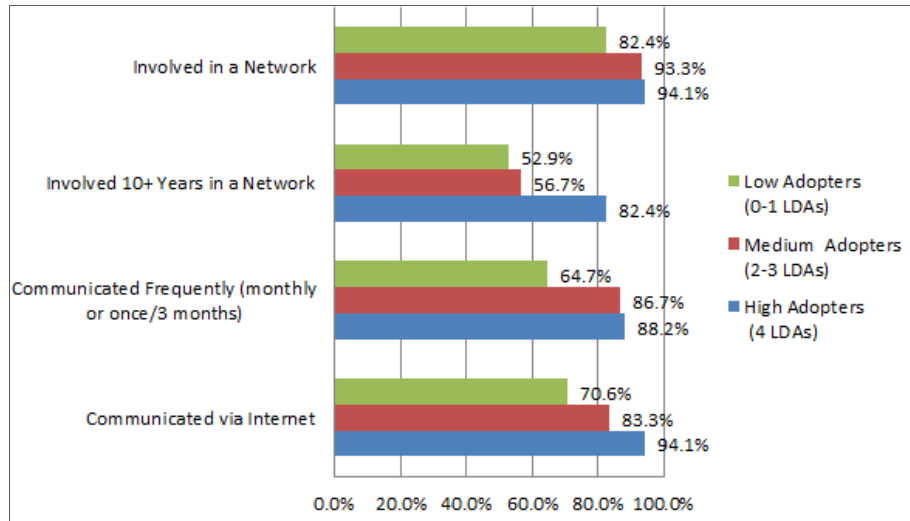


Figure 4-8 Network Characteristics by # LDAs Adopted

With respect to network type, as involvement in a national committee and involvement in another professional network outside the judiciary declined so did the number of adoptions in the group (See Figure 4-9).

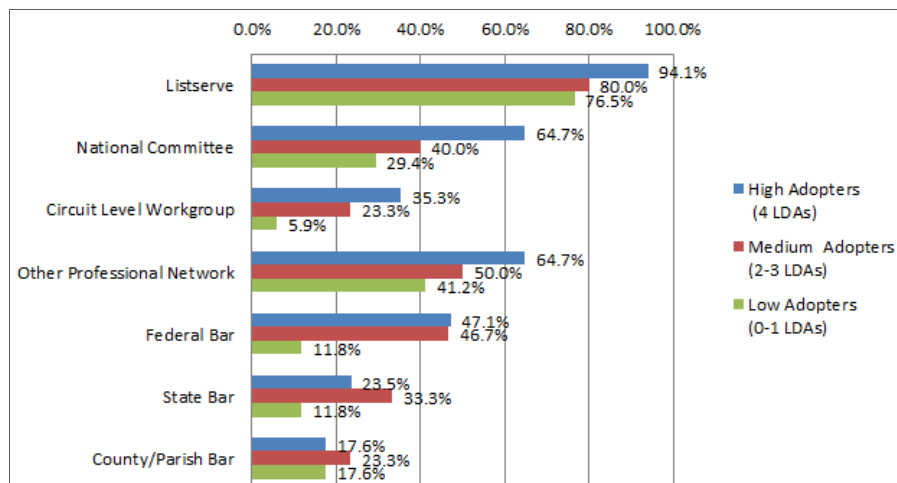


Figure 4-9 Network Types by # LDAs Adopted

As shown in the cross-group analysis, high adopters are more heavily involved in networks than medium or low adopters, particularly with respect to involvement in list serves, national committees, and other professional networks. High adopters have been involved in networks longer than medium or low adopters, suggesting that as network involvement increases so does the number of LDAs adopted.

Linear Regression: Networks and Diffusion

A linear regression analysis was also conducted to better understand the roles and significance of the main independent variables in this study. The data was coded and in many instances, computed into dummy variables to condense the number of variables and accommodate the limitations of the linear regression tool. The dependent variable was the number of LDAs a court adopted within the last five years. This linear regression sought to determine which network factors were significant to adoption. The results of the regression are displayed in Tables 4-5 and 4-6.

Table 4-5 Linear Regression

	Model I A		Model I B		Model I C		Model I D		Model I E		Model I F	
	Control Personal Characteristics		Control Organizational Characteristics		Control + Total Networks		Control + Network Mode		Control + Network Frequency		Control + Length in Network	
Independent Variables	Coef (p value)	S. E.	Coef (p value)	S. E.	Coef (p value)	S. E.	Coef (p value)	S. E.	Coef (p value)	S. E.	Coef (p value)	S. E.
Personal												
Education	0.154 (.22)	0.431	0.124 (.32)	0.433	0.069 (.58)	0.431	.069 (.58)	0.435	.064 (.61)	0.44	.066 (.67)	0.456
Years Experience	0.241† (.06)	0.393	0.194† (.10)	0.367	0.182† (.10)	0.357	.182 (.11)	0.36	.169 (.16)	0.379	.170 (.16)	0.395
Organizational												
Decision Making	--	--	0.197† (.10)	0.323	0.213† (.07)	0.315	.216† (.07)	0.318	.219† (.07)	0.321	.220† (.08)	0.33
District Comfort Level	--	--	0.044 (.72)	0.397	-0.039 (.76)	0.407	-.032 (.81)	0.413	-.032 (.81)	0.416	-.032 (.81)	0.42
Size	--	--	-0.122 (.34)	0.348	-0.088 (.48)	0.341	-.090 (.48)	0.344	-.085 (.51)	0.349	-.085 (.51)	0.354
Innovation	--	--	0.361** (.01)	0.334	0.355** (.01)	0.325	.356** (.006)	0.328	.346** (.01)	0.337	.347** (.01)	0.341
Network												
Total # Networks	--	--	--	--	0.249* (.04)	0.09	.269* (.04)	0.097	.252† (.07)	0.103	.254† (.09)	0.109
Mode	--	--	--	--	--	--	-.054 (.69)	0.328	-.053 (.67)	0.33	-.052 (.68)	0.334
Frequency	--	--	--	--	--	--	--	--	0.050 (.70)	0.438	.049 (.71)	0.444
Length of Time	--	--	--	--	--	--	--	--	--	--	-.008 (.95)	0.369
Constant	1.33** (.005)	0.461	0.668	0.468	0.486 (.30)	0.464	.483 (.31)	0.467	.434 (.38)	0.488	.431 (.39)	0.495
Adjusted R Square	0.064		0.216		0.259		0.248		0.236		0.222	
N	64		64		64		64		64		64	

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Models 1A through 1F were constructed to attempt to determine the effect of networks above and beyond personal or organizational factors. Model 1A had an R Square of .094 and an adjusted R Square of .064. It included two personal characteristic variables dealing with the respondent's education and years of experience within the judiciary. The education of the respondent was not significant; however, the years of experience was significant ($p=.06$). This tells us that years of experience over 11 years had a positive effect on the number of LDAs a court adopted. Organizational characteristics were added in model 1B. These variables included the following: the district's decision making process; the district's comfort ranking with respect to new ideas; the number of employees in the district; and whether or not the district had developed their own innovations in the last 5 years. The innovation variable was significant ($p=.01$) as was years of experience ($p=.10$) and team decision making ($p=.10$) within the district. The innovation coefficient ($p=.01$, $df=63$) was the highest magnitude and indicated that if a court creates its own LDA it is more likely to adopt LDAs from other courts. Model 1C added the network variable of total networks in which the respondent was involved. The innovation variable remained significant; however, the new network variable was also significant.

Model 1C had an R Square of .341 and an Adjusted R Square of .259. The adjusted R Square of this model is the highest of all of the models 1A through 1F. The independent variables in this model accounted for 25.9% of the explained variability in the number of LDAs a court adopted. The total networks variable had a significant effect ($p=.04$, $df=63$). This indicated that as the number of networks in which one belongs increases or as the variety of networks and network partners increases, so does the number of LDAs he adopts. It could also mean that the more network contacts one has, the more open to others ideas he is. Variables relating to mode (Model 1D), frequency

(Model 1E), and length (Model 1F) within networks were added to the control and independent variables present in Model 1C to determine if those factors affected LDA adoption.

Model 1D had an R Square of .343 and an Adjusted R Square of .248. The mode variable measured the amount of individuals that had “in person” contact with any of their associated networks, and even though it is negatively related to the number of LDAs a court adopted it is not significant. Frequency of contact with networks was also tested in a model to determine if it affected the adoption of LDAs. Model 1E had an R Square of .345 and an adjusted R Square of .236. Although frequency had a positive effect on adoption, it also was not significant.

Length of time within a network was included in Model 1F to determine its relationship with the dependent variable. This model had an R Square of .345 and an adjusted R Square of .222. Being a network member for a period of 10 or more years had a negative relationship with the number of LDAs a court adopted; however, the variable was not significant. Model 2 included all of the network types to determine if any had a relationship with the number of LDAs that were adopted (See Figure 4-6).

Table 4-6 Network Types

Independent Variables	Model 2	
	Network Types	
	Coef (p value)	S. E.
Organization		
Innovation	0.38** (.002)	0.318
Networks		
Listserve	-0.002 (.99)	0.424
National Committee	0.21† (.09)	0.326
Circuit Level	0.106 (.42)	0.415
Other Professional	0.106 (.41)	0.335
Federal Bar	0.084 (.59)	0.424
State Bar	0.038 (.79)	0.421
County/Parish Bar	-0.027 (.86)	0.486
Constant	1.253** (.003)	0.404
Adjusted R Square	0.186	
N	64	

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Model 2 suggested that the majority of network types were not significant. The only variable that was marginally significant was the respondents' involvement in a national committee ($p=.09$, $df= 63$). National committee involvement showed a positive relationship with the number of LDAs a court adopted. This positive relationship could be the result of peer imitation. If an individual is involved with other personnel from courts around the nation, it is likely he would adopt LDAs used by those peers. In addition to the questions that yielded the variables used in the regression, the respondents were asked whether or not they had a "go to" court with which they discussed LDAs. The following section analyzes the responses based on "go to" court data.

"Go To" Networks Based on LDA Adoption

To determine with whom the respondents frequently interacted, they were asked if they had any "go to" courts they consulted with when considering adoption of LDAs. In the majority of cases, the "go to" court data overlaps with the circuit level jurisdictional network data (See Figures 4-10 and 4-13). While 61.02% of respondents indicated they did not have a "go to" court, 38.98% did. That information is displayed via sociogram in Figure 4-10. The sociogram is a basic representation of the connections provided by the respondents.

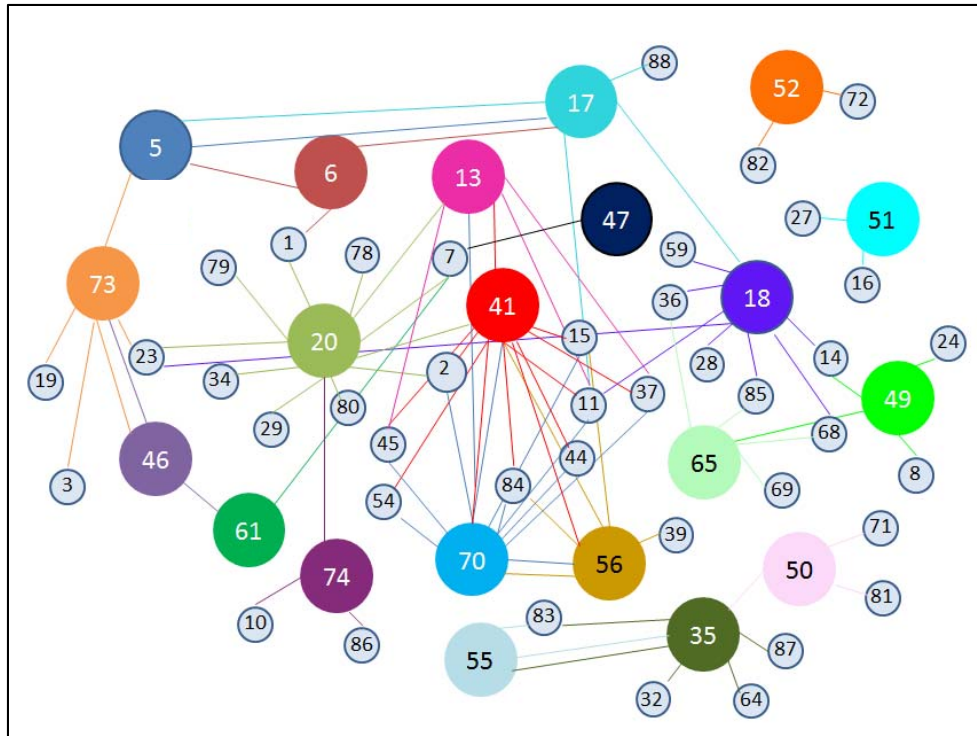


Figure 4-10 "Go To" Network Connections

Of the respondents, 21 indicated they had a “go to” court. In the sociogram above, the larger circles denote the court that listed its “go to” courts. For example, court 74 stated its “go to” courts were courts 20, 10, and 86. Court 20 also provided a list of “go to” courts as shown above, while courts 10 and 86 did not. If the line is the same color as the circle, the indication is that the listing court initiated the connection; however, for the purposes of this study, the connection is considered two-way meaning each side is discussing potential LDAs. For instance, court 74 indicated that court 20 was a go to court, but 20 did not indicate that 74 was a go to court. Courts 74 and 20 are still considered “go to” networks because it is assumed that two-way communication is occurring. Also, one can tell which courts are hubs or courts with which others frequently interact. The information provided by this sociogram is the key to understanding the

direct and indirect connections of district courts across the judiciary. LDA adoption and “go to” court data were combined to establish the LDA Adopted by Ties graph (Figure 4-11).

Multi-Adopted LDA “Go To” Networks

For a majority of multi-adopted LDAs, a significant network is in place. There were a total of 18 LDAs that were adopted by more than one court. Figure 4-11 represents those LDAs that were adopted by more than one court and for which “go to” data was collected. Thirteen out of the 18 (72%) appear on this graph. The y-axis indicates the LDA adopted and the x-axis indicates the number of ties, either direct or indirect. Thirty-six percent of total connections occurred via direct networks, which indicate direct ties from a respondent to other courts. Another 46% of total connections occurred via indirect ties.

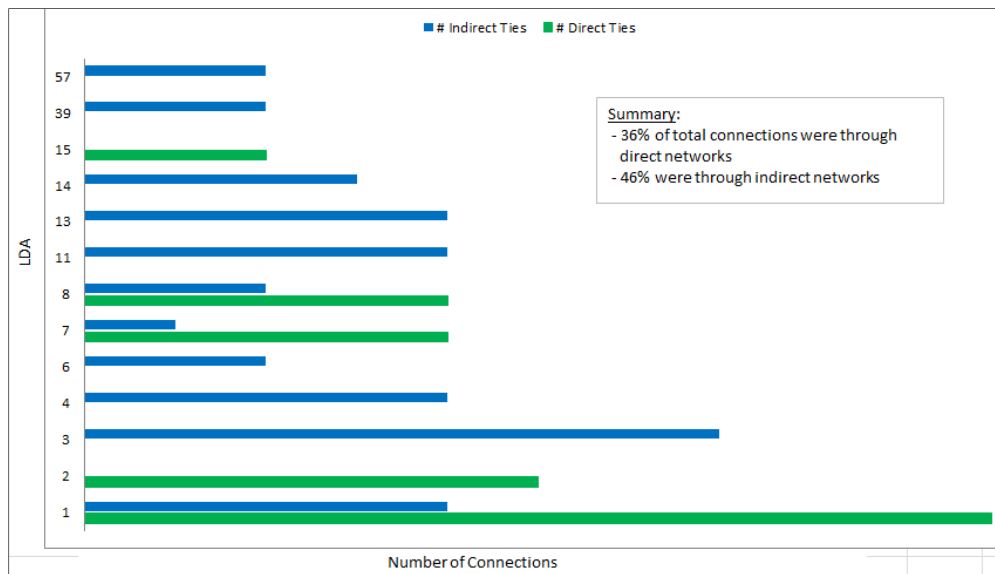


Figure 4-11 LDA Adopted by Ties

The sociogram was then used to illustrate the existing connections between courts that adopted the LDAs. For example, Figure 4-12 below shows in green the

courts that adopted LDA 1. A solid line indicates a direct connection between the courts; whereas, a dashed line indicates an indirect connection between the courts. They are designated as indirect because the courts in grey did not adopt LDA 1, but still are part of the networks between those courts that did adopt. For instance, court 20 and court 7 are “go to” courts and court 47 and court 7 are “go to” courts making court 7 the connection between court 20 and court 47. As you can see from Figure 4-12, 14 courts within the “go to” network adopted LDA 1 and there is a mix between indirect and direct ties amongst the adopters of LDA 1.

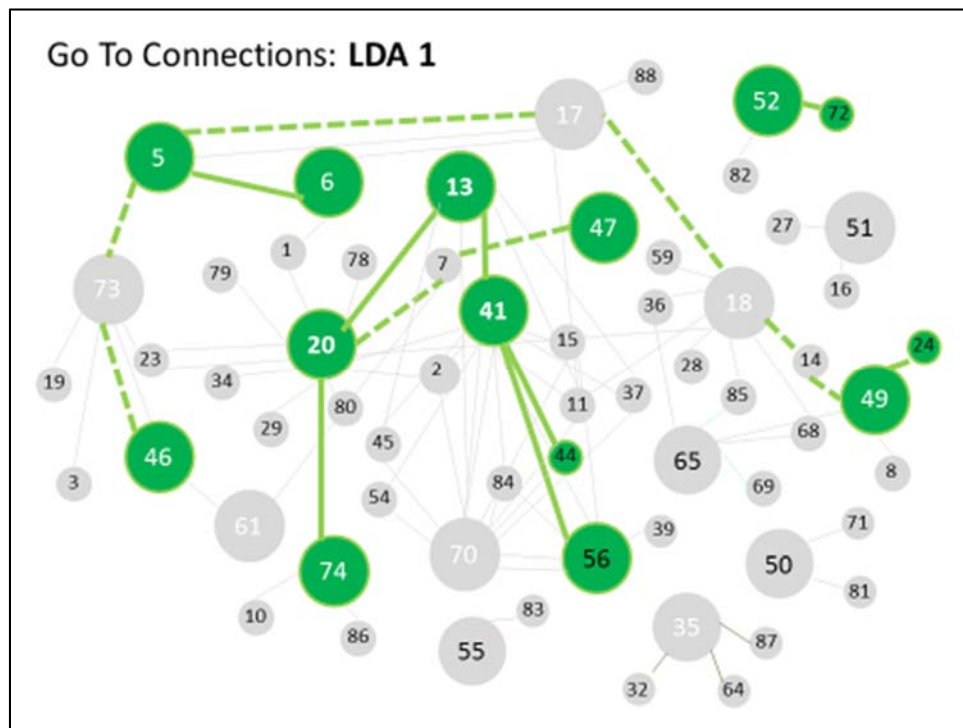


Figure 4-12 LDA 1 "Go To" Connections

The “go to” connection sociograms provide a basis for a discussion about strong and weak ties and radial and integrated networks. Valente (1995, 41) indicates that social ties can be integrated (dense) or radial (not dense). A dense network is one in which all of the participants are connected to or integrated with each other, but not

necessarily to those outside of the network. Whereas, a radial network is one in which the participants have wide ranging connections via networks. With respect to “go to” networks, we can assume that the networks are integrated because of the closed nature of the judiciary; however, the existence of radial connections allows the networks to expand and the adoption of these LDAs to increase. For the purposes of this study, the definition of radial connections is extended to include indirect connections between “go to” courts.

Basic patterns in the data suggested that a majority of the named “go to” courts were within these same circuits. A comparison of Figure 4-10 with Figure 4-13 displays the overlapping nature of “go to” courts with circuit fellows. An analysis of those two figures concludes that 86% of those that listed “go to” courts listed at least two other courts within their circuit as “go to” courts, and 100% listed at least one court within their circuit as one of their “go to” courts. This suggested that jurisdictional circuit ties are intertwined within “go to” networks; therefore, a further analysis including adopter circuits based on multi-adopted LDAs is warranted. Each multi-adopted LDA is considered in the following case analysis of “go to” and circuit data.

The first analysis deals with two other potential network types: jurisdictional and regional. The latter assumes that diffusion takes place across shared borders; therefore, neighboring states would likely share innovations. An understanding of the former can be better conceptualized within the context of the history and structure of the United States District Courts possibly uncovering a pre-existing network structure inherent within this system and is a potential topic for future research.

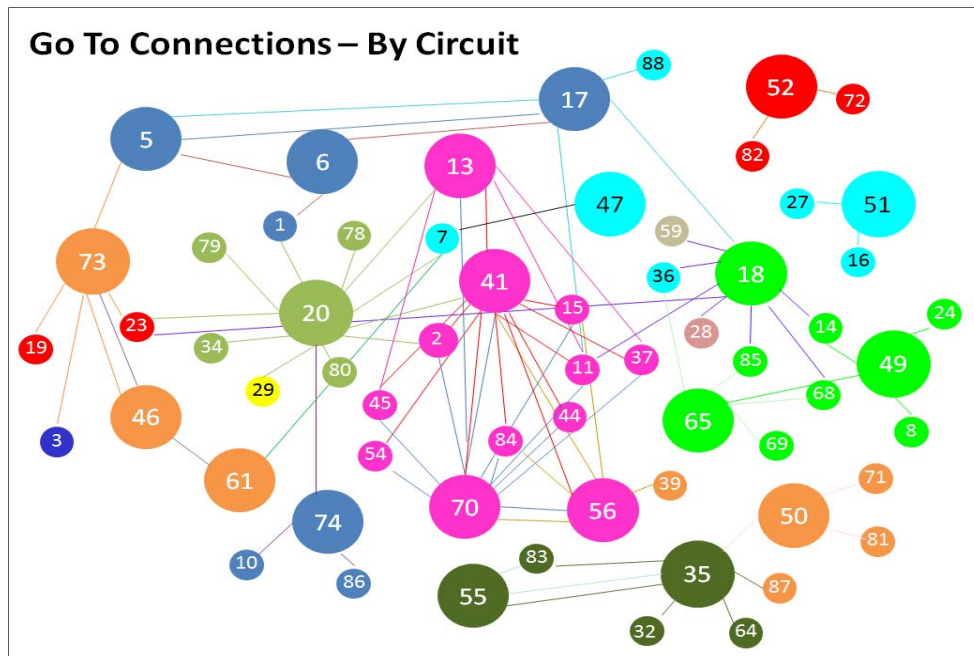


Figure 4-13 "Go To" Connections by Circuit

LDA 57: Go To, Jurisdictional, and Other Networks

Three courts from three different circuits adopted LDA 57. Two “go to” courts adopted LDA 57. They were connected, although indirectly, through the “go to” network. None of the adopting courts are in neighboring States. Two were involved in a national committee for at least a period of 3-5 years (one did not answer). One was involved in a circuit level workgroup for a period of 3-5 years. All were involved in another professional network outside of the judiciary for at least a period of 5-10 years. All were involved in a list serve for at least a period of 10+ years, and two out of three communicated on that list serve on a monthly basis.

LDA 39: Go To, Jurisdiction, and Other Networks

Two courts with “go to” connections adopted LDA 39. Both were connected indirectly through the “go to” network. Two courts from two different circuits adopted LDA 39. Neither shares a border with the other. Both were involved in a national committee

for at least a period of 0-3 years. Both were involved in a circuit level workgroup for at least a period of 0-3 years. One was involved in a professional network outside of the judiciary for at least a period of 10+ years. Both were involved in a list serve for at least a period of 5-10 years and both communicated on that list serve on at least a yearly basis.

LDA 15: Go To, Jurisdiction, and Other Networks

There were direct “go to” ties between the two adopter courts. Both of the courts that adopted LDA 15 were in the same jurisdictional circuit (I Circuit); however, they are neither in the same nor in neighboring states. Both adopters were involved in other professional networks outside of the court system for 10+ years, and both have been involved in a list serve for at least five years. Both adopters indicated that they utilize the list serve on a monthly basis.

LDA 14: Go To, Jurisdiction, and Other Networks

Three courts with “go to” connections adopted LDA 14. The courts were indirectly connected via the “go to” network. Three courts from three different circuits adopted LDA 14. None of the districts were in neighboring states. Two were involved in a national committee for at least a period of 0-3 years (one did not answer). All were involved in another professional network outside of the judiciary for at least a period of 0-three years. All were involved in a list serve for at least a period of 10+ years, and all communicated on that list serve on a monthly basis.

LDA 13: Go To, Jurisdiction, and Other Networks

Of the seven courts that adopted LDA 13, three courts had “go to” connections. All were indirectly connected via the “go to” network. The seven courts were from four different circuits which consisted of four courts in one circuit, and one in each of three circuits. The four adopters within the same circuit are in neighboring states (E Circuit). Two of those are in the same state and the other two are in different yet neighboring

states. The remaining three adopting courts are neither in neighboring States with each other nor in neighboring States with the other four. Six were involved in a national committee for at least a period of 0-3 years (one did not answer). Five were involved in a circuit level workgroup for at least a period of 0-3 years. Five were involved in another professional network outside of the judiciary for at least a period of 0-3 years. Seven were involved in a list serve for at least a period of 0-3 years, and six out of seven communicated on that list serve on a monthly basis.

LDA 11: Go To, Jurisdiction, and Other Networks

Of the seven courts that adopted LDA 11, four courts had “go to” connections. All were indirectly connected via the “go to” network. The seven courts were from six different circuits which consisted of two courts in one circuit, and one in each of five circuits. The two adopters within the same circuit are in neighboring states (K Circuit). The other adopting courts are neither neighbors with the two in the same circuit nor neighbors with each other. Four were involved in a national committee for at least a period of 0-3 years and two were not involved (one did not answer). Two were involved in a circuit level workgroup for at least a period of 0-3 years. Four were involved in another professional network outside of the judiciary for at least a period of 0-3 years. Six were involved in a list serve for at least a period of 0-3 years and communicated on that list serve on a monthly basis.

LDA 8: Go To, Jurisdiction, and Other Networks

Five courts with “go to” connections adopted LDA 8. There were direct “go to” ties between two pairs, and one was indirectly connected. Eleven courts from eight different circuits adopted LDA 8 which consisted of two courts in each of three different circuits and one each in five different circuits. None of those adopters within the circuits shared geographic borders as neighboring states. Only one other adopting court shared

a border with a within-circuit adopter; the other adopting courts were neither neighboring states with the within-circuit adopters nor neighbors with each other. Five were involved in a national committee for at least a period of 0-3 years and four were not involved (two did not answer). Two were involved in a circuit level workgroup for at least a period of 0-3 years. Four were involved in another professional network outside of the judiciary for at least a period of 0-3 years. Seven were involved in a list serve for at least a period of 0-3 years and communicated on that list serve on a monthly basis.

LDA 7: Go To, Jurisdiction, and Other Networks

Five courts with “go to” connections adopted LDA 7. There were direct “go to” ties between two pairs, and one was indirectly connected. Five courts from four different circuits adopted LDA 7. The two adopters in the same circuit were in the same state (G Circuit). The other adopting courts were neither neighbors with the within-circuit adopters nor with each other. Three were involved in a national committee for at least a period of 0-3 years. Two out of five were involved in a circuit level workgroup for at least a period of 0-3 years. Three out of five were involved in another professional network outside of the judiciary for at least a period of 3-5 years. All five were involved in list serve for at least a period of 0-3 years and communicated on that list serve on a monthly basis.

LDA 6: Go To, Jurisdiction and Other Networks

Five courts from five different circuits adopted LDA 6, and of these, two had “go to” connections. Both were connected indirectly through the “go to” network. The adopting courts do not share a border. Three were involved in a national committee at least a period of 0-3 years, and one was not (one did not answer). One was involved in a circuit level workgroup for at least a period of 3-5 years, and three were not (one did not answer). Three were involved in another professional network outside of the judiciary for at least a period of 0-3 years. All were involved in a list serve for at least period of 0-3

years, and four out of five communicated on that list serve on a monthly basis (one did not answer).

LDA 4: Go To, Jurisdiction, and Other Networks

Four courts with “go to” network connections adopted LDA 4. All of the courts were indirectly connected through the “go to” network. Six courts from five different circuits adopted LDA 4 which consisted of two courts in one circuit, and one in each of four circuits. None of the adopting courts are in neighboring states. Two were involved in a national committee for at least a period of 0-3 years and four were not. One was involved in a circuit level workgroup for at least a period of 0-3 years, and five were not. Four were involved in another professional network outside of the judiciary for at least a period of 5-10 years, and two were not. Four out of six were involved in a list serve for at least a period of 0-3 years, and all four communicated on that list serve on a monthly basis.

LDA 3: Go To, Jurisdiction, and Other Networks

Seven courts with “go to” connections adopted LDA 3. All were indirectly connected via the “go to” network. Nine courts from eight different circuits adopted LDA 3 which consisted of two courts in one circuit, and one in each of seven circuits. The two adopters within the same circuit are in the same state (E Circuit). Other than the two that are within the same state, none of the adopting courts are in neighboring states. Four were involved in a national committee for at least a period of 0-3 years. Two were involved in a circuit level workgroup for at least a period of 0-3 years. Five were involved in another professional network outside of the judiciary for at least a period of 0-3 years. Seven were involved in a list serve for at least period of 0-3 years, and six out of seven communicated on that list serve on a monthly basis.

LDA 2: Go To, Jurisdiction, and Other Networks

Five courts with “go to” connections adopted LDA 2. All five courts were connected directly via the “go to” network. Nine courts from four different circuits adopted LDA 2 which consisted of five courts in one circuit, two in another circuit, and one in each of two circuits. Two of the adopters within the same circuit are in the same state (I Circuit). The other three within the circuit neither neighbor the other two nor each other (I Circuit). Two are within the A Circuit and they neither neighbor each other nor the other adopters. The remaining two adopting courts neither neighbor each other nor the other adopters. Five were involved in a national committee for at least a period of 0-3 years. Two were involved in a circuit level workgroup for at least a period of 0-3 years. Five were involved in another professional network outside of the judiciary for at least a period of 5-10 years. All were involved in a list serve for at least a period of 0-3 years, and all communicated on that list serve on a monthly basis.

LDA 1: Go To, Jurisdiction, and Other Networks

Fourteen courts with “go to” connections adopted LDA 1. There were eight direct “go to” connections between 12 courts, and four courts were indirectly connected. Twenty-two courts from 11 different circuits adopted LDA 1 which consisted of two courts in each of two different circuits, three in another, four in another, five in another, and one in each of six circuits. Of those adopters within the same circuits, two are within the same state (D Circuit); three are in the same state and two are in neighboring states (E Circuit); three are in neighboring states (H Circuit); two are neighboring states and two are not (I Circuit); and two are neighboring states (K Circuit). The remaining adopting courts are neither in neighboring states with the aforementioned adopters nor with each other. Eleven were involved in a national committee for at least a period of 0-3 years and nine were not involved (two did not answer). Eight were involved in a circuit level

workgroup for at least a period of 0-3 years. Thirteen were involved in another professional network outside of the judiciary for at least a period of 0-3 years. Nineteen were involved in a list serve for at least a period of 0-3 years and communicated on that list serve on a monthly basis.

Table 4-7 "Go To" Network Summary by LDA

LDA	# Courts Adopted	# with Go To Connections	% with Go To Connections	Direct	Indirect	Circuit
57	3	2	67%	0	2	3 (3 courts in each of 3 circuits)
39	2	2	100%	0	2	2 (2 courts in each of 2 circuits)
15	2	2	100%	2	0	1 (2 courts in 1 circuit)
14	3	3	100%	0	3	3 (3 courts in each of 3 circuits)
13	7	3	43%	0	3	4 (4 courts in 1 circuit, 1 in each of 3 circuits)
11	7	4	57%	0	4	6 (2 courts in 1 circuit, 1 in each of 5 circuits)
8	11	5	45%	4	1	8 (2 courts in 3 circuits, 1 in each of 5 circuits)
7	5	5	100%	4	1	4 (2 courts in 1 circuit, 1 in each of 2 circuits)
6	5	2	40%	0	2	5 (5 courts in each of 5 circuits)
4	6	4	67%	0	4	5 (2 courts in 1 circuit, 1 in each of 4 circuits)
3	9	7	78%	0	7	8 (2 courts in 1 circuit, 1 in each of 7 circuits)
2	9	5	56%	5	0	4 (5 courts in 1 circuit, 2 in 1 circuit, 1 in each of 2 circuits)
1	22	14	64%	8	4	11 (5 courts in 1 circuit, 4 in another circuit, 3 in another circuit, 2 in each of 2 circuits, 1 in each of 6) circuit, 2 in another circuit, 4 in

As shown above, the "go to" network figures and associated data suggest that there are network connections between adopters. In many instances, the direct connections between adopters provide a stronger representation of those connections; however, even in situations where indirect connections are present, the "go to" nature of the networks assumes that information about LDAs is being communicated to the other

network partners even if one of the connecting courts has not adopted the LDA. The above table breaks down the LDA case study. As the comparison between “go to” networks and circuit connections revealed, those designating “go to” courts included other members of their own circuit. It appears that in nine out of the thirteen cases (70%), courts located in the same circuit adopted the same LDA. That finding suggests that jurisdictional network as well as “go to” network positively affect diffusion, in that, membership within those networks engenders diffusion.

All Adopted LDAs: Networks

Data was gathered with respect to all of those courts that adopted at least one LDA. Of those 56 courts, the largest percentage of adopters was from E Circuit (14.3%) followed by G and I Circuits (12.5%), followed by D Circuit (10.7%), and H and K Circuits (8.9%). Forty-eight and two tenths percent of adopting courts were involved in a national committee for at least a period of 0-3 years, while 44.6% were not. Approximately 20% of adopting courts were involved in a circuit workgroup, while 64.3% were not. Approximately 50% were involved in a professional network outside of the judiciary, while 48.2 were not. Approximately 88% of adopters were involved in a list serve for at least a period of 0-3 years, and 78.6% of those utilized this network on a monthly basis. Forty-one percent of adopters were involved in the Federal Bar Association, while 55.4% were not. Approximately 29% of adopters were involved in the State Bar Association for at least a period of 0-3 years, while 64.3% were not. Approximately 21% of adopters were involved in the County/Parish Bar Association, while 67.9% were not.

All Adopted LDAs: Internal Determinants

A majority, 73.2% of adopters did not have a specific working group that evaluates, interprets, and/or determines if an LDA should be adopted. The data showed that 58.9% of adopting courts utilized a team decision with input from all levels of the

district. When asked about developing their own applications, 60.7% of adopting courts had developed their own applications over the past 5 years. A majority, 83.9% of adopters indicated that their court was at least comfortable with respect to new ideas. In terms of size, 33.9% of adopter courts had 51-100 employees, 28.6% had 0-50 employees, 17.9% had 101-150, and 17.9% had 151+ employees.

With respect to individual adopter characteristics, 69.6% of adopters indicated that they were very comfortable with respect to new ideas. Education levels varied with 32.1% having a law degree, 30.4% having a bachelor's degree, 25% having a graduate degree, 5.4% having some college, 3.6% having an associate's degree, and 3.6% having a high school or equivalent diploma. So, 57.1% had an advanced degree beyond a bachelor's, and a majority, 51.8% had 21+ years of experience within the courts.

Subgroup Analysis: All Adopted LDAs

A comparison across subgroups is necessary to triangulate the analysis and to shed some light on the adopter during the awareness and persuasion stages based on a ranking of LDA adopted: large (11+ adopters); medium (6-10 adopters); small (2-5 adopters); and very small (1 adopter). This is a frequency analysis based on those that adopted certain types of LDAs to see the differences or commonalities between the adopter categories.

Large LDAs Adopted

Thirty-three courts adopted LDAs ranked as large indicating that 11 or more adopters adopted the LDA. During the awareness stage, 27 (81.8%) learned about the LDA from a source outside of their district. Twenty-one (63.6%) learned about the LDA at a national conference; 5 (15.2%) in a meeting; 3 (9.1%) in an email communication; 3 (9.1%) during a telephone conversation; and 1 (3%) via list serve. With respect to contact with other courts during the persuasion stage, 18 (54.5%) contacted another

district court; 17 (51.5%) contacted more than one district court; while 28 (84.8%) contacted the developing district.

Medium LDAs Adopted

Forty-three courts adopted LDAs ranked as medium meaning 6-10 adopters adopted the LDA. During the awareness stage, 34 (79.1%) learned about the LDA from a source outside of their district. Fourteen (32.6%) learned about the LDA at a national conference; 10 (23.3%) in a meeting; 10 (23.3%) in an email communication; and 9 (20.9%) during a telephone conversation. With respect to contact with other courts during the persuasion stage, 24 (55.8%) contacted another district court; 17 (39.5%) contacted more than one district court; 2 (4.7%) contacted someone with a professional association; while 34 (79.1%) contacted the developing district.

Small LDAs Adopted

Thirty-four courts adopted LDAs ranked as small meaning only 2-5 adopters adopted the LDA. During the awareness stage, 25 (73.5%) learned about the LDA from a source outside of their district. Fifteen (44.1%) learned about the LDA at a national conference; 7 (20.6%) in a meeting; 6 (17.6%) during a telephone conversation; 3 (8.8%) in an email communication; and 2 (5.9%) on a list serve. With respect to contact with other courts during the persuasion stage, 19 (55.9%) contacted another district court; 12 (35.3%) contacted more than one district court; 1 (2.9%) contacted someone with a professional association; while 29 (85.3%) contacted the developing district.

Very Small LDAs Adopted

Thirty-eight courts adopted LDAs ranked as very small meaning only one court adopted them. During the awareness stage, 24 (63.2%) learned about the LDA from a source outside of their district. There is some variation in the mode in which the respondent learned about the LDA. Ten (26.3%) learned about the LDA in a meeting; 8

(21.1%) learned about the LDA at a national conference; 7 (18.4%) learned from a list serve; 7 (18.4%) learned from a telephone conversation; and 6 (15.8%) learned about it in an email communication. With respect to contact with other courts during the persuasion stage, 18 (47.4%) contacted another district court; 10 (26.3%) contacted more than one district court; 1 (2.6%) contacted someone with a professional association; while 29 (76.3%) contacted the developing district.

Table 4-8 LDA Adopter Summary

	Large LDAs (11+adopters)	Medium LDAs (6-10 adopters)	Small LDAs (2-5 adopters)	Very Small LDAs (1 adopter)
# Courts	33	43	34	38
<u>Awareness:</u>				
Source outside of their district	81.80%	79.10%	73.50%	63.20%
National conference	63.60%	32.60%	44.10%	21.10%
Meeting	15.20%	23.30%	20.60%	26.30%
Email communication	9.10%	23.30%	8.80%	15.80%
Telephone conversation	9.10%	20.90%	17.60%	18.40%
List serve	3.00%	0.00%	5.90%	18.40%
<u>Persuasion:</u>				
Another district court	54.50%	55.80%	55.90%	47.40%
More than one district court	51.50%	39.50%	35.30%	26.30%
Professional association	0.00%	4.70%	2.90%	2.60%
Developing district	84.80%	79.10%	85.30%	76.30%

During the awareness and persuasion stages, many of the data points remain relatively static; however, there are some important differences. During the awareness stage, as the percentage of courts that learned about the LDA from a source outside of their district increased across the subgroups, so did the number of individuals that adopted the LDA. This illustrates a positive relationship between LDA adoption and outside connections. Also, the majority of the adopters in the highest ranked three groups learned about their adopted LDAs at a national conference; whereas, the group ranked as very small did not. This indicates that attendance at a national conference increases the number of courts that adopt an LDA, and establishes that presence at a

network hub positively affects diffusion. With respect to the persuasion stage, contact with the developing district remained a strong indicator of adoption.

Research Analysis: Control Variables

Although the internal determinants including personal and organizational characteristics were controlled in this research, a brief analysis is provided.

Internal Determinant: Decision Making

As Rogers points out, there are five main factors considered during an innovation adoption decision. The respondents were asked to rank the factors in importance with one being the most important and six being the least. The analysis determined that the most important factor was having a clear impression that the innovation will be advantageous, second was the need to fix the problem, third was ease of use, fourth was ability to test, fifth was ability to discuss with the developer, and sixth was ability to discuss the innovation with other users (See Figure 4-14). This could suggest that communication with the developing court is more important than secondary communication with other users of the innovation.

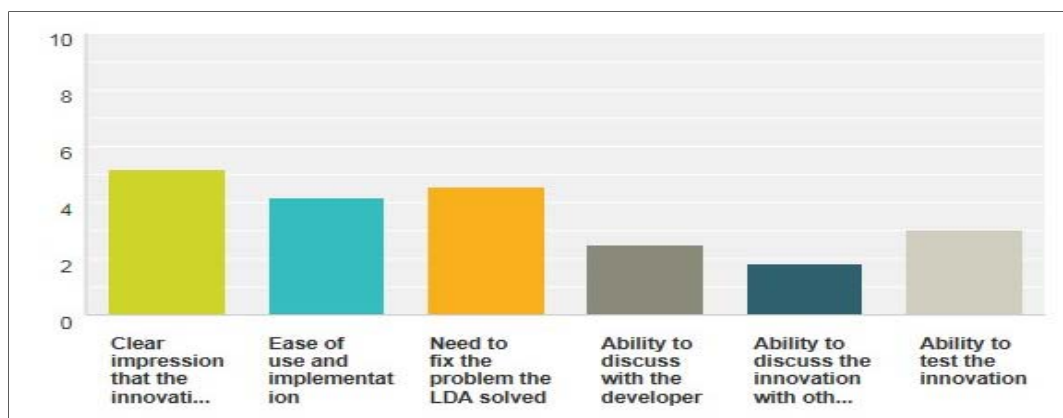


Figure 4-14 Important Factors

To further understand how decisions are made in these organizations, the respondents were asked what type of decision making processes they use to adopt LDAs

in their districts. The analysis revealed that the majority, 66.67% base their decisions to adopt on team discussion with inputs from all levels. The data also showed 31.37% base their decisions on committee discussions with input from upper levels, and 1.95% indicated that the decision was based on input from a sole decision maker (See Figure 4-15).

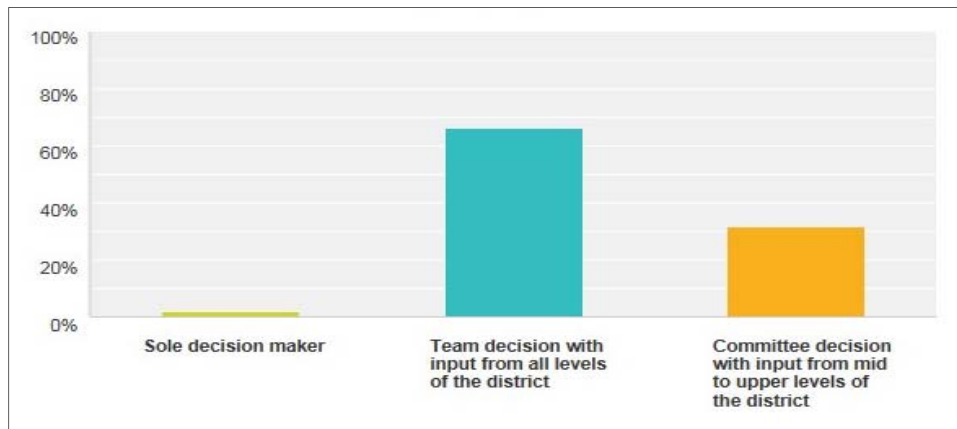


Figure 4-15 Decision Making

The majority of respondents, 73.68% stated that their districts did not have a specific working group that evaluates, interprets, and/or determines if an LDA should be adopted; 26.32% stated that they did have a specific working group.

Internal Determinant: Organizational Culture and Size

When asked about the culture of their organizations, 46.67% indicated that their district was very comfortable with new ideas, and 38.33% said that their district was comfortable with new ideas. So, 85% of those who answered this question believed that their organizations were at least comfortable with new ideas and are open to them. The data showed that 13.33% were somewhat comfortable, while 1.67% indicated that they were not comfortable.

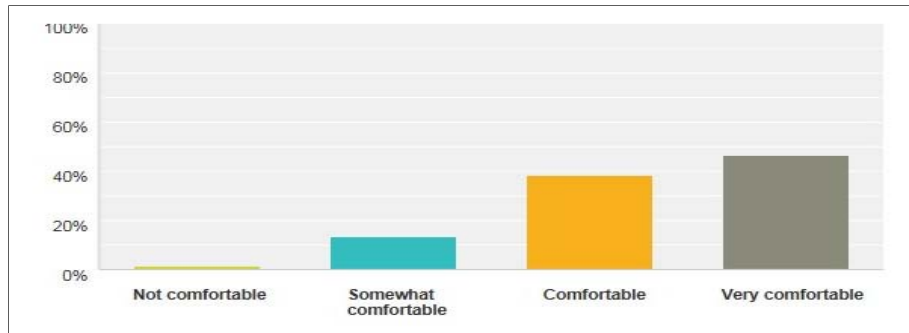


Figure 4-16 District Comfort Level

When asked about their court size, 33.3% indicated that their court housed 51-100 employees, 28.33% housed 0-50 employees, 20% had 101-150 employees, and 18.33% had 151 or more employees.

Internal Determinants: Respondent Characteristics

Education

Of the 60 that answered this question, 31.67% indicated they had a law degree, while 30% had a Bachelor's degree, and 26.67% had a graduate degree. Only 5% of respondents indicated they had some college, 3.33% indicated they had an associate's degree, and 3.33% had a high school or equivalent degree. These statistics indicate that the respondent pool consists of highly educated individuals.

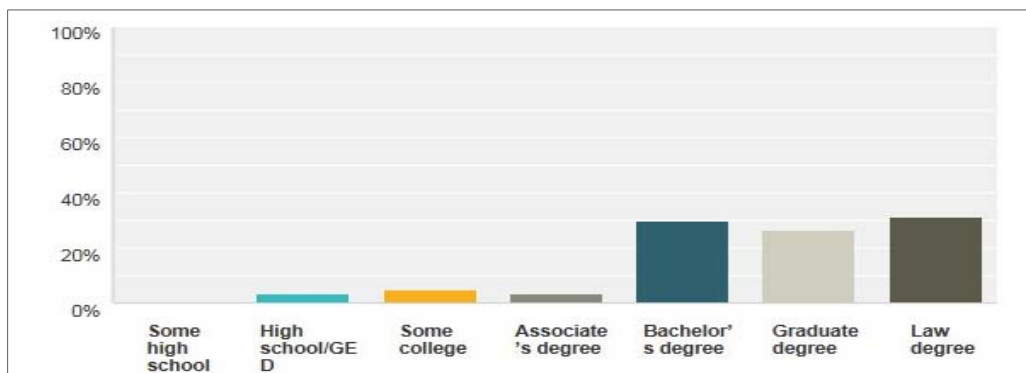


Figure 4-17 Education

Years of experience

The respondents were also asked about their years of court experience. The survey results indicated that of the 60 individuals that responded to this question, over 50% (53.33%) had 21 years or more experience with the federal courts. Approximately 17% had 11-15 years and 15% had 16-20 years, while 6.67% had 6-10 years and 8.33% had 0-5 years of experience. These statistics indicate that the respondent pool consists of a majority of experienced individuals as 68.33% of the respondents have at least 16 years of experience.

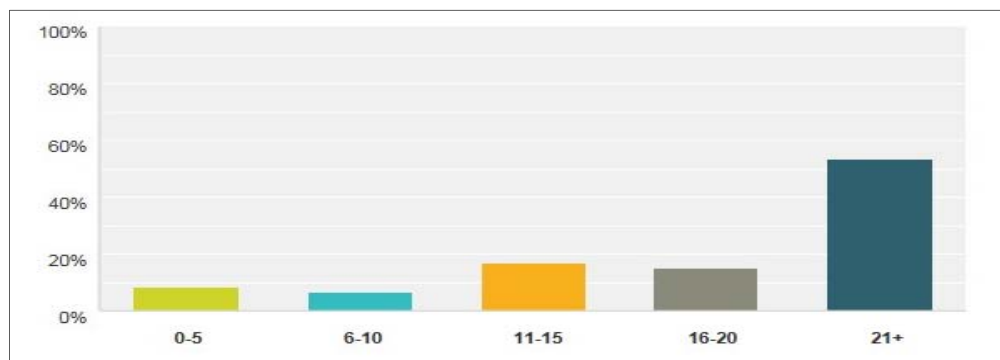


Figure 4-18 Years of Experience

Comfort level

The respondents were asked to rank themselves with respect to their personal feelings about new ideas. The results indicated that 67.21% were very comfortable, 31.15% were comfortable and 1.64% somewhat comfortable with new ideas.

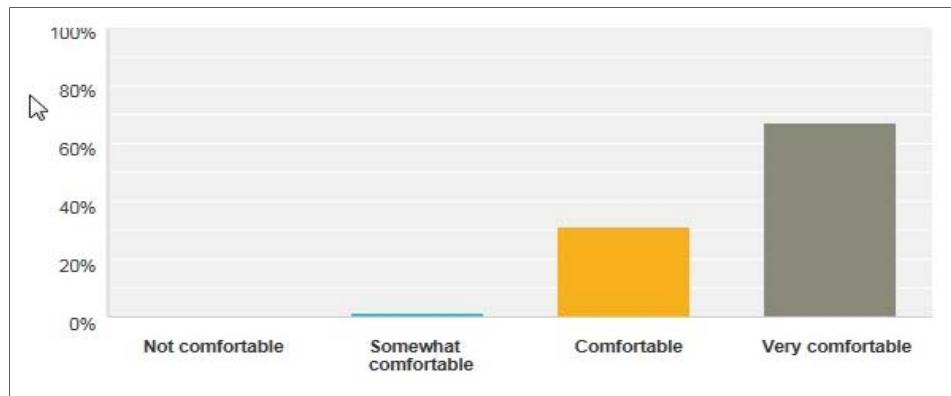


Figure 4-19 Respondent Comfort Level

Internal Determinants: Linear Regression:

In the previous section, a linear regression was conducted to determine whether or not various network variables were significant and had an effect on the number of LDAs that a court adopted. It was determined that the number of networks in which a respondent was involved positively impacted the number of LDAs the court adopted; however, the regression also provided information regarding organizational and personal characteristics.

The variable, innovation ($p=.01$, $df=63$), was determined to be significant and largely positively related to the number of LDAs a court adopted. This variable was based on whether or not a respondent had indicated that his court had created its own locally developed application over the past five years. This finding is consistent with the literature, in that, an innovative court is likely one whose leadership and culture create a climate conducive to experimentation and risk taking, and therefore, one that would be open to adopt others' innovations (Greenhalgh, et al 2004, 592). Another variable positively related to the number of LDAs adopted and significant was team decision making ($p=.07$, $df=63$). This variable involved whether or not the district utilized a team decision with input from all levels of the organization when considering LDAs. The

positive effect of this team decision variable helps explain how the absorptive capacity of the organization, in this instance, decision making structures including input from all levels on LDA adoption, positively affected the number of LDAs adopted by a district. With respect to personal characteristics, years of experience also had a positive effect on adoption. This variable captured how many respondents had 11 or more years of experience ($p=.10$, $df=63$) with the understanding that perhaps years of experience might negatively affect the number of LDA adoptions within a district. This positive effect may be understood with the understanding that the longer the individual is in the organization, the more he sees the need for LDA adoption; or perhaps, tenure is positively related to the number of networks in which the respondent is associated.

One would think that the more educated one is, the more open to LDA adoption one would be and the more LDAs one would adopt; however, the linear regression indicated that although there is a minimal positive relationship between those holding a college degree or greater and adoption, that relationship was not significant. Likewise, the literature points to a positive relationship between size and adoption; however, the larger districts actually produce a negative relationship with the number of LDAs adopted although that variable is not significant. And, the ranking of the district as comfortable and very comfortable with respect to new ideas is negative although insignificant. This finding is contrary to the literature that suggests that a culture receptive to new ideas is necessary for adoption. Please see the final chapter for further findings and conclusions regarding networks.

Chapter 5

Findings and Conclusions

The judiciary proved to be an excellent research subject to study networks and diffusion as 90.91% of the respondents indicated that they had adopted an LDA from another district, bankruptcy, or circuit court over the last five years. This high percentage indicated that LDA diffusion was occurring on a large scale within the judiciary. Of the potential respondents, 61% completed every question on the survey providing a large data set to analyze. The data collected from the survey were used to conduct the various analyses in hopes of answering three main research questions: (1) Do the professional networks of judiciary decision makers influence the adoption of LDAs?; (2) What characteristics of the professional networks of judiciary decision makers influence the adoption of LDAs?; and (3) To what extent are regional or national interaction diffusion models applicable to the professional networks of judiciary decision makers?

It is clear from the analyses that professional networks of judiciary decision makers influence the adoption of LDAs and that networks affect diffusion during both the awareness and persuasion stages. The raw data indicated that 74.34% of respondents learned about the LDAs they adopted from a source outside of their district indicating that a connection outside of their home court provided the information about the LDA. A subgroup analysis offered further support. It found that as the percentage of courts that learned about the LDA from a source outside of their district increased, so did the number of individuals that adopted the LDA. This illustrated a positive relationship between LDA adoption and outside connections. With an overwhelming majority of the respondents personally learning about the LDA they adopted from a source outside their districts, this leads to a discussion about boundary spanners (Greenhalgh, et al 2004, 603). These respondents are individuals who have social ties within and outside an organization.

These ties link the organization with the outside world, in this case to other districts' innovations (Greenhalgh, et al 2004, 603). These individuals create adhesion points of contact between various groups.

Involvement in a national conference was also shown to be positively related to adoption. As the data showed, 39.47% of the respondents indicated that they learned about their adopted LDAs at a national conference. Also, when compared across subgroups based on the size of the LDA adopted, the majority of the adopters in the highest ranked three groups (large, medium, and small) learned about their adopted LDAs at a national conference; whereas, the group ranked as very small did not. This indicated that attendance at a national conference increased the number of courts that adopt an LDA, and it established that presence at a network hub positively affected diffusion. This finding is consistent with the literature, in that a convergence process occurs; wherein, information is exchanged about new ideas through interpersonal networks (Rogers 2003, xx). Rogers (2003, xx) also indicates that, "the diffusion of innovations is essentially a social process in which subjectively perceived information about a new idea is communicated from person to person." These networking opportunities provide that essential arena for this type of communication.

With respect to the persuasion stage, the subgroup analysis found that the vast majority of those who adopted an LDA across the subgroups contacted the developing district prior to adoption; therefore, that connection positively affected adoption. Making an effort to reach out to the developing district after the awareness stage is consistent with the literature which suggests that information acquisition is a strategy to reduce uncertainty. As Valente (1995, 5) noted, "...risk and uncertainty force individuals to turn to their peers to gain more information and/or reassurance about potential adoption decisions." The existence of "go to" networks also provides evidence that networks

connect courts and provide avenues for diffusion. “Go to” networks provide more and smaller ties between courts which allows for a greater flow of information about LDAs between courts (Valente 1995, 50). These weak ties are what Granovetter believed were necessary for diffusion to occur across subgroups within a social system (Valente 1995, 50).

A linear regression was utilized to determine the effect of networks on diffusion. Model 1C had an R Square of .341 and an Adjusted R Square of .259. Because of its significance level, the total networks variable indicated that the number of networks in which the respondent was involved had a positive effect on the number of LDAs that were adopted by the respondent's court. This means that more network involvement leads to more LDAs adopted. The subgroup analysis also found that as percentages of those involved in networks increased, the number of LDAs adopted increased. These findings also support the literature in several ways. These respondents are decision makers who go through a process of satisficing because of temporal or cognitive limitations, and networks would likely be great sources of information to find such alternatives. Additionally, those that are involved in multiple networks likely indicates an underlying belief or culture steeped in knowledge sharing which as Greenhalgh, et al (2004, 607) notes, is an indicator that an organization is more receptive to innovation adoption.

This study was also interested in the characteristics of professional networks that affect adoption, including mode or method of communication, frequency of interaction, length in network, and network type. The linear regression found that neither mode, nor frequency, nor length within a network were significant. The subgroup analysis, however, pointed to a positive relationship between use of the Internet and adoption and list serve involvement and adoption, but the regression found neither significant. This suggested

that individually, network involvement does not affect the number of LDAs that a court adopts, but that as one's membership expands to other network types, his chances of adopting more LDAs increase.

The linear regression yielded a result that the majority of network types were not significant; however, one network type was nearing significance, the respondent's involvement in a national committee. Therefore, involvement in a national committee was positively related to the number of LDAs a court adopted. The subgroup analysis similarly found that as involvement in a national committee declined so did the number of adoptions in the court. Both of these findings are consistent with the literature that seems to support the notion that networks enhance adopter imitation behavior. The national interaction model assumes that a national communication network among state officials exists through which officials learn about programs from their contemporaries in other states (Berry and Berry 2007, 226). A respondent involved in a national committee would likely be exposed to LDAs from other courts and would likely be inclined to emulate and adopt especially if there was a need or a clear impression of the advantages of adoption.

Involvement in a national committee is an example of the national interaction diffusion model which based on this study is the main diffusion model in the judiciary. Involvement at a national conference in the awareness stage is an important factor in the adoption process. This national network involvement allows the exchange of information about LDAs to occur among courts that are not regionally connected. The "go to" network connections are also examples of the national interaction model. Thirteen out of eighteen, or 72%, of multi-adopted LDAs showed at least one "go to" connection between their adopters.

Both jurisdictional and regional networks were also given consideration in this analysis as it relates to multi-adopted LDAs. With respect to jurisdictional relevance,

37.4% of courts who adopted a multi-adopted LDA were located within the same circuit. As indicated by an earlier discussion, jurisdictional or circuit relationships are apparent within “go to” networks. With respect to regional ties, there were few instances where neighboring courts adopted the same multi-adopted LDA; therefore, it appears that “go to” networks and secondary to that, jurisdictional networks, have an impact on diffusion.

This study concludes that networks do affect the diffusion of locally developed applications across the judiciary at both the awareness and persuasion stages. National interaction leads to LDA diffusion as demonstrated by the importance of national committee and national conference involvement. The number of network connections positively affects the number of LDAs a court adopts. Although involvement in only one single network type was significant, the positive connection between networks and LDA adoptions suggests that not only the number of networks, but perhaps the variety of networks and network partners affect LDA adoption. This leads to a final comment about the decision maker, since this work is focused on the decision maker’s answers as a representative of his district. What the data and analyses suggest is that the majority of these decision makers are boundary spanners as Greenhalgh, et al (2004, 603) discussed in their work. As a boundary spanner, the individual is one who maintains contacts within and outside of his organization, meaning that the more contacts he has, the broader his span. The data suggest this broader span leads to a higher adoption rate than those less connected. More studies are necessary to determine the exact reason for the increase in adoption amongst these individuals as other factors may be at play including the variety of networks, the variety of network partners, and what having those connections indicates with respect to the decision maker’s attitudes and openness to innovation.

Future Research

As the data suggest, the more networks in which one is involved, the more innovations he adopts; therefore, more research is needed to explore network types and the diverse nature of network partnerships as characteristics of the network partners may be an important factor. Rogers (2003, 305) discusses the importance of homophilous networking by asserting that adoption of innovations is more likely to occur amongst individuals that have similar cultural, professional, socioeconomic, and educational backgrounds; however, it would be interesting to determine if this finding is consistent in network partnerships within the judiciary. Additionally, further research on the decision maker is warranted in order to explore the attributes of these boundary spanning individuals. With respect to the judiciary, it would be interesting to conduct a targeted, qualitative, interview-based study of those in the “high” adoption category, to determine if making network connections is part of the job as Chief Deputy Clerk indicating more of cultural factor, or if individual characteristics lead these individuals towards increased networking partnerships. In both of these instances, a survey approach identical to the one in this study could provide applicable data.

Future research is also required to explore the jurisdictional overlap within “go to” connections as it implicates a pre-existing structural network pattern rather than regional or national. The districts of the United States Courts were created based on legal jurisdiction and are themselves based on geographic boundaries. In Texas for example, there are four districts based on a geographical split of the state; there is a northern, eastern, southern, and western district. The cases that are filed in these districts are governed by certain jurisdictional requirements. Just as the district courts represent geographical jurisdictions, so do the circuit courts. These circuit courts are venues for appeals from the district courts, and they solely hear appeals from districts within the

circuit. In general, with one main exception, the circuits consist of two or more states and/or territories and are regional in nature, but can span large distances based on the number and location of the member states. For instance, the 5th Circuit consists of Texas, Louisiana, and Mississippi. The jurisdictional data suggests that structural and historical arrangements play a role in current network partnerships. If the tie exists between “go to” networks and historical structures, networks may remain stagnate and ultimately integrated so that the same diffusion patterns will continue to repeat in the future. An effort would have to be made to open dialogs between other districts. Based on the data, communication at national conferences or similar venues may engender new network connections. A more in depth research study of these structural connections is necessary to determine the nature of these relationships.

In conclusion, this study answered the three main research questions: (1) Do the professional networks of judiciary decision makers influence the adoption of LDAs?; (2) What characteristics of the professional networks of judiciary decision makers influence the adoption of LDAs?; and (3) To what extent are regional or national interaction diffusion models applicable to the professional networks of judiciary decision makers? Future research could be conducted using quantitative and qualitative methods to expand upon both the characteristics of the network partners and boundary spanners, as well as the impact of structural and historical network connections.

Appendix A
Survey Questions

Questions Regarding Adoption of Locally Developed Applications

1. Have you ever been involved in a decision to adopt or not to adopt an LDA in your district?
2. Have you adopted an LDA from another district or bankruptcy court over the last 5 years?
3. Please list the adopted LDA and its developing district. (If multiple, list all LDAs adopted and their developing districts)
 - a. Innovation #1 (LDA)_____ Developing District_____
 - b. Innovation #2 (LDA)_____ Developing District_____
 - c. Innovation #3 (LDA)_____ Developing District_____
 - d. Innovation #4 (LDA)_____ Developing District_____
4. From whom did you learn about the LDA and how did you communicate with that/those individuals?
 - a. LDA #1 Sources (From Whom?)
 - ☐ From a source within your district
 - ☐ From a source outside of your district
 - ☐ Other_____And
 - b. LDA #1 Mode (How did you communicate?)
 - ☐ Telephone conversation
 - ☐ In a meeting
 - ☐ At a national conference
 - ☐ In an email communication
 - ☐ On a message board (list serve)
 - ☐ Other_____
 - a. LDA #2 Sources (From Whom?)
 - ☐ From a source within your district
 - ☐ From a source outside of your district
 - ☐ Other_____And
 - b. LDA #2 Mode (How did you communicate?)
 - ☐ Telephone conversation
 - ☐ In a meeting
 - ☐ At a national conference

- ☐ In an email communication
- ☐ On a message board (list serve)
- ☐ Other_____

a. LDA #3 Sources (From Whom?)

- ☐ From a source within your district
- ☐ From a source outside of your district
- ☐ Other_____

And

b. LDA #3 Mode (How did you communicate?)

- ☐ Telephone conversation
- ☐ In a meeting
- ☐ At a national conference
- ☐ In an email communication
- ☐ On a message board (list serve)
- ☐ Other_____

a. LDA #4 Sources (From Whom?)

- ☐ From a source within your district
- ☐ From a source outside of your district
- ☐ Other_____

And

b. LDA #4 Mode (How did you communicate?)

- ☐ Telephone conversation
- ☐ In a meeting
- ☐ At a national conference
- ☐ In an email communication
- ☐ On a message board (list serve)
- ☐ Other_____

5. Please check all of the people you contacted to discuss this application prior to your decision to adopt.

a. LDA #1

- ☐ Contact at another district court
- ☐ Contacts at more than one district court
- ☐ Contact within a professional association
- ☐ Contact with the developing district
- ☐ Other_____
- ☐ None of the above

b. LDA #2

- ☐ Contact at another district court
 - ☐ Contacts at more than one district court
 - ☐ Contact within a professional association
 - ☐ Contact with the developing district
 - ☐ Other _____
 - ☐ None of the above
- c. LDA #3
- ☐ Contact at another district court
 - ☐ Contacts at more than one district court
 - ☐ Contact within a professional association
 - ☐ Contact with the developing district
 - ☐ Other _____
 - ☐ None of the above
- d. LDA #4
- ☐ Contact at another district court
 - ☐ Contacts at more than one district court
 - ☐ Contact within a professional association
 - ☐ Contact with the developing district
 - ☐ Other _____
 - ☐ None of the above
6. Which factors are most important when to adopt an LDA? Please rank the factors below using a range from 1-6. (1 being the most important and 6 being the least)
- Clear impression that the innovation will be advantageous to your organization
 - Ease of use and implementation
 - Need to fix the problem the LDA solved
 - Ability to discuss with the developer
 - Ability to discuss the innovation with other users
 - Ability to test the innovation
7. How are decisions to adopt an LDA made in your district?
- a. Sole decision maker
 - b. Team decision with input from all levels of the district
 - c. Committee decision with input from mid to upper levels of the district
 - d. Other _____
8. Do you have a specific working group that has the skills to evaluate, interpret, and/or determine if a LDA should be adopted?
9. Has your district developed any applications over the past five years?

10. If Yes, please list them below

- a. Developed Innovation #1 (LDA) _____
- b. Developed Innovation#2 (LDA) _____
- c. Developed Innovation#2 (LDA) _____
- d. Developed Innovation#2 (LDA) _____

11. Have you shared information on your LDAs with other courts?

12. Please specify with which courts you shared information on your LDAs?

- a. Developed Innovation #1(LDA) – District

- b. Developed Innovation #1(LDA) – District

- c. Developed Innovation #1(LDA) – District

- d. Developed Innovation #1(LDA) – District

13. Please find a list of network associations below. Please check all the network avenues in which you are involved and indicate how long you have been in the network.

- | | |
|--|-----------|
| <input type="checkbox"/> National committee | How long? |
| <input type="checkbox"/> Inter-district work group | How long? |
| <input type="checkbox"/> Professional network outside of your district | How long? |
| <input type="checkbox"/> List serve | How long? |
| <input type="checkbox"/> Other Professional Network | How long? |

14. For each of the professional networks or groups in which you have had some activity, in general, how do you communicate and how often do you communicate with the other participants?

- a. National committee
 - ☐ Telephone (conference calls)
 - 1. Monthly
 - 2. Once every three months
 - 3. Once every six months
 - 4. Once a year
 - ☐ In person meetings
 - 1. Monthly
 - 2. Once every three months
 - 3. Once every six months
 - 4. Once a year

- ☐ Internet communication (email or instant message)
 1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
- ☐ Other _____
 1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
- b. Inter-district work group
 - ☐ Telephone (conference calls)
 1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
 - ☐ In person meetings
 1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
 - ☐ Internet communication (email or instant message)
 1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
 - ☐ Other _____
 1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
- c. Professional network outside of your district
 - ☐ Telephone (conference calls)
 1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
 - ☐ In person meetings
 1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
 - ☐ Internet communication (email or instant message)

1. Monthly
2. Once every three months
3. Once every six months
4. Once a year

- ☐ Other _____
1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year

d. List Serve

- ☐ Telephone (conference calls)
1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
- ☐ In person meetings
1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
- ☐ Internet communication (email or instant message)
1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
- ☐ Other _____
1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year

e. Other Professional Network

- ☐ Telephone (conference calls)
1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
- ☐ In person meetings
1. Monthly
 2. Once every three months
 3. Once every six months
 4. Once a year
- ☐ Internet communication (email or instant message)
1. Monthly

2. Once every three months
3. Once every six months
4. Once a year

☐ Other _____

1. Monthly
2. Once every three months
3. Once every six months
4. Once a year

15. In which district are you located?

16. Do you talk frequently to or discuss LDA's you are considering with another district court? In other words, do you have a "go to" court or a few "go to" courts, that you have discussions with on a reoccurring basis? If Yes, which one(s)?

17. How would you rank your district's comfort level with respect to new ideas?

- ☐ Not comfortable
- ☐ Somewhat comfortable
- ☐ Comfortable
- ☐ Very comfortable

18. What is your highest level of education?

- a. Some high school
- b. High school/GED
- c. Some college
- d. Associate's degree
- e. Bachelor's degree
- f. Graduate degree
- g. Law degree
- h. Other _____

19. How many years of experience within the courts do you have?

1-5 6-10 11-15 16-20 21 +

20. How would you rank your comfort level with respect to new ideas in your court?

- ☐ Not comfortable
- ☐ Somewhat comfortable
- ☐ Comfortable
- ☐ Very comfortable

21. Do you believe that the current decentralized structure in the Judiciary encourages or discourages innovation amongst individual districts?

Encourages Or Discourages

Please explain why:

22. Has a lack of resources affected your ability adopt LDA's from other districts?

Yes or No

23. How many employees are in your district?

10-50 51-100 101-150 151 +

24. Would you be willing to answer some follow up questions telephonically at some point within the next 2 weeks?

Thank you for taking the time to complete this survey.

Appendix B
Informed Consent

UT Arlington: Informed Consent Document

PRINCIPAL INVESTIGATOR

Edmund Dieth, Ph.D. Candidate in the Public and Urban Administration Program at the School of Urban and Public Affairs, University of Texas at Arlington, email: edmund.dieth@mavs.uta.edu

FACULTY ADVISOR

Dr. Colleen Casey, School of Urban and Public Affairs, email: colleenc@uta.edu

TITLE OF PROJECT

Diffusion of Locally Developed Applications across the United States Judiciary

INTRODUCTION

You are being asked to participate in a research study about the diffusion of locally developed applications across the U.S. Judiciary. Your participation is voluntary. Refusal to participate or discontinuing your participation at any time will involve no penalty or loss of benefits to which you are otherwise entitled. Please ask questions if there is anything you do not understand.

PURPOSE

The specific purpose of this research study is to investigate the spread of locally developed applications across the judiciary. Of particular importance to this study is the effect of networks on this diffusion.

DURATION

Participation in this survey will last approximately 20 minutes. You may also be asked if you would potentially be available for a follow up interview within the next month which could also last 20 minutes.

NUMBER OF PARTICIPANTS

The number of anticipated participants in this research study is 200

PROCEDURES

The procedures which will involve you as a research participant include:

1. Reading this consent form and acknowledging your consent by completing the survey
2. Completing the survey and submitting it

POSSIBLE BENEFITS

The possible benefits from this study are as follows:

1. We will be able to see if there is a relationship between network associations and application adoption practices in the judiciary.

POSSIBLE RISKS/DISCOMFORTS

There are no perceived risks or discomforts for participating in this research study. Should you experience any discomfort please inform the researcher, you have the right to quit any study procedures at any time at no consequence.

COMPENSATION

No compensation will be offered for participation in this study.

ALTERNATIVE PROCEDURES

There are no alternative procedures offered for this study, and you may elect not to participate or may quit at any time with no consequences.

VOLUNTARY PARTICIPATION

Participation in this research study is voluntary and you are free to withdraw consent and to discontinue participation at any time without penalty.

CONFIDENTIALITY

Every attempt will be made to see that your survey and interview results are kept confidential. A copy of this accepted consent form and all data collected from this study will be stored in the office of Dr. Colleen Casey at UT Arlington for at least three (3) years after the end of this research. The results of this study may be published and/or presented at meetings without naming you as a participant. Additional research studies could evolve from the information you have provided, but your information will not be linked to your name. Your name will be left out of the study; therefore, your responses will be anonymous. The information you provide about your network associations and locally developed applications will be linked to your district; however, each district, each LDA, each respondent, and each named network associate will be coded. For instance, the districts will be coded as District A, District B, etc., the LDAs will be coded as LDA 1, LDA 2, etc., the respondents will be coded as Respondent from District A, etc., and the named network associates will be coded as Network Associate from District A, etc.

Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the UTA Institutional Review Board (IRB), and personnel particular to this research have access to the study records. Your records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above. The IRB at UTA has reviewed and approved this study and the information within this consent form. If in the unlikely event it becomes necessary for the Institutional Review Board to review your research records, the University of Texas at Arlington will protect the confidentiality of those records to the extent permitted by law.

CONTACT FOR QUESTIONS

Questions about this research study may be directed to Edmund Dieth at Edmund.dieth@mavs.uta.edu or Dr. Colleen Casey at colleenc@uta.edu. Any questions you may have about your rights as a research participant or a research-related injury may be directed to the Office of Research Administration; Regulatory Services at 817-272-2105 or regulatoryservices@uta.edu.

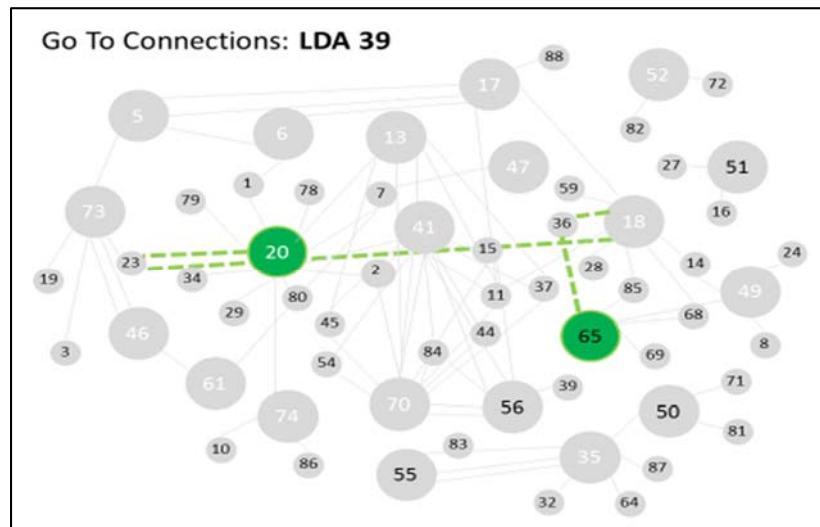
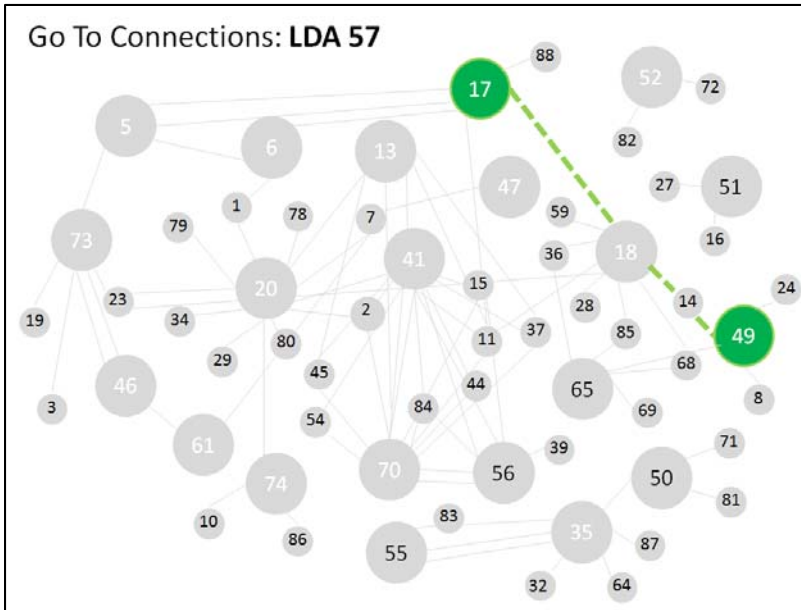
CONSENT

By completing the survey, you confirm that you are 18 years of age or older and have read or had this document read to you. You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this form. You have been given the opportunity to ask questions before you complete the survey, and you have been told that you can ask other questions at any time.

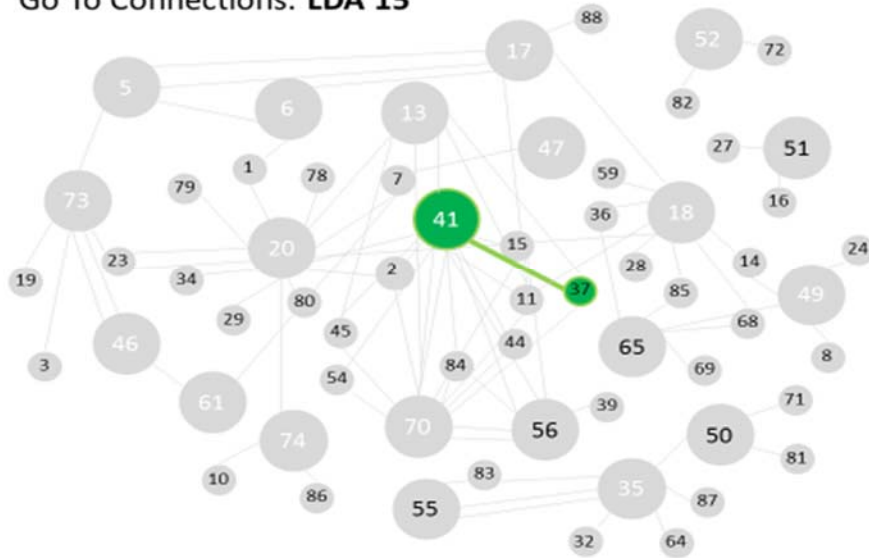
You voluntarily agree to participate in this study. By completing the survey, you are not waiving any of your legal rights. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits, to which you are otherwise entitled.

Appendix C

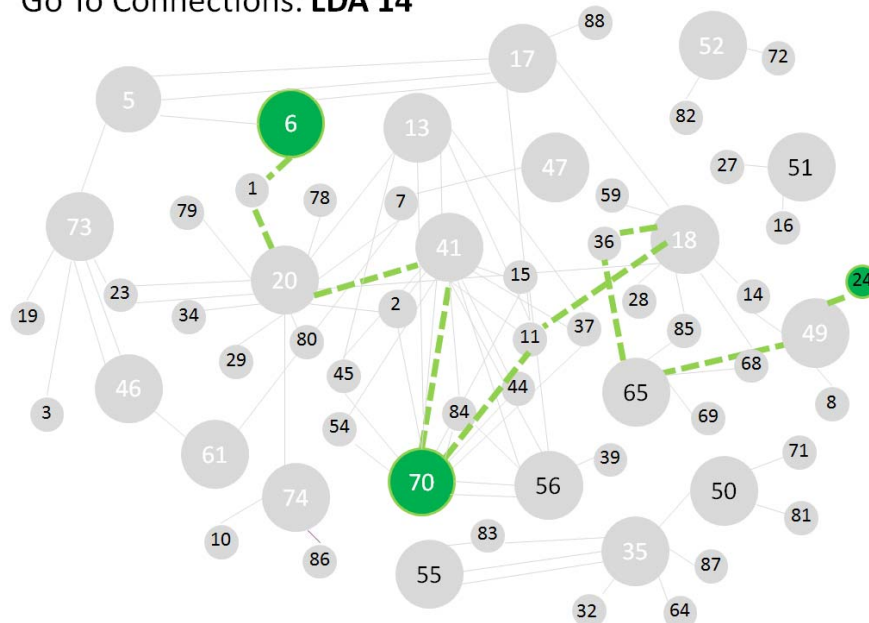
“Go To” Connection Charts



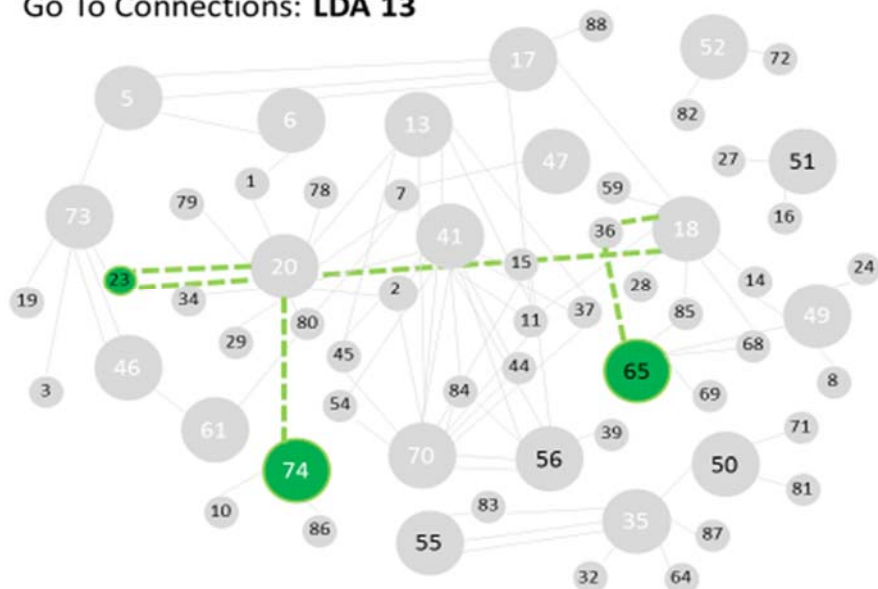
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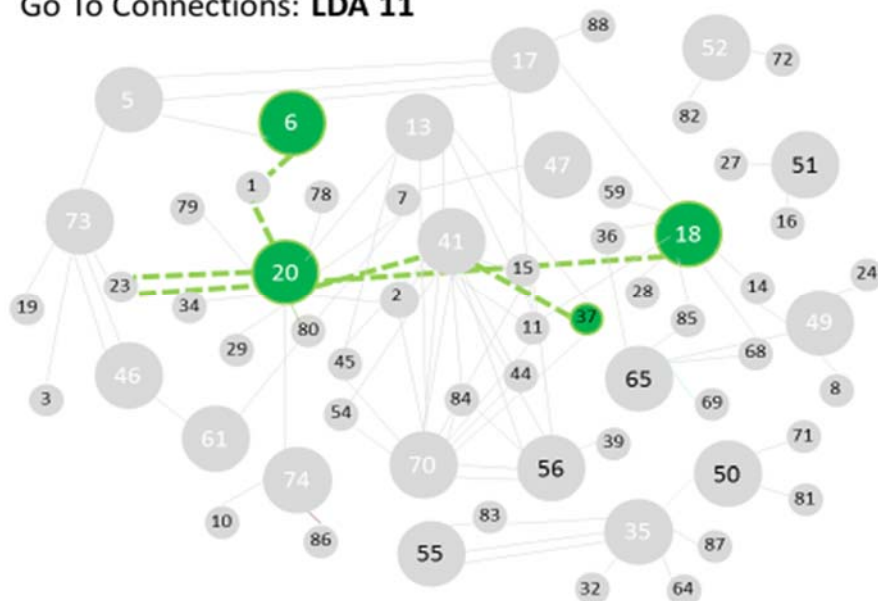
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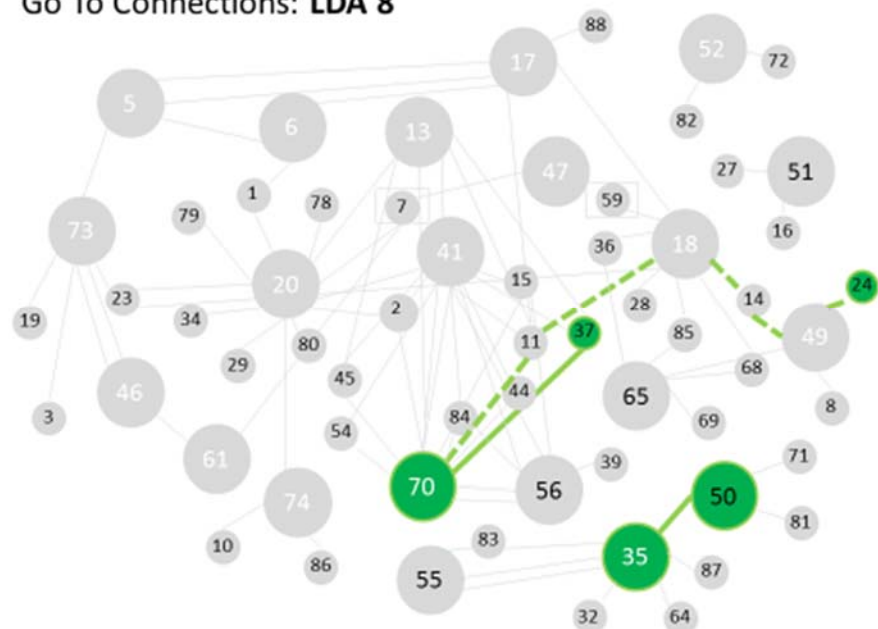
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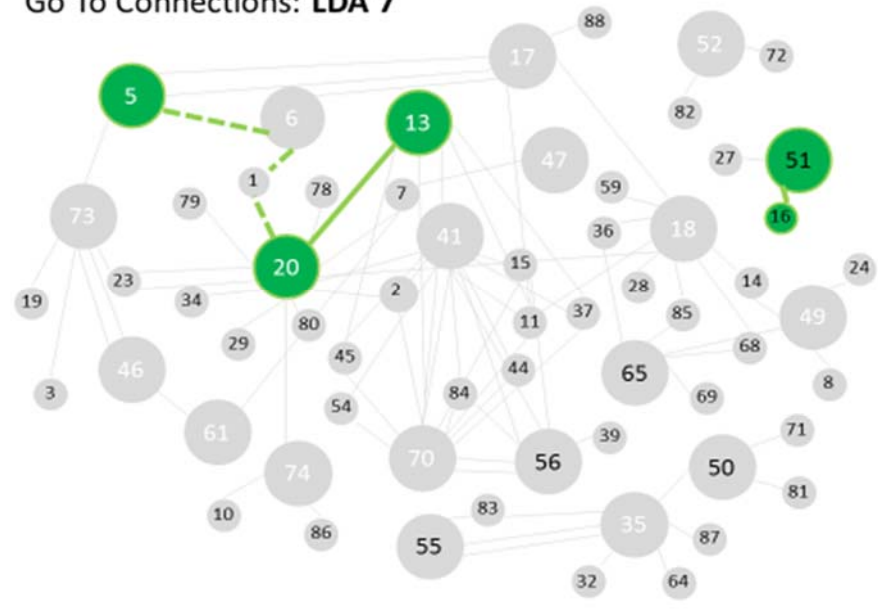
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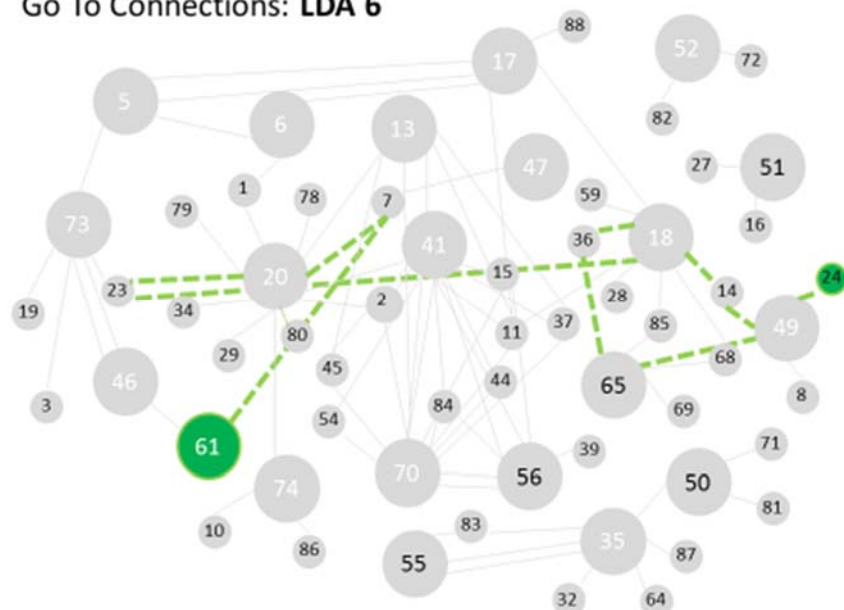
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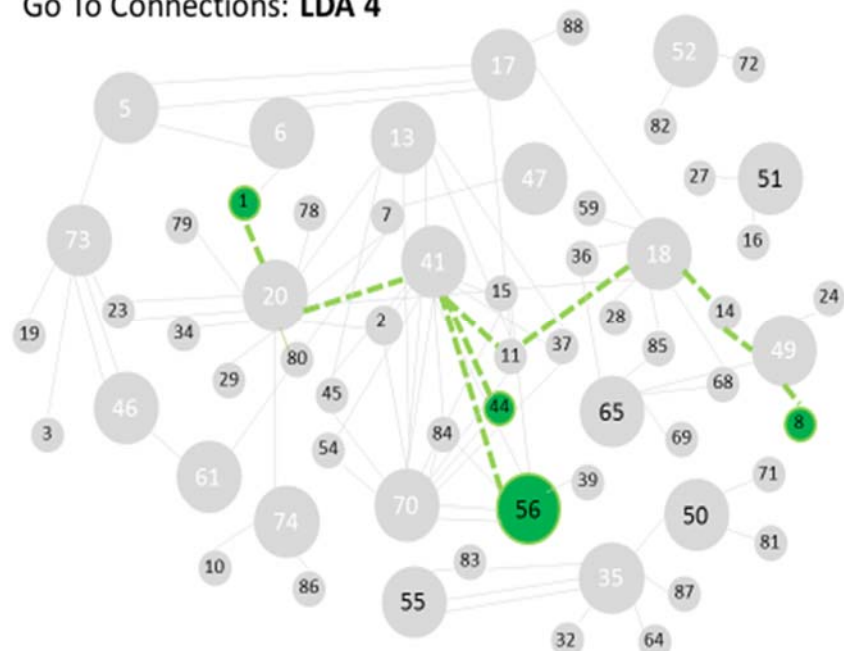
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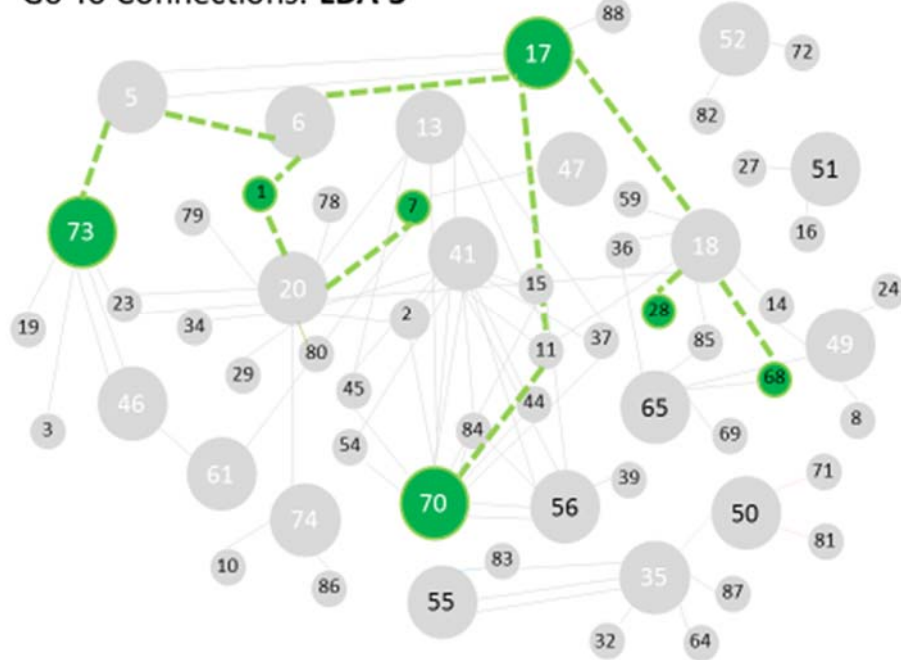
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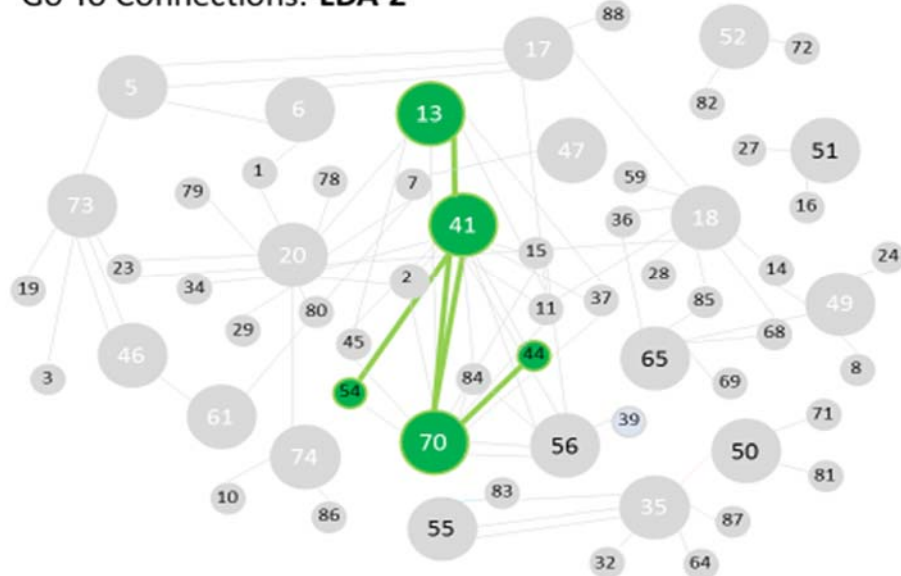
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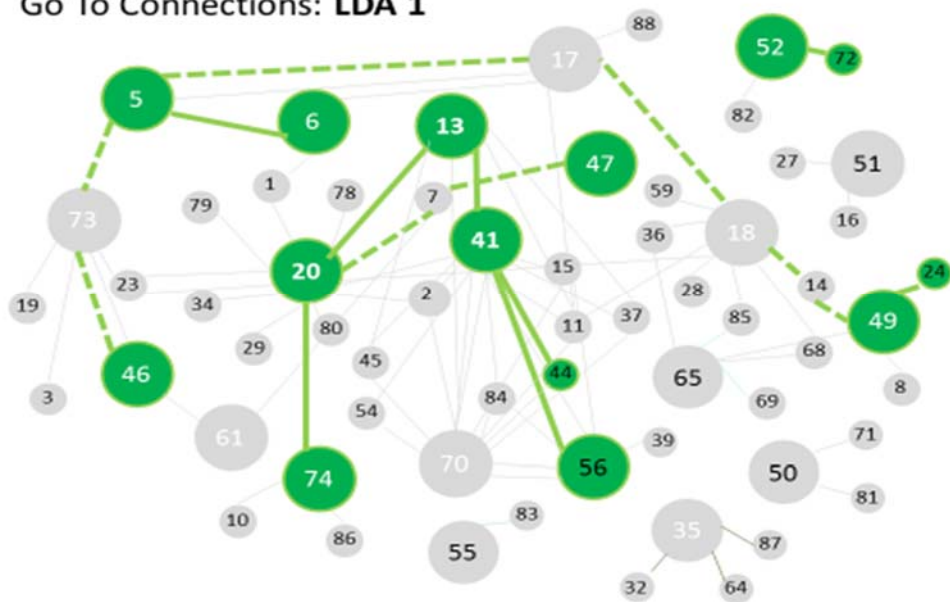
Go To Connections: LDA 3



Go To Connections: LDA 2



Go To Connections: **LDA 1**



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Biographical Information

Edmund Dieth holds a Bachelor of Arts from Tulane University, a Master's in Public Administration from the University of New Orleans, and a Ph.D. in Public and Urban Administration from the University of Texas at Arlington. Edmund has been employed in varying court systems in the county, state, and federal levels of government for the past 15 years. Edmund has been employed in the United States District Court for the Northern District of Texas, Fort Worth Division for the past 8 years.