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ETHICAL LEADERSHIP IN HIGHER EDUCATION: EVOLUTION OF INSTITUTIONAL ETHICS LOGIC

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ETHICAL LEADERSHIP IN HIGHER EDUCATION: EVOLUTION OF
INSTITUTIONAL ETHICS LOGIC

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Educational Leadership

by
William Roderick Hanson
May 2009

Accepted by
Dr. Russ Marion, Committee Chair
Dr. Frankie Keels Williams
Dr. James Satterfield
Dr. Steve Stevenson

ABSTRACT

In higher education, we face a decade in which institutional integrity and legitimacy is under fire. In the words of Charles Dickens, this is certainly “the worst of times” both economically and ethically for our nation, as well as for our colleges and universities. While members of higher education call for student academic ethics reform, ethical infractions by institutional leaders and faculty permeate professional literature and news—student loan scandals, charges of plagiarism, and falsified research, are but a few. This study begins with the premise that perhaps our efforts toward reform should focus on a better holistic understanding of system dynamics.

The research question driving this study is, “How does the interaction of agent work-related ethical beliefs and knowledge, perceived pressures, and institutional agents or entities influence the evolution of institutional ethics logic over time?”

Grounded theory methods provided the framework for this study; this research used a complexity leadership and network lens in which to examine a university’s ethics logic, as defined by participants. Complexity leadership proposes operating within a framework of mechanism-based theorizing (Uhl-Bien & Marion, in press). The Organizational Risk Analyzer (ORA) assisted coding and analysis of data, and DyNet, a modeling platform, assisted in manipulating data for an understanding of interrelated complexity mechanisms embedded in university ethics logic.

Findings incorporate a faculty ethics logic model, as well as a model of dynamical processes of university ethics logic evolution. The evolution model recognizes that:

- The leadership process shifts by leader function, context, or structure.

- The process underlying network robustness reflects holistic shifts in relationships with the addition or removal of nodes and links, and represents different or new patterns of behavior
- The process of agentic correlation shifts as nodal presence or relationships change
- The process of information diffusion shifts as network context, structure, or content changes

Theoretical, methodological, higher education implications conclude the study.

DEDICATION

First, and foremost, I dedicate this work to my wife Sandy. Her love, devotion and support are unremitting. Her compassion for others represents the good in this world.

Next, I would like to express appreciation to my parents, whose love and encouragement sent their five children to college—an opportunity they did not have. I also acknowledge my grandmother—who when addressing me as a young teen would call me “the absent-minded professor,” foreseeing an outcome I never thought possible.

Lastly, I dedicate much of this work to the United States Army. Serving a greater purpose than a single person or even a single generation, its subordinate role in democracy offers us assurance of protection in what the great philosopher Thomas Hobbes described as a “nasty, brutish world” (Sorell, 1998, 2002) . It taught me more about leadership and values than I could have imagined; it taught me early on that authoritative leadership develops a temporal relationship of limited outcomes; whereas a leadership role based upon Burn’s “mutual actualization” creates a relationship where inspiration, compassion and ethicality, develop a team believing “anything can be done”.

ACKNOWLEDGEMENTS

Of course, I need to recognize the vital role of my committee—their mentoring, assistance, teaching, and professionalism inspired me to learn and pursue this level of knowledge. I am always indebted to my chair, Dr. Russ Marion, for his knowledge of leadership, friendship and commitment to teach me the profession of academia—research, conferences, publications, and other things not picked up in a classroom. I also express my appreciation to Dr. Frankie-Keels Williams, for her skill and expertise that helped me focus on sound research methods and detail. I will always remember your professionalism and refrain “What is the problem?” To Dr. Satterfield, thank you for your support and significant role in guiding me in the direction of my eventual topic—ethics and institutional logic. To Dr. Steve Stevenson, you share an ethos only a veteran can—your inspiration, patience and guidance proved invaluable. For those who advised me on specialized topics and played a significant role in both my dissertation and the acceptance of papers at national conferences, I express strong appreciation to both Dr. Brent Igo, for his qualitative research expertise and assistance, and to Dr. Daniel Wueste, for his extensive knowledge and guidance in ethics philosophy.

Also a big “thanks” to my peers for sharing the crucible of knowledge and joining the “five person march” in May— Lorraine Angelino, Shannon Finning-Kwoka, Wade Livingston, Sue Whorton, and Michelle Bartlett.

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CHAPTER ONE

NATURE OF THE PROBLEM

In the past, many of America's higher education leaders represented the epitome of character and behavior. College presidents of the early nineteenth century like Philip Lindsley, George Ticknor, James Marsh, and Jacob Abbott were known for their noble vision and efforts at institutional reform (Rudolph, 1990). Leaders of higher education such as Francis Wayland at Brown University, were instrumental in transforming the middle class into leaders, meeting the economic and social needs of a developing nation (Cohen, 1998; Rudolph, 1990). Charles Eliot of Harvard University was known nationally for collegiate reform and the transformation of Harvard University as an institution (Cohen, 1998; Rudolph, 1990). These leaders, as well as other members of higher education, made significant contributions to the ethical reputation of our nation's colleges.

Unfortunately, there were recent examples of questionable leader behavior in higher education (Bartlett, 2006; Bowen, Bessette, & Chan, 2006; Gerber, 2005; Tierney, 2005; Van Der Werf, 2007). There were clear violations of the law, leading to university firings of presidents and boards (Gerber, 2005; Tierney, 2005). There were investigations into a recent student loan scandal resulting in legal settlements with at least 24 institutions (Van Der Werf, 2007). There were also headlines of plagiarism charges; in particular, one case involved a president's dissertation, a chancellor's speech, and a professor's teaching statement—all at the same institution (Bartlett, 2006). These and

other incidences create questions and criticism of higher education institutions. Marrella (2001) notes the importance of ethics to long-term organizational survival. Unethical behaviors can have severe implications on the fate of the organization and its members (Sendjaya, 2005; Yukl, 2006). Sendjaya (2005) remarked that “it is insufficient for leaders to be effective but unethical” (p. 75). Unethical leadership produces pressure for *reform*, manifested as demands and expectations—sometimes rising as a threat of direct external intervention. These interventions may hamper operations by imposing bureaucratic oversight or unrealistic demands.

While there was movement toward ethics reform, many feel higher education is not doing enough (J. Evans, Trevino, & Weaver, 2006; McCabe, Butterfield, & Trevino, 2006; Moberg, 2006). More is expected from leaders in higher education (Bowen et al., 2006; Humphrey, Janosik, & Creamer, 2004). Societies expect strong ethical leadership in colleges (Wong, 1998, p. 113). “Values-based leadership influences the culture of the organization and, advocates contend, is better equipped to bring about lasting change” (Wong, 1998, p. 115).

Leadership literature in general, stresses the need for additional research in leadership ethics (Northouse, 2004; Sendjaya, 2005; Yukl, 2006). Sendjaya (2005) remarked that ethics is “neglected” (p. 75). Yukl (2006) described a “gap” between normative and contextual concepts and calls for “knowledge that strengthens both the theory and practice of ethical conduct in organizations” (p 426). Kelley and Chang (2007) noted the need for researching unethical behavior in higher education, calling for the

generation of “robust conclusions” that help construct organizational designs to correct such behavior (p. 424).

Statement of the Problem

Ethics violations by university leadership and members have negative repercussions for the entire institution (Caldwell, Karri, & Matula, 2005; Eckel, 2000; Kelley, Agle, & DeMott, 2006; Kelley & Chang, 2007; Knight & Auster, 1999; Yeo & Chien, 2007). In some cases, universities are likely to face the threat of marginalization.

Knight and Auster (1999) noted ethical violations create institutional “suspicion and criticism” (p. 188). The authors cited past instances where the academic profession was criticized for a variety of unethical behavior—some accusing institutions of turning a “blind eye” toward such behavior or even suppressing corrective action (p. 188).

Americans have long held suspicion of the higher education institution (Rudolph, 1990), and recent behavior does nothing to disperse it.

Kelley et al. (2006) stressed how unethical behavior can “undermine the reputation of universities” (p. 206). Ethic violations such as plagiarism weaken institutional prominence (Yeo & Chien, 2007) and credibility (Caldwell et al., 2005).

The damage to reputation and credibility leads to reduced organizational legitimacy—critical to effective institutional governance (Caldwell et al., 2005; Eckel, 2000). Failing to ensure that organizational policies and behavior are congruent destroys trust and legitimacy (Caldwell et al., 2005). Even more insidious, unethical behavior can become a part of organizational culture (Caldwell et al., 2005), establishing poor role models and influencing poor behavior in other members. For example, in their study of

ethical behavior in higher education, Kelley et al. (2006) observed that students were more likely to mimic the behavior of faculty, administration, and staff than respond to other measures of ethics reform, such as codes of conduct (p. 217).

Ethical breaches in higher education reach across “individual/academic, departmental, sport programs, and organizational levels” (Kelley & Chang, 2007, p. 412). Infractions of ethical behavior were noted in institutional leadership behavior (Gerber, 2005; Kelley et al., 2006). These areas include administration (Humphrey et al., 2004; Jordan, Greenwell, Geist, Pastore, & Mahony, 2004; Kelley et al., 2006), faculty (Hamilton, 2007; Kelley et al., 2006), athletics (Humphrey et al., 2004; Jordan et al., 2004; Kelley et al., 2006; Kelley & Chang, 2007), research (Kelley et al., 2006; Kelley & Chang, 2007; Kerlinger & Lee, 2000), and external constituents (Jordan et al., 2004). There are calls for ethics reform (J. Evans et al., 2006; Hamilton, 2007; McCabe et al., 2006; Moberg, 2006). Table 1 shows the repercussion of unethical member behavior to institutional well-being.

Table 1.1
The Impact of Unethical Behavior on Institutional Well-being

Proximal Effects	Distal Effects	Institutional Outcomes
Suspicious public	Undermined reputation	Reduced legitimacy
Criticism	Weaken prominence	Reduced effectiveness
	Reduced standing	Reduced trust
	Weaken credibility	Risk to ethical culture

Rhode (2006) stressed the need for “a clearer understanding of the dynamics of moral conduct” (p. 20). Prior research and context indicate a need to better understand the institutional ethics logic and its dynamics. This is the first step toward institutional ethics reform.

Purpose

This study originated from the various accounts of unethical behavior in higher education—including both student and institutional members. At the same time, there is movement toward student ethics reform; yet how can we attempt to reform only those who pass through the education process when higher education structure may be in need of ethical repair?

The major purpose of this study is to *explore how* the interaction of member work-related ethical beliefs and knowledge, perceived pressures, and other institutional entities (both human and nonhuman), influence the evolution of institutional ethics logic over time. This research will help better *understand* how the evolution of the institution’s ethics logic can be influenced; it enables a holistic approach to ethics reform.

In this work, I examined the realities of the faculty population at a four-year private, religiously affiliated university, utilizing qualitative methods of network analysis to explore the *types* and *collective strength* of ethics logic entities, and their dynamics set within a leadership complexity network.

Research Questions

The following research question will guide this work: How does the interaction of agent work-related ethical beliefs, knowledge, perceived pressures, institutional agents or

other entities, influence the evolution of institutional ethics logic over time? Supporting questions:

1. What are member *work-related* ethical beliefs and knowledge, perceived pressures, agents and other entities found within the institution?
2. How are these entities related to each other, and to organizational members?
3. How does complexity leadership theory apply to ethics logic?
4. How are institutional dynamics related to ethics logic evolution?
5. What influences the diffusion of agent ethics knowledge and beliefs among members?

Research Methods

The primary research question involves an evolutionary process based upon the realities of participants. From a qualitative perspective, grounded theory is a primary method of examining *processes* (Creswell, 2003), or questions of *how* and *why* (Parry, 2003; Strauss & Corbin, 1998). The examination of *processes* aids in the construction of theoretical understandings (Dougherty, 2002; Strauss & Corbin, 1990). It does not involve testing or verifying *a priori* hypotheses (Mavrillac, 2006; Meda, 2005).

Bryman (1996) posits that the qualitative research holds great potential in capturing long ignored informal leadership processes and is acutely aware of leadership contexts (p. 288). For example, grounded theory supports the examination of leadership processes by applying a strategy that searches for emerging behavioral patterns (Creswell, 2003, p. 133).

This study took place at a small, religiously affiliated private *university* undergoing significant change in its recent ascendancy from a senior college to a level three university. Research was conducted three stages. The first consisted of interviews involving 13 faculty and administrators as a theoretical sample, in addition to observations and collection of artifacts. The next stage involved an online questionnaire for the full-time faculty population, resulting in a 72% response rate. The last stage generated data by running what-if scenarios using a network simulation platform.

Theoretical Framework for the Study

The framework surrounding this study will include social-ethical constructs and complexity leadership theory (CLT). These will provide “a lens that shapes what is looked at and the questions asked” (Creswell, 2003, p. 119). Social-ethical constructs will provide an ethics foundation for agent interaction; complexity leadership theory places leadership within a collective context, involving a multi-level and across subunit network organization of many agents—congruent with that which exists in a higher education. This methodological approach best represents movement “toward exploration of a form of leadership as emergent and dynamic, and generated in multi-level interactions among agents operating in the context of larger social systems (Lichtenstein et al., 2006; Marion & Uhl-Bien, 2001; Plowman et al., 2007b)” (Uhl-Bien & Marion, 2007, p. 3).

Leadership and Social-Ethics Constructs

This study will rely on traditional ethics constructs established by western philosophers, as well as scientific study found in current literature. Morality is embedded within the leadership process (Burns, 1978/2003; Ciulla, 2003). Sendjaya (2005) believes

“that good leadership is impossible without the presence of morality” (p. 84). From this perspective, leadership and ethics cannot be separated (Burns, 2003; Northouse, 2004; Sendjaya, 2005). Sendjaya (2005) refutes those who attempt to separate leadership from ethics:

This internal system of moral values in every individual necessitates the inclusion of morality in any leadership concepts that presuppose a dyadic relation between leader and follower. Therefore, to say that inserting morality into the concept of leadership is unacceptable is a denial of this universal fact of human nature. As a matter of fact, there is no leadership apart from morality since all forms of leadership is value-laden (Gini, 1995). (p. 76)

Bawden (2000/2003) explains that because agent interaction influences humans and nature directly and indirectly, it inherently has ethical implications (p. 175). With influence among each other and with students, institutional members hold important ethical responsibilities. As leaders, faculty and other influencers have varying roles—such as establishing an ethical work climate and resolving conflicting values for both students and peers (Burns, 2003; Northouse, 2004). Ethics “serve the normative or moral function of guiding members of the group in how do deal with certain key situations and in training new members in how to behave” (Schein, 1992, p. 20). Marrella (2001) cites motivating ethical behavior in others as a central leadership challenge, noting that “character development is part of education” (p. 24). These are only some of the roles that faculty hold in guiding the behavior of both students and institutional members.

Ciulla (2003) explains “leadership is a social construction shaped by the moral values and the cultural practices and beliefs of a society” (p. 229). As a social construct, leadership operates within a network of relationships (Gini, 2004; Schreiber, 2006; Uhl-Bien, Marion, & McKelvey, 2007).

Leadership, when viewed as a social-ethical dynamic, is what Burns (2003) would explain as “a collective process, whose dynamic is more than the simple sum of individual motivations and efficacies” (p. 151), where “leadership self-actualization is pursued through a process of mutual actualization with others” (p. 143). Burns (2003) describes this pursuit as manifested by linking *intrinsic values*, correlating with the group members. In this context he states that leaders are moral agents who “...represent the values and motivations—the wants and needs, the aspirations and expectations—of both leaders and followers” (p. 381). This is a process of *mutual interaction* and effort to achieve a common outcome; it implies shared values are necessary to achieve optimal, collective correlation. While Burn’s (2003) theory embraces the ethical construct of leadership and organizational behavior, it stops short of including the informal dynamics of temporal leaders, and the interaction among levels and across subunits.

Complexity Leadership Theory (CLT)

Traditional leadership theory and research does not sufficiently capture inclusive and interactive *leadership processes* by which leaders interact within and across organizations. Most theories focus on leader-centric influence, and on variables influencing outcomes—primarily linear outcomes. An examination from a multi-level,

interactive perspective may shed more light on the power of dynamics on organizational evolution and ethics reform.

Uhl-Bien, Marion, and McKelvey (2007) propose complexity leadership theory as a model which “recognizes that leadership is too complex to be described as only the act of an individual or individuals; rather, it is a complex interplay of many interacting forces” (p. 314). CLT allows us to explore the leadership process from a unique perspective:

Complexity science allows us to develop leadership perspectives that extend beyond bureaucratic assumptions to add a view of leadership as *a complex interactive dynamic through which adaptive outcomes emerge*. (Uhl-Bien et al., 2007, p. 314)

General complexity theory was used previously to address issues in education (Adam, 2004; Barnes, 1997; Bower, 2003; Brodnick, 2000; Chapman, 2006). For example, Adam (2004) notes that complexity theory is helpful when leadership agents in education must negotiate between external and internal pressures. Bibb (2000) addresses the dynamics of student networks and informal group formation.

From general complexity theory, complexity leadership theory has only recently emerged and lacks a comprehensive framework and large research base. Many scholars call for further research to fully develop CLT. In CLT, leadership is interpreted as “an emergent, interactive dynamic that is productive of adaptive outcomes” (Uhl-Bien et al., 2007, p. 299). Leaders serve various functions termed *adaptive, enabling, and administrative leadership* in an organizational network. As interaction occurs, the

complexity network diffuses *explicit* knowledge, creating a cascade effect of additional interaction and behavior, emerging as various outcomes—such as learning and adaptation. This represents organizational evolution (Schreiber, 2006).

Uhl-Bien and Marion (2007) note that when agents interact, they share beliefs and begin to correlate, representative of shared behavioral patterns, which in turn, attracts other agents. Often this phenomena is catalyzed by leaders (formal or informal), ideas or some other element termed a *tag* (Holland, 1995; Marion, 2002). Understanding agent realities of the ethics logic elements influencing their understanding and behavior will help us understand the dynamics that shape ethical behavior in an organization. Applying the concepts of CLT will amplify the leader’s ability to influence these ethics logic dynamics through leadership roles in *adaptive, enabling, and administrative leadership*; these each play a part in creating or mitigating beliefs, pressures, and other ethics-related entities to encourage ethical behavior, hence ethics logic adaptation over time.

Conceptual Framework

Jointly held relationships through member beliefs, pressures, and institutional agents, are common links among institutional constituents, and consequently influence their behavior. Collectively, these and other related elements, including “social and material expression in concrete practices...” (Biggart & Guillen, 1999, p. 725), represent the institution’s ethical logic. This evolves over time (Carley, 1999; Schein, 1992). The goal of organizational ethics reform is to influence evolution in the direction of *ethical behavior*, rather than toward *unethical behavior*. One of the largest challenges to ethics

reform is capturing an understanding of the dynamics between agents and other ethics-related elements—such as beliefs, pressures, and other entities within the institution.

Group norms, beliefs, and customs are embedded within agent knowledge, and can be changed through agent interaction (Carley, 1999). Agents are interdependent—each holds influence, and is influenced by others (Macy & Willer, 2002). Agents are also influenced by artifacts, or aggregates representing groups or organizations (Carley, 1999, p. 11), as well as by various core and environmental pressures (Kelley & Chang, 2007; Knight & Auster, 1999),.

Leaders also play a role in agent behavior; influence can be direct or indirect and shape follower performance (Lord & Maher, 1991). Over time, these changes can be powerful, long lasting and durable (Lord & Maher, 1991, p. 167).

The Higher Education Institution

Institutions of higher education can be represented as complex adaptive systems (Holland, 1995). From a complexity framework, universities consist of a network of interacting agents, where members share knowledge and beliefs. Agent interaction results in learning (Carley, 1999), changed cognitive constructs (Engle & Lord, 1997; Lord & Maher, 1991), and holds ethical implications (Bawden, 2000/2003).

Complexity leadership theory explains that within this organization, leadership acts as a *process* of interaction among interdependent agents (Uhl-Bien & Marion, 2007, p. 3). Complexity incorporates both positional and temporal leaders, as well as followers, who, when correlating, produce greater collective efficacy than the sum of individual agents (Uhl-Bien et al., 2007). Carley (1999) observes that organizational behavior is not

merely the behavior of individuals, “but emerges from the capabilities of entities and the dynamics by which these entities interact” (p. 3).

Definitions

I use following definitions throughout this study:

Ethics Logic: All institutional elements related to ethics, such as beliefs, practices, and content as understood by institutional members; it may vary by group and context—shaping actor roles (Biggart & Guillen, 1999; W. R. Scott, 2001).

Complexity leadership functions:

- *Administrative leadership* represents the actions and products of those positional leaders who plan and coordinate organizational activities (Uhl-Bien et al., 2007). Centralized control and traditional hierarchal structures typifies this function as bureaucratic.
- *Adaptive leadership* is a change movement in which adaptive outcomes emerge from agentic interaction (Uhl-Bien et al., 2007, p. 306). Interaction produces shared ideas, information, resources and other aspects, which represents no one person, but a collective emergence.
- *Enabling leadership* represents the actions of leaders who foster conditions for, and catalyzes, adaptive leadership by managing levels of agent interdependency, tension and interaction (Uhl-Bien et al., 2007).

Dynamic Network Analysis (DNA): an emerging research method that integrates qualitative data, a network analysis package, and a modeling platform (Carley, 2003).

Meta-network: a collection of networks, each network consisting of nodes (elements such as people, tasks, knowledge) and links (relationships) (Schreiber, 2006; Schreiber & Carley, 2008).

Tags: Tags are simply those things that “facilitate the formation of aggregates” (Holland, 1995, p. 12); that is, they bring together people and encourage interaction (Holland, 1995; Marion, 2002).

Agentic Correlation: when agents move toward convergence as a result of interaction, which fosters bonding (Uhl-Bien & Marion, in press).

Attractors: represent “a realm of behavior to which motion gravitates” (Marion, 2008, p. 8); in other words it is the description of an emerging, unique and identifiable pattern of faculty behavior that develops around a shared bond or construct.

Delimitations

This study was narrowed to the faculty population at a single institution; it wanted to capture a deep understanding of the university’s ethics logic as defined by participant realities. Attempting to research multiple institutions to achieve as deep an understanding would be unrealistic due to time constraints.

The theoretical sample was purposeful in that it sought members from each major college and administrators involved in ethics-related tasks. The later online questionnaire was limited to the university faculty population, consisting of those members defined as full-time and recognized as having faculty status.

Significance of the Study

Kelley and Chang (2007) believe that ethical behavior in higher education must improve to achieve a healthy college system (citing Anderson & Davies, 2000; Lampe, 1997; Roworth, 2002, p. 424). Northouse (2004) believes that ethical leadership research will assist leaders in strengthening leadership practice through better understanding of themselves and others (p. 318). Ethics violations by individuals affect more than the offending agent. Transgressions affect other members, as well as the institution, resulting in proximal and distal aspects of damage to each. Reputation, credibility, future support and other aspects of both members and institution suffer.

To restore or maintain confidence in higher education institutions, ethical leadership behavior begs for additional answers—beyond micro approaches addressing individual ethical behavior. Since leadership is more than a position—more a framework that incorporates an “emergent, interactive dynamic” within social networks, it is critical to examine both agent interaction at multiple levels, as well as mechanisms that foster or enable evolving outcomes, such as learning and adaptation (Uhl-Bien et al., 2007, p. 299). In other words, for successful evolution of institutional ethics logic, desired outcomes cannot be forced by bureaucratic agents, but enabled by supporting and nurturing influence and mechanisms. All education members have the ability to foster some of the mechanisms of ethics at their level and beyond—incorporating role-modeling, teaching, conflict resolution and many other constructs.

This study will contribute further knowledge of the dynamics between ethics logic constructs (artificial and human), allowing leaders to influence the evolution of their

organizational ethics logic in a positive direction. Research can provide new thoughts and understanding for leadership ethics reform across organizational and group levels (Uhl-Bien & Marion, 2007). Rather than obtaining a snapshot of the moral condition as it currently exists, this work will aid in understanding how dynamics influence the evolution of institutional ethics belief structures over time. Understanding an organization's dynamics will allow reasoned manipulation for *projecting* ethical leadership reform possibilities, so that institutions may develop an optimal course of action based upon their unique conditions.

Organization of Study

There are six chapters to this study. The first chapter provides the background, problem and purpose for the study of ethics logic and ethical leadership in higher education, as well the methodology, theoretical foundations, key terms, and significance of this study.

Chapter Two provides a literary review of fundamental ethical leadership constructs to *operationalize* ethical leadership. Complexity leadership theory is included to expand focus from a leader-centric lens, to a larger, panoramic lens of leadership dynamics at the meso-level and across units. This acknowledges that the higher education system or organization is greater than the sum of its parts—incorporating informal leadership processes and the efficacy of collective interaction, producing nonlinear outcomes.

Chapter Three presents the methodology: the setting, participants, design, research instruments and data collection methods. Results and analysis are presented in

Chapter Four. Chapter Five presents the data generated from what-if scenarios of various ethics logic structures to gain a fuller understanding of selected dynamics; it includes evolutionary what-if trajectories of selected ethics entities. Chapter Six presents a findings, conclusions, implications, and recommendations for further research.

CHAPTER TWO

REVIEW OF LITERATURE

The purpose of this chapter is to review literature linking ethics and leadership within organizations, and place it within a complexity-leadership-theory framework in higher education. In particular, I examine those elements linked to faculty patterns of behavior involving institutional ethics. Living systems or organizational networks of interactive, interdependent agents can be represented as complex adaptive systems (Holland, 1995; Marion, 2008; Miller & Page, 2007). To adapt to both internal and external pressure, organizations must be dynamic—in that patterns of behavior are based upon the entities with which agents interact and produce emergent, nonlinear, and unpredictable outcomes (Goldstein, 2008; Marion, 2008). Within complexity leadership theory, organizational dynamics are influenced by various leadership functions (Marion, 2008; Schreiber, 2006; Schreiber & Carley, 2008; Uhl-Bien et al., 2007); these dynamic functions can suppress or magnify organizational outcomes (Goldstein, 2008; Marion, 2008).

Ethics, that is the protocol that guides agentic interaction and resulting collective patterns of behavior, plays an important role in influencing social outcomes. Combined with the structure and elements of an institutional network, agentic interaction incorporates more than people; it incorporates artificial agents (books, policies, etc.) and other entities (Carley, 1999). Collectively speaking, these various elements—henceforth

referred to as entities, each play a particular role in the dynamics of institutional ethics logic.

This literature review incorporates three constructs vital to this research: ethical leadership, complexity leadership theory, and entities within the environment of a higher education institution that influence faculty ethical behavior. I first examine the dimensions of ethics and ethical leadership as it relates to agentic interaction, leadership and organization relationships. Next, I explore complexity leadership theory and the agentic interaction and dynamics found within social complexity networks. Lastly, I review agent beliefs, perceived pressures, and the influence of institutional entities set within a higher education context.

The focus of this research is on ethics logic and leadership behavior within higher education. Complexity leadership theory shapes the lens of this study. This study proposes that faculty members hold some measure of influence over other institutional members (peers, staff members, students) in varying contexts. I begin on the presupposition that faculty members are leaders due to their influence in student development and varying roles on peer committees and boards, and that their behavior acts as a role-model--particularly for students and new organizational members. I assume that collective member expectations (norms, beliefs, and observed behavior) represent a pattern of behavior that is correlated with ethical behavior. I also rest on the belief that for ethical behavior to emerge, organizational networks are reinforced with structure and processes that facilitate or suppress such behaviors. In addition, such structures and

processes can emerge from informal agentic interaction (adaptive leadership) enabled by informal leaders (enabling leaders), and supported and guided by administrative leaders.

Ethics and Ethical Leadership

Leadership within organizations occurs within a network of relationships and interactions (Schreiber, 2006; Uhl-Bien et al., 2007), where all interactions have ethical implications (Bawden, 2000/2003, p. 175). People are linked to other people, and to knowledge, beliefs, resources, tasks and other constructs (Carley, 1999; Carley & DeReno, 2006). Collective and individual behavior emerges from interaction; as agents interact they create and maintain “norms, regulations, institutions” (Carley, 1999, p. 9). Human agents are bounded by rationality (Auyang, 1998; Kiel & Seldon, 1998; Simon, 1957) and ethicality (Chugh, Bazerman, & Banaji, 2005; Rhode, 2006). All of these things influence the emergence of collective patterns of behavior among organizational agents—to include ethical behavior. Understanding the realm of ethics is critical for leaders to successfully resolve organizational issues (Burns, 2003; Rhode, 2006).

Ethics Background

Ethics is the attempt to influence agent conduct by reason within the context of giving equal consideration to those affected (Rachels, 1986). It is a framework of principles and rules that channel agent thought and behavior toward acceptable collective standards. Bawden (2000/2003) proposes that all agent interaction influences others both directly and indirectly, and that interactions inherently hold ethical implications (p. 175). Ethics is pluralistic, balancing the needs and rights of each agent to that of every other agent (Gini, 2004; Guyer, 1998, 2004; Rawls, 1967/2003). It is “a communal, collective

enterprise, not a solitary one. It is the study of our web of relationships with others” (Gini, 2004, p. 28). Ethical behavior incorporates the concepts of fairness and respecting others (Bawden, 2000/2003; Northouse, 2004). Since all persons share commonalities of humanity, Kant’s view was that all persons have a right to be respected as individuals (T. E. Hill, 1998) and that moral duties include the prevention of harm to the dignity and rights of others (Guyer, 1998, 2004).

Sometimes there may be confusion in the use of the words ethics and morals. However, many authors and philosophers use them interchangeably. Ciulla (2004) explains, tracing the word ethics (*ethikos*) to ancient Greece and its translation into the Latin word *moray* (moral) by the Romans (p. xvi). Some literature refers to *moral* in the context of right or wrong, and the term ethics in a context of a more general Socratic “how we ought to live” (Rachels, 1986, p. 1). This work uses both words interchangeably.

Ethics and Cooperation

Ethical behavior acts as a protocol that promotes cooperation, collaboration and interaction between agents. Thomas Hobbes alluded to this when he explained the role of government as one which counters the natural law of self-interest and guides collective harmony (Rachels, 1986; Sorell, 1998, 2002). Cooperation outcomes are critical to organizational survival (Beckner, 2004; Marion, 1999). These precepts begin to focus leader attention on the role of ethics in an organization. First, leaders are cautioned about the importance of fostering collaborative team dynamics and the understanding that collective effort aids organizational harmony. Next, leaders are made aware of the

balance between the needs and rights of all agents (Gini, 2004; Rawls, 1967/2003) and integrates consideration and respect into organizational norms (Guyer, 1998, 2004; T. E. Hill, 1998). The philosopher Kant also emphasized that one should treat others as an end and never a means—conceding that people hold both value and dignity (Rachels, 1986). Behaving in such a way, as well as meeting the behavioral expectation of others, agents gain credibility (Meda, 2005). Credibility generates trust, trust leads to greater collaboration. Solomon (1998/2003) notes that “...without trust there can be no cooperation, no community, no commerce, no conversation. And in a context without trust, of course, all sorts of emotions readily surface, starting with suspicion, quickly escalating to contempt, resentment, hatred, and worse” (p. 207). As the level of trust increases, the level of knowledge and the willingness to share it, also increases (Reeves-Ellington, 2004).

Ethics and Leadership

Ethics is embedded within the leadership process (Bass & Steidlmeier, 1999; Burns, 1978/2003; Northouse, 2004; Yukl, 2006). Ciulla (2003) explains this “as a social construction shaped by the moral values and the cultural practices and beliefs of a society” (p. 229). This places leaders within an ethical role in organizations—one that is tied to the external social values and norms of society, the institution, and those within the group (Burns, 2003). This ethical leadership role cannot be one of neutrality (Burns, 2003; Sendjaya, 2005). Sendjaya (2005), citing Gini (1995), states “there is no leadership apart from morality since all forms of leadership is value-laden” (p. 76). Heifetz (1994) stresses the need for leaders to take clear ethical positions (as cited by Wong, 1998). This

lack of moral neutrality implies that leaders must make clear ethical decisions—through cognitive thought and behavior, choosing the moral right and rejecting the moral wrong, all the while considering the well-being of the whole. Yet, Burns (2003) points out that moral leadership requires the moral decisions and behavior by many agents rather than a singular leader; it permeates the collective organization. This is where we begin to see a push away from the traditional, singular leader on which literature has focused; it is an important point that we will expand later within a complexity network context.

In today's environment, agents expect ethical leader behavior—beyond legal frameworks—they want leaders who are honest (Tyler, 2005a). Consequences of ethical leader behavior include agent trust, contentment, and retention, as well as the display of ethical behavior from themselves (Tyler, 2005a). Gini (2004) notes that leaders set an environmental “tone” and “shape the behavior of all those involved in organizational life” (26). Leader role modeling establishes ethical expectations and standards (Gini, 2004, p. 28). Citing Aristotle, Gini (2004) remarks that the moral *awareness* of agents only emerges through observation, or example (p. 27). This implies that role modeling, or leading by example, is one of the most effective ways of teaching others behavioral expectations. Gini (2004) astutely points out though, that because ethical behavior comes from *within*, for agents to attain the moral normative, they must engage in a process of “reflection, evaluation, choice and conscious intent” (p. 27). This cognitive process holds strong implications for enabling leadership functions within organizations.

From a leadership perspective, there is real danger when violating the ethical expectations of followers. Dangers to ethical leadership include organizational moral

inattentiveness, complacency, and incremental ethical infraction (Bird, 1996). These, and other lapses regarding ethical behavior, lead to acts of moral negligence. When practicing unethical or weak behavior, the leader loses credibility and effectiveness (Tyler, 2005b; Yukl, 2006). For example, if the leader is perceived as acting in self-interest, organizational members lose respect and trust for the leader (Tyler, 2005b). Lacking respect, the leader loses the authority and follower affection needed for strong relationships and enforcing ethical standards. In addition, the leader becomes a poor role model and a detriment to the organization.

Northouse (2004) observes that under most conditions, leaders hold more power than followers, and that leaders have more opportunity to influence followers. With their power and role, leaders also have more responsibility on *how* they influence others (Northouse, 2004; Yukl, 2006). Ethical leadership implies that leaders will use power and influence, as Yukl (2006) states, “wisely and well” (p. 418). It implies moral principle and equity in ethical application, for both the leader and the follower. Leaders must monitor organizational ethics for the good of the group and the health of the organization. “Leaders must take a role in developing, expressing, and defending civility and values (DePree, 1989, p. 21).

Ethics and Leadership Theories

Three of the most prominent leadership theories that incorporate ethical constructs are transformational, charismatic and authentic leadership. Early on, these theories were subject to questions of moral purpose, and challenged in terms of good or bad—a Gandhi or a Hitler. Theoretic examples of distorted leader ethical influence include the *unethical*

(Howell & Avolio, 1992), *pseudo-transformational* (Bass & Steidlmeier, 1999), *narcissistic* (Rosenthal & Pittinsky, 2006), or *inauthentic* (Michie & Gooty, 2005); these emerged as types of leader behavior focused on self. For example, Howell and Avolio (1992) point to the dark side of leader ethics, questioning what makes some charismatic leaders promote group, organizational, or societal interest, rather than manipulating others for self-interest. This comparison and contrast of moral focus led researchers to clarify theoretical moral and ethical aspects upfront. For example, when describing their theory of charisma, Klein and House (1995) use terms such as ‘prosocial assertiveness’ and ‘concern for the moral exercise of power’ (p. 184). To separate those considered ethical from those unethical, a qualification of socialized leadership was developed. Howell and Avolio (1992) as well as Bass and Steidlmeier (1999) view a socialized leader as one acting for the common good, influenced by ethics and authenticity (as cited by Michie & Gooty, 2005).

Prosocial leadership is associated with strong leader values and concern for the welfare of others (Michie & Gooty, 2005; Sosik, Avolio, & Jung, 2002). Morals and internalized values strongly influence leadership cognitive thought and behavior—both focused on the individual follower and the collective good. Additionally, the leader’s internalized values and actions are congruent and reliable. Michie and Gooty (2005) explain that a leader acting in a manner consistent with self-transcendent values will be more dependable and authentic (p. 454).

Prosocial leadership concepts do not hold the view that human imperfections and errors are absent. For example, Gardner, Avolio, Luthans, May, and Walumbwa (2005),

citing the work of Erickson (1995a), explain authenticity is not limited to a condition of either authentic or not authentic. Rather, authenticity is linked to a continuum of credibility measured by the perceiver, and can shift in relation to foundational agentic relationships—such as trust, confidence, respect, and organizational well-being. These are congruent with the concept that leaders are given authority to lead by the followers (Greenleaf, 1977/2003). In other words, leadership ethicality and credibility are held in the *realities* of organizational members.

Ethical Leadership Challenges: Agentic States, Organizational Conditions

Organizations and their leaders face an array of ethical challenges. Many of these challenges lay within the individual agent; examples are usually those motivations of self—wants, needs, aspirations and goals (Burns, 2003; Mavrinac, 2006). Protecting self is a decision-making imperative (Mavrinac, 2006). Additionally, agentic bounded rationality dampens the quality of general decision making (Chugh et al., 2005). Ethical bounds involve a self conception that one is “moral, competent, and deserving,” and such a concept clouds one’s ability to detect conflicts of interest (Chugh et al., 2005, p. 75). Ethical dampening mechanisms include displacement of responsibility, socialization to expedient norms, and bending to peer pressure (Rhode, 2006, p. 27).

A primary challenge to the facilitation of agentic ethical behavior is directly related to the way leaders address issues of fairness or social justice. Citing a variety of research, Tyler (2005b) states that agents balance their actions based on societal values of both morality and justice equally (p. 16). Tyler (2005b) remarks that if agents do not perceive the decision to be fair, they are more likely to base a decision to accept the

moral interpretation in a manner of self-interest (p. 18). This aspect of agent reasoning highlights the need for leaders to communicate not only what the moral decisions are, but to ensure the group is presented with reasoning that seems fair. If perceived as *fair*, agents are more likely to support the moral decision, regardless of self-interest (Tyler, 2005b). This perception of fairness holds significant implications for institutional and formal leadership.

Leaders face challenges to integrating agents into an aggregate that shares collective ethical understanding and practice. Organizational subunits may develop divergent norms and expectations. The rationality of subunit decision makers is unduly influenced by feelings of loyalty and generosity to their group (Chugh et al., 2005, p. 76). Bird (1996) points out that the human condition of weariness and daily distractions can result in lowering agent moral guard—where “stable and successful organizations” can fall into a complacent state (p. 185). Moral lethargy is not only a result of weariness, but may be influenced by what Bird (1996) refers to as competing values, commitments or even idealistic cause. Resolving competing values is a prime leader role (Burns, 2003). Leaders must foster an environment of ethical awareness—where morals are openly discussed. Moral interaction can either “deaden or enliven the character of the communication between the parties” (Bird, 1996, p. 144). It is distinct in that it establishes, amplifies or dampens normative expectations, as well as providing a vehicle for gaining consent, or challenging the behavior of others (p. 199). Bird (1996) notes that to stay “morally alert,” organizations also require ongoing learning and assessment (p. 185).

Even after achieving group correlation of beliefs and values, it may not last. Bailey (1988/2003) notes how societal culture and leadership expectations can change. Over time, as contexts change, societal attitudes change. What were acceptable leadership processes in the past, may no longer be valid (Bailey, 1988/2003, p. 245). This may explain part of the reason Burns (1978/2003) believes that member conflict or tension centered on values is unavoidable, and leaders must address it rather than ignore it. Tension created by changing contexts and group understanding would reflect the very nature of organizational behavioral adaptation.

Bird (1996) refers to the works of Geertz (1973) and Weber (1978) in a concept of culture as “webs of meaning by which people communicate and make sense out of their lives” (p. 144). For this web, or network to function, the organization must maintain open channels for moral discourse. Interaction breeds better understanding and internalization of ethical frameworks. When there is insufficient interaction, it encourages persons to solve problems without addressing moral aspects (Bird, 1996). Common to pluralistic organizations, there is less discourse and understanding of assumptions and agreed upon rules (Bird, 1996). Moral engagement transmits and amplifies a message of respect for others, acknowledges the importance of ethics to the group, and shows submission of self-interest to the greater good of the group.

Maintaining an organizational *web of meaning* may involve more than verbal encouragement for agents to interact and discuss moral issues. It suggests that leaders include a solid framework for ethics to take center stage in group life. To operationalize values, requires not only education and leader advocacy, but also what Kelley, Agle, and

DeMott (2006) classify as moral infrastructure. Examples of moral infrastructure include things such as codes of conduct, training sessions, and ethics reporting hotlines (Kelley et al., 2006). This infrastructure counters some of the challenges noted by Bird (1996) by providing mechanisms that dampen unethical behavior prevention, detection and correction.

When Institutions Ethically Fail

Leaders have a significant impact on institution survival (Yukl, 2006). They can make conscious and unconscious decisions that are unethical (Chugh et al., 2005). Beu and Buckley (2004) point out that leaders can corrupt the organizational culture, influencing other agents to knowingly or unknowingly engage in unethical behavior (as cited by Yukl, 2006, p. 418).

There are of course, various collective repercussions when institutions fail ethically. External agents or organizations sometimes create ethical counterbalances when organizations do not—creating regulatory guidance, policy, and other bureaucratic mechanisms. State open-meeting laws are a good example of one of these external safeguards stimulating ethical behavior in publicly-supported organizations, such as higher education (Kaplin & Lee, 2006). Transparency measures in governance--decision making, policy creation, and other actions suppress rumor and gain member confidence, as well as encourage participation. Also, the more moral members brought into decision-making, the more moral safeguards are brought into governance. These various options combat bias, self-deception, and collusion.

Bird (1996) reminded us that the practice of true ethics is “voluntary” (p. 28), while Rachels (1986) stresses that agents must also use *reason*. The premise is that leaders and agents have internalized values and act for the good of others, not as a response to a requirement or a fear of being punished. Tyler (2005a) warns us against this kind of a transactional approach to ethics. Ethical behavior relying solely on the enforcement of rules stresses a concept of minimal ethical behavior—if it is not illegal, it must be ethical. As Bird (1996) noted earlier, this allows leaders to lean toward self-interest—away from true ethical considerations. For leaders to share an ethical ethos with the group, they must rise above minimal requirements and meet agent needs—particularly since agents expect ethical leaders to surpass requirements of law (Tyler, 2005a).

The power of ethics rests on social constructs—agent actions are both influenced and judged by the societal values of collective agents (Tyler, 2005b). If leaders want to remain credible and effective, they must meet the expectations of the followers—or even more powerful, *share* expectations of the followers as noted by Burns (2003). Transparency of governance challenges followers to detect improper behavior—and that feeds the furnace of credibility.

Although organizational dynamics between positional leaders, informal leaders and other agents may shift through time, ethical agentic interaction balances power and influence with responsibility and obligation. Leading ethically is not easy (L. Hill, 2005); both knowing what is right and doing what is right can be challenging (Beckner, 2004). Yet, whether positional or informal, leaders must facilitate common values, provide for

agent needs, and link actualization among agents. Ethical constructs are vital for trust and understanding to develop among agents, hence powering the efficacy of group outcomes.

Ethics and Higher Education

The public expects education to play a role in the learning of values and morals (Reimer, Paolitto, & Hersh, 1986). There are calls for improved leadership ethics in education (J. Evans et al., 2006; McCabe et al., 2006; Moberg, 2006; Reimer et al., 1986). Within their responsibilities, leaders in higher education face daily situations where most decisions hold ethical consequence (Beckner, 2004; Reimer et al., 1986). Yet, educators may feel ethical and moral reflection and questions are far distant from daily life (Beckner, 2004; Reimer et al., 1986).

Not only must faculty members work among themselves and within institutional agencies, they have a significant role to play in the moral development of students (Reimer et al., 1986). College is an important time of student moral and character development (Chickering & Reisser, 1993). Not only that, but students want to understand and learn how deal with ethical challenges (Henle, 2006). Institutional members influence the character and behavior of students (Kelley et al., 2006; Pascarella & Terenzini, 2005), as well as various aspects of the institution itself (Dey & Hurtado, 1995/1999; Weidman, 1989/1999). Weidman (1989/1999) notes the importance of leading new members of an organization to adhere to institutional norms (citing Clausen, 1968, p. 117). Evans (1987) highlights moral behavior as an important developmental goal in higher education (as cited by N. Evans, Forney, & Guido-DiBrito, 1998). Astin and Antonio (2004) look specifically at how student interaction with the institution over a

four year period affects their character, measuring civic and social values, cultural awareness, volunteerism, raising a family as a goal, religious beliefs and convictions, and understanding of others. Character development generally falls upon faculty members—who teach, advise, and counsel, in various capacities; whether it is in the form of an academic advisor or campus club leader.

In addition, faculty members hold formal and informal leadership positions among peers—in various campus roles and organizations, as well as professional associations. Campus roles include deanships, department and committee chairs, and faculty governing bodies. Professional collective roles include association officers, conference chairs and discussants, as well as editors of scholarly publications. How then do these faculty leaders resolve the ethical issues that Burns (2003) describes as unavoidable?

Three Challenges

Major challenges exist for faculty and staff in teaching and modeling ethical behavior in higher education; in particular, three to consider are:

Faculty Behavior.

In their research based upon a random sample of 2,500 full-time faculty members nationwide, Knight and Auster (1999) found that of 804 respondents, over half received student complaints of unethical behavior by another professor, and almost half received peer complaints about other faculty members (p. 194). McCabe, Butterfield, & Trevino (2006) place responsibility for poor student ethical behavior on college faculty by failing to counter student perception of peer cheating, reducing student ability to cheat, and

explaining clear parameters for collaborative versus individual work (p. 301). The authors found that “many students perceive that faculty fail to monitor academic dishonesty and fail to respond or take action when cheating is reported” (p. 301). McCabe et al. (2006) explain the consequences of this perception:

If students believe that faculty members either don't care or don't want to get involved in cases of academic dishonesty, they are less likely to get involved themselves. Why would a student risk reporting a peer, a difficult thing to do under any circumstances, if the faculty member is unlikely to take action? And, if faculty members take no action, students can only believe that cheating is going to be commonplace. (p. 302)

Some common barriers suppressing whistle-blowing are fear of reprisal, vagueness about what constitutes a violation, and a feeling that nothing would be done even if a violation were reported (Messick, 2006, p. 109). Anonymous reporting methods, such as a reporting hot line, help alleviate many agent's fear of retaliation (Messick, 2006, p. 109).

Lack of Understanding or Interest.

In a survey of business school deans, Robertson (2003) found that the greatest impediment to ethics instruction cited by respondents was “a lack of faculty interest” (as cited by J. Evans et al., 2006, p. 279). Another challenge noted by Evans et al. (2006) is that integration of ethics throughout curriculum is “difficult to monitor and puts the responsibility of ethics education in the hands of faculty who may have little expertise or interest in the area...” (p. 279). The authors express concern that faculty may not fully

grasp ethical theory or constructs, or may not understand their role in ethics instruction (J. Evans et al., 2006, p. 282). Barriers to ethics across the curriculum are, in large measure, a result of “faculty inertia, self-interest, and skepticism” (Rhode, 2006, p. 49). “Students learn from subtexts as well as texts, and silence is a powerful socializing force” (Rhode, 2006, p. 48). Schools are value-laden and faculty are moral educators, regardless of the subject matter they teach (Reimer et al., 1986, p. 8) We do know that failure to address ethical issues can lead to unchecked, unethical behavior (Folse, 1991). Collins (2002) observes classroom civility and behavior as group norms, influenced by various teacher interventions.

Lack of institutional support.

Again, in their research involving 2,500 full-time faculty members nationwide, Knight and Auster (1999) found 52 percent of those surveyed declared they reported unethical behavior by colleagues to administrators—with 61 percent saying that no action was taken (Knight & Auster, 1999, p. 203). Knight and Auster (1999) elaborate further, reporting that “Of the 49 cases that went to a hearing, 19 (39 percent) were settled before a finding was reached, 13 (27 percent) found against the accused faculty member, and 17 (35 percent) found in favor of the faculty member” (p. 203). Knight and Auster (1999) warn current outcomes—real or misperceived:

...would imply not only a breakdown in communications between administrators and faculty, but also a weakening of the institution's credibility in dealing with faculty misconduct. To the extent that an administrator acts, or is believed to act,

unilaterally, the more likely there will be confusion or conflict about the institution's commitment to upholding standards of professional ethics. (p. 206)

These findings underscore the importance of ethical behavior among institutional members, as well as the support and understanding that “higher education is an important conduit for the transmission of values in society” (N. Evans et al., 1998, p. 185).

Rhode stresses the importance of improving ethics—even beyond higher education, claiming “any effective strategies for promoting moral leadership will require more leadership from the academic community (Rhode, 2006, p. 51).

Institutional Ethics Logic

Institutional logics include beliefs, normative pressures, as well as “social and material expression in concrete practices...” (Biggart & Guillen, 1999, p. 725). Ingrained in organizational understanding and culture, these elements may vary by group and context (Biggart & Guillen, 1999). From an institutional ethics perspective, organizations embody a set of shared values, norms and entities that shape members (Schein, 1992; W. R. Scott, 2001). These are influenced by the institution’s environment and the goal to seek legitimacy (J. Evans et al., 2006). The purpose of this work is not to determine where all member beliefs, pressures, and organizational agent behaviors are derived; it is, rather, to determine what exists in the realities of organizational members, and explore some of their dynamic relationships.

For this study, the institution’s ethics logic is represented by a set of shared member commonalities tied to institutional ethics—their beliefs, pressures, and entities which influence ethics understanding and behavior. Members that hold similar sets of

beliefs and knowledge, and other ethical entities share common links among each other. Consequently, resulting interactions influence individual and collective behavior.

Because organizations and their culture change over time (Carley, 1999; Schein, 1992), implications are that an institution's ethics logic also evolves over time. By definition, the goal of organizational ethics reform is to influence evolution in the direction of *ethical behavior*, rather than toward *unethical behavior*. One of the largest challenges to ethics reform is capturing an understanding of the holistic dynamics between member work-related ethical beliefs and knowledge, the pressures related to campus life, and other influencing agents or entities that compose the institution's collective ethics logic. In other words, trying to "fix" specific issues or "areas" such as student ethical problems may be difficult if other institutional elements (institutional ethics, resources, etc.) are not examined.

Beliefs and Knowledge

When organizational members enter an organization, each holds a unique set of *individual beliefs* (Carley & Hill, 2001). In some part, members also adopt institutional collective identity structures. Member behavior is influenced by their beliefs—whether arising from individual identity or group identity (Schwandt, 2008).

Each group of agents hold varying group norms and customs (Schein, 1992). These group norms, beliefs, and customs are embedded within agent *knowledge*, and can be changed through agent interaction (Carley, 1999; W. R. Scott, 2001). Knowledge *content and structure* determine agent action capability (Carley, 1999, p. 5). Social networks represent both individual knowledge and shared group knowledge (Carley,

1999). Parson (1937, 1951) believed that agents act and conform through internalizing observed organizational norms, or patterns of behavior (as cited by W. R. Scott, 2001, p. 15). This would imply, for example, that by observing immoral behavior, agents could internalize them as institutional norms. Access to the beliefs and knowledge of other agents can be characterized by the type and amount of agent interaction within a network of relationships (Carley & Hill, 2001). Within complex adaptive systems, agents are interdependent—each holds influence, and is influenced by other agents. This influence may have both a proximal and distal affect in both agent beliefs and behavior (Macy & Willer, 2002).

Higher education faculty belief structures involve social and institutional influences and perceptions (Robinson-Zanartu et al., 2005). For example, Folsle (1991) notes that higher education reinforces prominent social values such as, “the desire to make money, attain power, and achieve fame at any cost...” (p. 347). In their study of faculty ethical beliefs, Mathur and Offenbach (2002) found perceptions that reporting unethical behavior could result in retaliation in varying forms—loss of students, accusations of harassment, or lawsuits (as cited by Robinson-Zanartu et al., 2005, p. 321).

Collectively, there is a general lack of agreement by institutional members on what constitutes unethical behavior (Jordan et al., 2004; Kelley & Chang, 2007; Valey, 2001). In his dissertation examining the divergence of two cultures in higher education—that of administration and that of faculty—Adam (2004) traced group beliefs to both institutional and discipline (professional) influences. This implies that even among faculty (who share institutional influence), there are varying ethical belief structures

related to work. This situation would indicate the potential for a disparate collective identity across campus. This poses significant challenges to solving ethical problems or addressing ethical issues—something educators do each day (Reimer et al., 1986).

Pressures

Agentic and institutional ethical behavior can be influenced by various pressure entities (Gell-Mann, 1994/2003; Kelley & Chang, 2007; Marrella, 2001). Gell-Mann (as cited by Marion, 2002, p. 306) believed that societies and institutions maintain a schema of “a set of customs, traditions, myths, laws...” (p. 421). Institutional pressures exist to ensure all agents hold similar cultural understanding and values, and to prescribe collective behavior (Gell-Mann, 1994/2003). DiMaggio and Powell (1983) note that pressures within organizations lead to isomorphic states, where individuals or organizations tend to take similar forms. Of course, this collective resonance is not always in a desired form.

Institutions sometimes create unhealthy levels of pressure—emerging from such forces as the immense power held by leaders, an unrealistic emphasis to produce, or intense competition (Yukl, 2006, p. 426). Gell-Mann (1994/2003) observes that human fallibilities of emotion and power in complex organizations may result in maladaptive schema attributed to various pressures. Implications move beyond proximal unethical behavior patterns and may amplify maladaptive schema with corresponding behavior. For example, there are instances where leaders combat unethical behavior with unethical behavior, as sometimes the only seemingly way to do it (Yukl, 2006).

Academic pressures play a strong role in ethical behavior in higher education (Kelley & Chang, 2007; Robinson-Zanartu et al., 2005). For example, Kelley and Chang (2007) posit that some pressures, such as *resource constraints* and *publishing expectations*, may negatively influence agent ethical behavior. Institutional pressures may also include those such as student retention or satisfaction, or obtaining government grants (Kelley & Chang, 2007). Additionally, there are also what Knight and Auster (1999) term *cross-pressures*—where members are torn between reporting alleged violations by peers and the desire to avoid potentially unpleasant confrontations with institutional members. Merton (1968) warns that sometimes agents perceive organizational or environmental pressure as forcing unethical behaviors (as cited by Folse, 1991, p. 346).

Agents sometime act based upon self-imposed pressures, particularly pressure based on self-interest (core). These pressures include that of seeking success under the weight of tenure or fame (Robinson-Zanartu et al., 2005). Intertwined personal and organizational pressures for *success* create a dynamic that is ripe for ethical leadership failure (Ciulla, 2003, p. 77). Over time, success can propagate expectation of further success and make failure so significant, that ethical principles are put aside.

Ethical conduct can also be affected by the pressure of *time* (Luban, 2006; Robinson-Zanartu et al., 2005) Luban (2006) highlights how the factor of time is managed both by individual and organizational mechanisms (p. 83). He observes that team decisions can have a benefit of multiple perspectives, discussion, and placing safeguards on time pressures (p. 83). Leaders can also mitigate tenancies toward self

interest and stimulating organizational pressures by seeking the perspective, opinions, and dissents of others (Rhode, 2006, p. 40).

Institutional Agents

Institutional agents can be individuals, artifacts, or aggregates representing groups or institutions (Bankes, Lempert, & Popper, 2002; Carley, 1999b). For example, a university's Institutional Review Board (IRB) can be viewed as both an aggregate (collective group of agents having similar views) or as a single agent (also known as a meta-agent). Institutional agents hold influence based upon the authority of their position or the perception by individual members that they *represent the collective*. They are not considered "neutral" (W. R. Scott, 2001, p. 54). These official agents of the institution, wield what Scott (2001) refers to as institutional regulatory attributes such as "force, fear, and expedience" (p. 53). For example, agents such as presidents, provosts, deans, and their representatives, can set policy, make campus-wide changes or decisions affecting entire colleges and departments. Leaders influence the behavior and attitudes of others (Gardner et al., 2005; Kark & Van Dijk, 2007). As noted earlier, members may perceive the behavior of peers and others as representing institutional norms—having a direct impact on individual member behavior or beliefs.

Institutional agents may intentionally or unintentionally influence the behavior of institutional members. Lord and Maher (1991) observe that leaders can have direct and indirect influence on agent behavior and tasks that shape their performance. The authors provide examples of direct influences such as setting goals or providing agent feedback (p. 163). Indirect influences, also described as cognitive intervening mechanisms, can

take the form of changes in culture, socialization, or the cognitive schema of teams (Lord & Maher, 1991, p. 165). Over time, these changes can be powerful, long lasting and durable (Lord & Maher, 1991, p. 167).

Artificial agents can also influence both agent knowledge and behavior. Agents can be “constrained” (Carley, 1999, p. 8) or enabled by external constructs. Carley (1999) notes that some constraints are imposed by social structure and culture. Artificial agents include such things as papers, books, computers, etc.; these agents hold knowledge and communicate that knowledge—they can be connected to people in some way (Carley, 1999). It is the connection (relationship type), rather than the agent type, that “becomes the primary boundary determinant when collecting network data” (Carley, 1999, p. 8).

Other entities such as tasks or knowledge set within the institution may influence ethical behavior. Frequent exposure to ethical concepts seems to influence a member’s ethical thought (Folse, 1991; Reimer et al., 1986). In her research, Folse (1991) correlates organizational members possessing *a more conscious* ethical state manifested in ethical awareness, by exposure to ethical artifacts in their environment (p. 347).

For the purpose of this study, institutional ethics logic is composed of the *commonalities* (or realities) held by members regarding: 1) individual ethical beliefs and knowledge, 2) perceived pressures existing within university and scholarly life, and 3) the influence of institutional agents and or other entities.

Organizations as Networks

Earlier, we noted that some scholars viewed organizations as composed of “webs,” or networks. Social networks are viewed a set of relationships between things—

people, tasks, resources, and so forth (Carley, 2003; Goldstein, 2008; Kilduff, Crossland, & Tsai, 2008). Relationships are represented by links, or ties, each representing a particular type of relationship, such as trust, affection, dislike, etc. (Carley, 2003; Goldstein, 2008; Kilduff et al., 2008). The nature of these connectivities determine organizational dynamics at a particular point in time (Goldstein, 2008).

Agent Interaction within Networks

Collective and individual behavior emerges from interaction; as agents interact they create and maintain “norms, regulations, institutions” (Carley, 1999b, p. 9). Agent interaction leads to various outcomes. Carley (1999) stresses that “interactions or decisions lead to learning and change in mental models which in turn leads to change in interaction or decisions (p. 12). Interaction also leads to identity reformation for self and the perception of others (Carley, 1999). “Identity has a cultural component in terms of the pattern of knowledge held by the agent and the agent's knowledge ties to others” (Carley, 1999, p. 13).

Relationships among agents form and develop between repeated interactions over time, resulting in categorizations and expectations, as well as motivations for each agent (Lord & Maher, 1991, p. 165). The greater number of interactions, the greater the cognitive schema congruence among agents (Engle & Lord, 1997, p. 991). Moreover, shared cognitive similarity increases agent identification with the leader and contributes to common understanding among agents (Engle & Lord, 1997, p. 991). This process of fusing strong relationships begins to describe the collective strength of organizational networks.

However, there are both proximal and distal influences within agentic interaction. Macy and Willer (2002) point out that not only do agents exert influence on other agents, but they are also influenced, as well cascading influences later passed to others—a more dynamic series of higher-order processes capturing a continuous, cascading series of interactions. Auyang (1998) notes the behavior of one agent affects another within a qualified range. Leadership study often examines this effect in terms of power or influence.

Humans are social, so “agents interact interdependently” (Macy & Willer, 2002, p. 146). In varying degrees, each relies on other agents. Even more so when engaged in a collective endeavor or purpose. The strength of interdependent relationships among agents can be measured with values given to component coupling (Klir, 1969, p. 44; Schreiber, Marion, Uhl-Bien, & Carley, 2006). Even though human behavior can emerge as group cohesion and congruence of beliefs and goals, it remains unpredictable (Marion, 2008). Bounded by rationality and ethicality, agent behavior can be difficult to forecast, and thus can be nonlinear (Kiel & Seldon, 1998). Human agents are enclosed by complexity embedded in a context of evolution, diversification and instability (Prigogine, 1987/2003, p. 410).

Organizational Environments, Change, and Culture

Organizations are surrounded by a turbulent, complex environment (Ireland & Hitt, 1999; Kiel & Seldon, 1998; Marion, 2008; Marshak, 2004). Environments, as well as a wide range of organizational subunits, undergo constant and sometimes erratic change, each actor influencing the other within a *complexity network framework*.

Resulting behavior will reveal patterns that are sometimes stable and other times unstable over a given period. Erratic or nonlinear behavior within complex systems is temporal and represented by disparate cause and effect relationships—significant change can result in a minimal effect, and minor change resulting in a large effect.

Although small organizations facing slow degrees of change might more likely fall under simple linear behavioral models, in most cases this is an artifact of the past. With a turbulent environment marked by increased rapidity of change (Marshak, 2004), even institutions of higher education are not isolated. Rudolph (1990) describes the American college and universities as developing “from simple institutions to complex organizations” (p. 417).

Change can be viewed as an instantaneous one-time event, or a continuous, ever-present process. With regard to human interaction, Carley (1999) observes that all organizations, groups and societies undergo constant change, and this change can be examined as network evolution (p. 3). Cameron (2006) notes that “not only is change ubiquitous and unpredictable, but almost everyone also assumes that its velocity will increase exponentially (Quinn, 2004; Weick & Sutcliffe, 2001)” (p. 317). Marshak (2004) also notes that change is continuous and that old assumptions of order and stability challenge the nature of our reality. Marion (1999) notes the importance of change within the context of knowledge and poses questions regarding its gradual-versus-spontaneous achievement. This environment of change is congruent with both complexity theory (Burnes, 2005), and the dialectic thought of constant change and adaptation (Basseches, 1986).

Changes to networks can have significant implications to the organization or society (Carley, 1999). What makes it difficult to predict outcomes may stem from what Carley (1999) notes as the ability for social actors to learn, that is, adapt or change their behavior, which in turn may change network dynamics. Another challenge in predicting outcomes comes with difficulty in understanding *when* and *what* changes occurred. This may be difficult because organizations or people may purposefully stimulate change, or change may occur inadvertently—with or without the knowledge of those involved.

Schein (1992) states that much of organizational theory addresses survival, growth, and adaptation. The evolution of the institution, that is the change *in the organization* (structure, behavior, etc.), as opposed to change *surrounding* and *influencing* the organization, can result in innumerable outcomes—extinction, survival (implying a marginalized hold on existence), or prosperity, as well as many points in-between. To adapt and survive, organizations seek robust network development. Organizational development is focused on learning, adaptation, innovation and continual change in response to the environment (Schein, 1992, p. xiv). Organizational learning and knowledge creation are touted as a primary need (Schreiber, 2006). Yet how do leaders ensure organizational evolution along ethical lines, rather than unknowingly drifting otherwise—or, perhaps, even purposefully rationalizing ethical implications away?

Institutions possess a culture, and culture implies that members hold certain beliefs in common—such as behavior (customs and traditions), norms (standards and values), shared meanings, and climate (physical layout and member-organization interaction), among others (Schein, 1992, pp. 8-9). Organizational culture can be viewed

“as the accumulated shared learning of a given group, covering behavioral, emotional, and cognitive elements of the group members psychological functioning” (Schein, 1992, p. 10). In describing the utility of culture, Schein (1992) notes the “human need for stability, consistency, and meaning” (p. 11). Culture can be a “mechanism of social control” influencing perception, thinking, and affect (Schein, 1992, p. 13).

The global economy creates organizations of diverse culture (Ireland & Hitt, 1999). Ross (2004) describes one aspect of culture “...as a distribution of shared individual cognitions” (p. 7). These shared cognitions can occur from individual interactions with both social and physical environments, consisting of both material and social constructs (Ross, 2004, p. 8). Constructs can have a strong influence on how people behave toward one another with regard to in-group and out-group definitions, behavior and communication (Ross, 2004, p. 45).

Organizational culture is an important aspect of leadership. Porter and McLaughlin (2006) link organizational components such as culture, climate, people, and processes to organizational contexts influencing leader outcomes. Organizational norms can impact organizational efficiency (Brodnick, 2000). Ireland and Hitt (1999) highlight the importance of culture and ethics to effective leadership:

The influence of top managers on the firm’s ethical practices and outcomes is accepted by business practitioners, academics, and society. In the 21st century, effective strategic leaders will use honesty, trust, and integrity as the foundations for their decisions. Strategic leaders displaying these qualities are capable of

inspiring their employees and developing an organizational culture in which ethical practices are the behavioral norm (p. 71).

For individuals to successfully work together, organizational culture develops among agents, allowing them to interact productively; they can “create their own environment” (Osborn & Hunt, 2007, p. 334). Culture is maintained as knowledge held in the memory of the institution and people. For organizations, institutional memory can be stored as knowledge in the human brain, documents, data, or other artifacts. Carley and Hill (2001) explain that the relationships between agents is the mechanism that communicates culture throughout an organization. They go on to say culture, as knowledge, is distributed among agents within a knowledge network.

Organizational culture changes over time. Carley (1999) notes that culture is under constant change through interaction (and sharing of knowledge) among agents. Hooijberg et al. (1997) stresses the importance of leaders staying in sync with diverse follower values. England (1967) notes the direct affect of values on choices and behavior (as cited by Hooijberg et al., 1997). It can be safely said that ethics are an integral part of culture, and that culture plays a role in the evolutionary direction of organizations.

Complexity and Leadership

The study of leadership has been criticized as leader-centric, lacking sufficient examination of interactive relationships with the follower (Lord & Maher, 1991; Uhl-Bien et al., 2007), as well as the contextual factors influencing organizational outcomes (Lord & Emrich, 2001; Porter & McLaughlin, 2006). Leadership is an interactive human dynamic in which leader and follower influence each other to reach a specific end. For

each interaction, both are changed, as is their relationship. A complexity theory framework addresses many of these heretofore unexplained dynamics, and complexity leadership theory places this framework into a social network context. I will first discuss aspects of complexity theory germane to this study.

Complexity Theory

Marion and Uhl-Bien (2001) describe complexity theory as a ““new science”” (p.389); it originally emerged in the physical and biological sciences, and was later related to social network theory, population ecology theory and institutional theory (Marion, 2002). In the social sciences, it focuses on the behavioral dynamics of interactive, interdependent and adaptive agents (Marion, 2008, p. 3). Goldstein (2008) stresses that complexity theory celebrates a wide range of acceptance among many fields, showing subtle differences, yet retaining strong core commonalities across domains. Goldstein (2008) provides nine of these shared aspects of complexity: (a) negative and positive feedback loops; (b) an evolving, adaptive system; (c) nonlinear dynamics; (d) connectivity and networks; (e) phased transitions and emergence; (f) thermodynamics; and (g) far from equilibrium.

As with many theories, complexity theory was derived from scientific phenomena that could not be satisfactorily explained by some other theory—at least not wholly. Prigogine (1987/2003), for example, calls earlier frameworks of thermodynamics as the first science dealing with complexity. In his article titled “*Exploring Complexity*,” Prigogine (1987/2003) notes that humankind is enclosed by complexity. Kauffman, by contrast, derived complexity principles from the biological sciences, evoking complexity

principals to explain many things not adequately explained by natural selection. In general, European complexity theorists tend to derive complexity principles from physics while Americans derive it from biology.

In general, complexity theory has been described as an open system of nonlinear interactions and difficult-to-predict behaviors (Marion, 1999). In organizations, we cannot accurately predict collective outcomes resulting from agent interaction due to changes in context and processes, as well as the bounded rationality of agents. Complexity theory also addresses the phenomena of dynamics—specifically, that of changing collective behavioral patterns, heavily influenced by dampening and amplification mechanisms (Goldstein, 2008). Behavior and structure can both be changed by the dynamics of agentic interaction (Marion, 2008). As Marion (2008) points out, complexity dynamics are about how “things change and emerge over time” (p. 6).

Complexity theory views agent interaction occurring without a centralized locus of control, yet from agent interaction *emerges* organized behavior (Marion, 2008). “Emergence results from the transformation of things” (Auyang, 1998, p. 175). *Emergence* encourages examination of complexity in an organizational context. Emergence can allow organizational adaptation to changing environments; this includes supportive dynamics such as organizational learning, creativity and innovation (Uhl-Bien et al., 2007). Osborn & Hunt (2007) describe complexity as a balance allowing adaptation. They note that complexity is a:

... delicately poised, transition zone between stability and chaotic systems. If the behavior of a system is too ordered, there is not enough variability or novelty; if,

in contrast, the behavior of a system is too disordered, there is too much noise. For successful adaptation, a system should be neither too methodical nor too carefree in adaptive behaviors (cf. Osborn et al., 2002) (p. 321).

Systems possessing the characteristics of complexity are known as complex adaptive systems (CAS) (Holland, 1995; Osborn & Hunt, 2007). These systems “self-organize to seek greater fitness” (Osborn & Hunt, 2007, p. 321). Complexity theory is characterized by phenomena such as adaptation and evolution (Marion, 1999; Simon, 1962/2003). Simon (1962/2003) identifies complex systems as representing a hierarchal structure that evolves and adapts. Adaptation can emerge through trial-and-error outcomes or through using experience to guide decisions and actions. Human interaction is a hallmark of adaptation, making complexity theory especially attractive to the social sciences.

Complexity and Organizations.

Complexity theories have been used to examine social change (Colijn, 1999), organizations (Marion, 2002), and leadership (Marion, 2006; Marion & Uhl-Bien, 2001; Uhl-Bien et al., 2007). It can be applied as organizational theory where units are between environmental stability and chaos, or focused on nonlinear phenomena, prompted by interactions among extensive agent networks (Marion, 2002). Marion (2002) explains that these networks are characteristic of interactive, interdependent social agents, producing innovation and fitness (p. 303). While characteristics can lead to some predictive ability, it also produces dynamic emergence of unanticipated outcomes (Marion, 2002). Leadership study in complex systems is also appropriate for

organizations whose agents are bound to a common purpose in which specific outcomes are unpredictable (Uhl-Bien et al., 2007).

Complexity theory explores the emergence and rise and fall of organizational forms and *behavior* (Marion, 2002; Simon, 1962/2003). Organizational ethics can be viewed as a mode of behavior, within a bottom-up leadership context. Prigogine (1997) uses the term ‘correlation’ to describe a process in which agents compromise various aspects of themselves—to include *beliefs*—for the good of the whole (as cited by Marion, 2002, p. 306). This, in essence, implies a process of organizational members moving from the context of self and individual values, to one resonating organizational values and norms.

McKelvey (1999) challenges us to think of organizations not as being composed of hierarchal leaders, but instead as composed of microagents governing behavior process microstates. This turns our attention toward a bottom-up process of agent interaction, crossing artificial borders of organization to produce nonlinear outcomes. This behavior of interacting agents results in linking agents into aggregates (combinations of agents), that can expand into larger, meta-aggregates (combinations of aggregates), and even bigger meta-meta-aggregates (Marion & Uhl-Bien, 2001).

Marion (2002) notes that within complexity, organizational failures are marked by network collapse. While normally robust, complexity networks can reach a critical mass of problems or damage that cause failure—a collapse that surprises members due to the nonlinear nature of complexity (Marion, 2002, p. 310). The robustness of an organization is tied to that of the fitness of its networks, which can be incumbent upon the degree of

network coupling (Marion, 2002). The general understanding is that moderate coupling is a trait of robust organizations, loose coupling implies a relationship so weak as to make concerted efforts of coordination or unity difficult, and tight coupling makes sorting through conflictive needs paralyzing (Marion, 2002). Moderate coupling allows both coordination, innovation and change (Marion, 2002). Since an organization consists of multiple networks involving various agents (some belonging to multiple groups), a great part of leadership within these aggregates is to facilitate collaboration and a sense of interdependence to bind agents together.

How Ethics Permeates Complexity and Systems Thinking.

Much in systems and complexity theory involves ethical consideration. Social science involves human interaction and behavior, which as we have pointed out earlier, holds ethical implications between agents. Marion (1999) states, “The emergence of educational movements, culture, organization, organizational climate, roles, and technologies can all be described by Complexity” (p. 27). Here, of course, ethics can play an important part of organizational culture and climate, as well as leadership roles.

Holland (1995) describes human agents as facing novel environments and referring to internal models for selecting a pattern of behavior based upon the context around them. They “combine relevant, tested building blocks to model the situation in a way that suggests appropriate actions and consequences” (Holland, 1995, p. 37). When dealing with ethical dilemmas, agents refer to these internal models within a context of the collective to which they belong. Within living systems, human response is influenced

by standards (Wohlmuth, 2001). These standards, or protocols, are represented in culture through artifacts, values and beliefs and behavior within a collective setting.

When agents hold common beliefs (values, customs, etc.) they interact and correlate as an aggregate, displaying a particular pattern of collective behavior (Marion, 2008). Whether agents resonate with organizational standards may be determined by the manner in which they were created. If pushed from a top-down, bureaucratic hierarchy, out of touch with collective beliefs, they may be rejected—behavior patterns may show little congruence with these standards. On the other hand, if standards are generated from agentic interaction in which agents worked through conflict, they may be more likely to forecast aggregate behavior. Ethical constructs play an important part of culture and provide common understanding that facilitates agent interaction.

Complexity in social systems literature displays significant reference to ethical elements in organizational constructs. Hogue and Lord (2007) note how macro-dynamics (aggregate interaction) “often result in formalized rules and procedures as well as informal values and norms — each of which directly guides behavior” (p. 375). Boal and Schultz (2007), taking a more leader-centric approach, discuss the strategic leader role in fostering enduring values and vision for organizational coherence. Perhaps one of the most important observations to emerge from complexity leadership literature was that of Plowman et al. (2007). They describe a leader enabling others to solve problems, bounded by organizational values. Plowman et al. (2007) remarked that instead of leaders using their position to pass down decisions, “they used the pulpit to remind people of the values and the principals and then challenge them to respond as they saw fit” (p. 351).

These examples of *value influences* affect behavior and ideas, and play an important role in long-term norms and organizational success. Boal and Schultz (2007) elaborate:

The existing logics created by strategic leaders and followers, and shared by organization members, serve as an important selection force on new ideas; as individuals encounter and try to make sense of new information and experience, it is likely that its degree of coherence with existing understandings and expectations will influence its adoption and influence on organizational life. The prevalence of certain mental models among leaders and followers—the degrees to which understandings are shared across a firm—will also influence their selection success. For instance, through socialization processes, recruits repeatedly encounter existing members in an organization who operate under shared assumptions regarding appropriate actions; the result is behavioral convergence across the two groups as those assumptions are replicated in the minds of the newcomers, perpetuating existing norms and values (p. 425).

Leaders use stories to influence organizational members –to reinforce and preserve collective values (Armentrout-Brazee, 2002; DePree, 1989). Utilizing the properties and mechanisms of complexity theory, Armentrout-Brazee (2002) examines the power of cultural safety stories as opposed to traditional administrative methods of influence—largely written instruments. Fisher (1984) believed that stories within organizations were a common means of moral influence, and even more effective if left in a non-reductionist context—that is, they were interrelated and interdependent (as cited by Armentrout-Brazee, 2002).

Organizations must always deal with member belief and value conflict (Burns, 2003). This can be conflict between agents, between agents and units, or between units. In examples of conflict between agents and units, Barnes (1997) note that of incoming faculty. He explains a major cultural shift when new faculty members enter the education environment with teacher-centered methods and adjust to learner-centered methods at a higher education institution. Barnes (1997) related situations where agents found their behavior clashing with existing norms and adjusting though changed behavior. In perhaps a more direct approach, Collins (2002) observes teacher interventions in classroom civility to bring behavior into group norms.

An example of conflict between units, Adam (2004) noted the divergence between the culture of administration and that of faculty. These findings traced group beliefs to both institutional and discipline (professional) influences. Adam (2004) states that variations between disciplines or subgroups complicate aggregate values, promoting various degrees of conflict. Adam (2004) observed that challenges to the *central values* of a group promote conflict and resistance to change.

Complexity Leadership Theory

Burns (2003) describes leadership as a collective process, yet does not dismiss the relevance of specific leadership structures, such as grass roots (bottom-up), or top-down. He remarks, “All leadership is collective, but the collectivity varies” (p. 75). Yet transformational theory retains a leader centricity focus, and does not take in the completeness of agentic interaction and resulting emergence of productive outcomes such as organizational learning or adaptation. Uhl-Bien, Marion, and McKelvey (2007) have

recently proposed complexity leadership theory (CLT), which more deeply taps into the potential power of this perspective:

Using the concept of complex adaptive systems (CAS), we propose that leadership should be seen not only as position and authority but also as an emergent, interactive dynamic—a complex interplay from which a collective impetus for action and change emerges when heterogeneous agents interact in networks in ways that produce new patterns of behavior or new modes of operating (cf. Heifetz, 1994; Plowman et al., 2007-this issue; Plowman & Duchon, in press). (p. 299)

Uhl-Bien, Marion, and McKelvey (2007) propose complexity leadership theory as a model which “recognizes that leadership is too complex to be described as only the act of an individual or individuals; rather, it is a complex interplay of many interacting forces” (p. 314). In effect, it thrives with interactive agents and informal leadership (Uhl-Bien & Marion, in press)

The leader can be positional or informal and is a “key figure” (Hollander, 2004, p. 47), that will “arise out of the needs and opportunities of a specific time and place” (Gini, 2004, p. 36). The leader’s “actions or inactions can determine others’ well-being and the broader good” (Hollander, 2004, p. 47). This is not to say other agents do not also influence the well-being of others. Scandals in any organization cast external (and sometimes even internal) doubt on the ethics of the organization. For example, the unethical behavior of a few soldiers at Abu Ghraib Prison in Iraq caused some to wonder if that was a reflection of the Army organizational norm.

Leader roles have been described where the leader is a “servant” (Greenleaf, 1977/2003), a “collaborator” (Gini, 2004), or plays a role of “stewardship” (DePree, 1989). However, “a leader-centric focus is inadequate to understanding the interdependence” of leaders and followers (Hollander, 2004, p. 49).

Complexity Leadership Roles or Functions

Uhl-Bien, Marion, and McKelvey (2007) identify three roles a leader can play in Leadership Complexity Theory: *adaptive, enabling, and administrative leadership*. Collectively, these functions create the ability for an institution to evolve through maintaining an internal environment of tension that promotes creativity, innovation, and learning—things that traditional bureaucratic organizations may suppress in the name of synchronization (Marion & Uhl-Bien, 2007). These, in turn, allow the organization to adapt to changing conditions—characterized as a continuous context of turbulence familiar in today’s global, tightly connected society (Marion & Uhl-Bien, 2007). To do otherwise imply an organization characterized by stability and an absence of ingenuity, lacking robustness and failing to adapt to changing conditions.

Complexity leadership theory contests the acceptance that leadership through authority held by position, or responsibilities incorporated in a management role, capture all aspects of leadership roles (Marion & Uhl-Bien, 2007). Leaders are those that serve the three leadership functions noted earlier—adaptive, enabling, and administrative leadership. Leaders can act in multiple leadership roles, and are titled more by the process they serve in a given context. For example, *administrative leadership* represents the actions and products of those who plan and coordinate organizational activities (Uhl-Bien

et al., 2007). Control and traditional hierarchal structures typifies this function as bureaucratic (Marion & Uhl-Bien, 2007). Hanson and Marion (2008) elaborate administrative leadership roles:

Administrative functions include *coordination* (Simon, 1957; Uhl-Bien et al., 2007), *planning* (Rivkin & Siggelkow, 2003; Simon, 1957; Uhl-Bien et al., 2007), *goal setting* (Lord, 2008; Simon, 1957), *resource allocation* (Rivkin & Siggelkow, 2003), *visioning* (Boal & Schultz, 2007; Marshak, 2004) and the established practice of *organizational values* (Boal & Schultz, 2007; Marshak, 2004; Plowman, Solansky et al., 2007; Schein, 1992). (pp. 8-9)

Adaptive leadership is a change movement in which adaptive outcomes emerge from agentic interaction (Uhl-Bien et al., 2007, p. 306). Interaction produces shared ideas, information, resources and other aspects, which represents no one person necessarily, but a collective emergence. *Enabling leadership* fosters and catalyzes adaptive leadership through managing levels of interdependency, tension and interaction (Uhl-Bien et al., 2007). It also “helps coordinate the interface between adaptive and administrative leadership—countering unhealthy control by administrative functions, yet providing productive feedback from adaptive functions.

As agentic interaction occurs, the complexity network diffuses *explicit* knowledge, creating a cascade effect of additional interaction and behavior, emerging as various outcomes—such as learning and innovation. This process represents organizational adaptation, or evolution (Schreiber, 2006). Uhl-Bien and Marion (2007) note that when agents interact, they share beliefs and begin to resonate, which in turn,

attracts other agents; as collective behavior patterns emerge, agents are said to correlate. Understanding agent ethic belief structures, as well as their perception of influencing pressures and institutional agents (e.g., policies, codes, etc.) will help us understand the dynamics that shape ethical behavior in an organization. Applying the concepts of CLT will amplify the leader's ability to influence these dynamics; each leadership role plays a part in creating or mitigating beliefs, pressures, and other agents and entities to encourage ethical behavior, hence ethical evolution over time. Conceivably, this mix of informal and formal leadership could be occurring simultaneously in an organization at many different levels by many different agents. In CLT, leadership is interpreted as "an emergent, interactive dynamic that is productive of adaptive outcomes" (Uhl-Bien et al., 2007, p. 299).

Employing a complexity theory framework around leadership is not new. Some have used it within the context of governance (K. G. Evans, 1998), behavioral complexity (adapting to different roles) in global leadership (Ernst, 2000), and virtual teams (Fichman-Shachaf, 2003). Marion (2002) associates complexity theory with linking leadership to nurturing various interactive dynamics at the macro or micro level, with the understanding that leaders cannot control all facets of organizational processes or their outcomes. Complexity leadership theory also captures the organization as dynamic, adaptive, and interactive, having elements of correlation (resonance) and unpredictability (Marion & Uhl-Bien, 2001, p. 395). Here, the leader capitalizes on interactive dynamics that enable a productive future.

While complexity theory primarily deals with bottom-up dynamics and can be self-generating and sustaining, positional leadership can have both direct and indirect influence that allows or enables this agentic interaction to occur. Marion and Uhl-Bien (2001) note that when administrative leaders give up direct control, it enables the organization to harness multi-agent interaction to stimulate innovation and problem solving, while at the same time, freeing the leader's cognitive capacity to address other issues and opportunities. CLT includes the ability of agents to impose organizational constraints derived from common purpose and "inter-agent accountability" (Uhl-Bien et al., 2007, p. 304). This opens the door to examine ethical constraints imposed by external forces (society and government), as well as those imposed by the organization, and by various groups.

Earlier Studies on Complexity, Evolution, and Education

Within a complexity framework, Bibb (2000) recognized that common network dynamics could be applied to a wide range of collective and group social behavior. Bibb (2000) noted the nonlinear dynamics of student networks and informal group formation. That is, student behavior could not be predicted based upon proportional causal effect relationships (Bibb, 2000). To better understand school violence, he utilized complexity theory to examine the emergence and behavior of student networks and groups in secondary education.

Complexity theory was used to address issues in education (Adam, 2004; Barnes, 1997; Bower, 2003; Brodnick, 2000; Chapman, 2006). Adam (2004) notes that

complexity theory is helpful when leadership agents in education must negotiate between external and internal pressures.

Where Ethical Leadership Literature Falls Short

Current leadership literature stresses the need for additional research in leadership ethics (Northouse, 2004; Sendjaya, 2005; Yukl, 2006). Sendjaya (2005) observed that leadership ethics inquiry is “neglected” (p. 75). Yukl (2006) describes a “gap” between normative and contextual concepts and calls for “knowledge that strengthens both the theory and practice of ethical conduct in organizations” (p 426). Ciulla (2004) points out a number of short-comings in leadership literature which fail to adequately address ethics constructs. Particularly, she notes that many ignore or reject philosophical foundations of ethics, calling for a more modern framework to meet current needs, or fail to address the topic of ethics almost entirely (p. 5). “Leadership is a complex moral relationship between people, based on trust, obligations, commitment, emotion, and a shared vision of the good” (Ciulla, 2004, p. xv). Ethics is vital to leadership and institutional success. “The essence of effective leadership is ethical leadership” (Rhode, 2006, p. 6). Kelley and Chang (2007) note the need for researching unethical behavior in higher education, calling for generation of “robust conclusions” that help construct organizational designs to correct such behavior (p. 424).

Summary

Chapter Two offered a review of literature applicable to this study. It addressed the relationships between the dimensions of ethics and ethical leadership, and today’s focus of ethics in higher education. It also introduced an organization setting, the concept

of agentic interaction within networks and complexity leadership theory. Institutional members expect ethical leadership behavior, but they are influenced by more than positional leaders. Member interaction between each other and institutional structures can have profound influences on their collective behavior. Beliefs, perceived pressures, various institutional agents (human and artificial) and other entities influence them. Uhl-Bien et al. (2007) note that adaptive agents adjust their views to consider others and engage “in some measure of cooperative behavior” (p. 303).

At an earlier point in time, the academic and research community had to face societal questions of ethical practice. These questions helped to forge laws and self-governance bodies such as posted ethical guidelines and Institutional Review Boards (IRB). These have become an important part of the culture of higher education and research institutions.

Leadership is a process, rather than a person (Ciulla, 2004; Hollander, 2004; Uhl-Bien et al., 2007). The process is collective (Burns, 2003; Gini, 2004; Hollander, 2004), interactive (Gini, 2004) and shared through time (Hollander, 2004). It is a relationship characterized by interdependence (Gini, 2004; Hollander, 2004) and reciprocal influence (Hollander, 2004). And it is “fraught with ethical challenges” (Hollander, 2004, p. 47).

A number of scholars feel higher education is not doing its part to prepare students ethically (Giacalone & Thompson, 2006; Kashyap, Mir, & Iyer, 2006). Giacalone and Thompson (2006) claim that efforts to prepare students for an environment of moral and social responsibility “are inadequate” (p. 266). Kashyap et al. (2006) call recent efforts “mixed” and “dysfunctional” adding that management textbooks address

“issues of ethics and social responsibility as either *extraneous* to or *subsequent* to profit generation” (p. 367). Amid limited governmental and accreditation influence, Evans, Trevino, and Weaver (2006) question the authenticity of ethics instruction in higher education and the corporate world.

This study posits that institutions would rather shape their own change, rather than have external entities force it through intervention (i.e., government, accreditation, populist movements). Complex adaptive systems, such as universities, must be allowed some self-organization to achieve optimal adaptation. Uhl-Bien et al. (2007) describe this adaptive emergence as a reformulation of “original elements” that result in fundamental system change (p. 308). This self-organization is not only done through fostering conditions that allow adaptation. Uhl-Bien et al. (2007) state that “enabling leaders help protect CAS from external politics and top-down preferences,” as well as influence planning and resource allocation for adaptation (p. 312).

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

The major purpose of this study is to explore *how* an institution's ethics logic evolves over time. The research design for accomplishing this investigates the realities of faculty interaction involving work-related ethical beliefs, knowledge, perceived pressures, institutional agents and other entities (both human and nonhuman). Once the institution's ethics logic initial conditions are established, elements within the institution's ethics logic will be manipulated to gain insight into various evolutionary aspects of these dynamics.

This chapter reviews the research questions, and then discusses the methodological challenges to the study of phenomena representing dynamic processes. Next, it presents the study's research design and methodology. Lastly, this chapter presents ethical considerations and a chapter summary.

Research Questions

The following question directed the study: How does the interaction of agent work-related ethical beliefs and knowledge, perceived pressures, and institutional agents or other entities influence the evolution of institutional ethics logic over time? Supporting questions are:

1. What are member *work-related* ethical beliefs and knowledge, perceived pressures, agents and other entities found within the institution?
2. How are these entities related to each other, and to organizational members?

3. How does complexity leadership theory apply to ethics logic?
4. How are institutional dynamics related to ethics logic evolution?
5. What influences the diffusion of agent ethics knowledge and beliefs among members?

For this research, I examined the ethics logic dynamics within a university setting, integrating qualitative, quantitative and modeling data representing participant realities. From a complexity leadership theory perspective, this study inquired as to faculty leadership roles in institutional ethics logic—including faculty roles of administrative, enabling and adaptive leadership. It posits how practical ethics reform in education can be driven by the structures and dynamics of agentic interaction.

Challenges to Researching Complexity Dynamics

Leadership processes and the interaction of ethical entities (agents, beliefs, pressures, knowledge, tasks, etc.) in higher education institutions are represented by dynamics within a complex adaptive system (CAS). These systems are composed of a network structure and represented as evolving complex patterns of behavior over time (Holland, 1995; Marion, 2008). This poses a number of challenges in applying traditional research to explore the institutional dynamics over time (G. F. Davis & Marquis, 2005; Hanson & Marion, 2008; Marion & Bacon, 1999; Uhl-Bien et al., 2007).

One challenge is simply the limitations of quantitative research methods for this type of phenomena. In complex systems, patterns of behavior are based upon dynamics and interaction rather than linear relationships among variables; variables represent central tendencies and provide limited information about the dynamics that account for

them (Marion, 1999). Focus on causal relationships among variables does not adequately explain holistic *amplification* or *dampening* mechanisms in complex systems. For example, in their review of organizational research over the past few decades, Davis and Marquis (2005) noted that “Statistical relationships among variables turned out to be highly unstable over time; for instance, patterns of merger, acquisition, and executive succession looked wildly different in the 1960s and the 1980s” (p. 335).

A second challenge in researching system dynamics involving complex human behavior are the bounded rationality and ethicality of people (Chugh et al., 2005; Simon, 1957). Behavior can be erratic and contagious, generating complex collective behavior patterns that are nonlinear and emergent. Thus complexity dynamics are understood to be *unpredictable* (Marion, 1999, 2008). One example is the mechanism of human response to danger—fight, flight, or freeze (Hedström & Swedberg, 1998). While we are sure one individual response will be chosen, we cannot predict how an aggregate of members will influence each other and collectively react to danger. Examples of contagious, resonating behavior may include group panic in a restaurant fire (Bonabeau, 2002) or the desertion of a large number of soldiers in battle (Sword, 1974). What dynamics occur that can begin to explain these unforeseen events? Another example of unpredictable outcomes is the production of an emergent idea when two agents interact—an idea which neither originally possessed; the idea belongs to neither, but to both (Uhl-Bien et al., 2007). Davis and Marquis (2005) expand this train of thought, linking the interaction of organizational agents to mechanisms which produce outcomes not found in additive parts:

If a regression tells us about a relation between two variables—for instance, if you wind a watch it will keep running—mechanisms pry the back off the watch and show *how*. Mechanisms describe “a set of interacting parts—an assembly of elements producing an effect not inherent in any one of them. (p. 336)

Third, while the research of dynamics in complex systems is open to alternative research techniques such as qualitative methods (Uhl-Bien & Marion, 2007), even these methods pose practical research challenges. Generally speaking, qualitative research captures participant realities of *initial conditions*—a snapshot of how things are at the time of the data collection. While presenting clues to organizational dynamics, qualitative methods can constrain further research in a number of ways. First, snapshot data by itself limits exploring futuristic, evolutionary trajectories of natural organization change and cannot explore what-if trajectories with specific, focused interventions. Second, qualitative methods do not allow for unrestricted manipulation of processes, where recursive effects of removing and injecting organizational elements might provide a greater understanding of their interaction—and their resulting amplified or dampened outcomes. Third, both traditional qualitative and quantitative methods pose various constraints to research with human participants—including limitations of time, budget, or the ethical treatment of participants. Some of these constraints may be countered by modeling virtual agents. The aforementioned constraints open research to alternative methods in dynamic research.

Method

Because the question involves evolution, with a focus on system dynamics rather than the relationship between variables, traditional quantitative methods will not help us in this pursuit (Hedström & Swedberg, 1998; Holland, 1995; Uhl-Bien et al., 2007; Weaver, 1948/2003). Therefore, I used a combination of qualitative research and Dynamic Network Analysis (DNA).

From a qualitative perspective, grounded theory is a primary method of examining *processes* (Creswell, 2003), or questions of *how* and *why* (Parry, 2003; Strauss & Corbin, 1998). This examination of *processes* aid in the construction of theoretical understandings (Dougherty, 2002; Strauss & Corbin, 1990). It does not involve testing or verifying *a priori* hypotheses (Mavrinac, 2006; Meda, 2005).

Broberg, Bailey, and Hunt (2007) describe a system dynamics approach characterized by examination of change, coupling, feedback, and nonlinear outcomes. System dynamic studies are wholly compatible with grounded theory approaches (Broberg et al., 2007) and Dynamic Network Analysis (DNA) (Hanson & Marion, 2008). DNA complements analysis of data generated via grounded theory methods by providing network representations of human and non-human entities and their corresponding relationships; it also possesses modeling capabilities for exploring dynamical processes. This combination of methods promotes both a better understanding of network dynamics and a technique to generate of propositions for future research.

Both grounded theory and DNA are harmonious methods for studying leadership and complexity networks. Organizational research long ago identified the importance of

informal leadership (Likert & Araki, 1986; Simon, 1957). Complexity leadership theory and network research are largely based on informal leadership structures. Yet this has not been a prominent aspect of modern leadership literature. Bryman (1996) posits that qualitative research, which is acutely sensitive to leadership contexts (p. 288), holds great potential in capturing long ignored informal leadership processes. Examining context is critical in studying ethics, leadership, and dynamic behaviors.

The Grounded Theory Approach

Because the primary question in this study is *how*, and because social behavior is based upon dynamics bounded by variations of agent rationality and ethicality, the qualitative approach for this work took the form of a grounded theory research method. This approach was utilized to explore faculty realities regarding institutional ethics logic—determining existing ethics network entities and behavioral patterns of agent interaction. Creswell (2003) stressed that, “Qualitative inquirers use different terms such as theories, patterns, and naturalistic generalization to describe the understanding developed in their studies” (p. 119). A grounded theory approach integrates quantitative data, artifacts, and other pertinent information into its framework (Mavrinac, 2006; Strauss & Corbin, 1997). My research sought aggregate patterns of behavior and agentic influence within networks, and thereby extended complexity leadership theory from an ethics perspective.

The grounded theory approach is discovery oriented and rooted in social construction as “a way of conceptualizing the similarities of experience of an aggregate of individuals” (Rudestam & Newton, 2007, pp. 43-44). Social construction is founded

on a sense of meaning created by the relationships of the collective under study (Rudestam & Newton, 2007). Grounded theory methods employ a tactic that explores processes, developed by explication of concepts incorporating thematic properties and dimensions, emerging into patterns (Creswell, 2003; Strauss & Corbin, 1990, 1998). Grounded theory is one in which the researcher is engaged in a recursive process of interaction with emerging data (Charmaz, 2008).

This work includes “theoretical sampling, theoretical sensitivity, constant comparison, increasingly abstract consideration of the data, and discovery of a ...basic social process that describes the pattern of the phenomenon” (Marcellus, 2005, p. 351). Developed originally by Glaser and Strauss (1967), the grounded theory method for this study was heavily influenced by the follow-on work of Strauss and Corbin (1990, 1998), and supplemented by scholars who elaborate particular facets of grounded theory research relevant to this study (Creswell, 2003; Creswell & Miller, 2000; Parry, 2003).

This method purposefully selected participants that would aid pursuit of relevant data to achieve an understanding of the problem and research questions; grounded theory does not necessitate random sampling or large populations—characteristic of quantitative methods (Creswell, 2003; Parry, 2003). Representative of qualitative research, grounded theory is impeccably suited to examining various concepts within complexity theory and social life (Dougherty, 2002; Uhl-Bien et al., 2007), particularly that of emerging patterns of behavior (Yardley, 2008).

Dynamic Network Analysis (DNA)

Dynamic Network Analysis (DNA) is an emerging method of research design, analysis, and modeling. It moves beyond social network analysis (SNA) by incorporating networks composed of entities other than just people and linking multiple networks into meta-networks representing a single organization; the resulting collective of networks are linked together as a complex system and termed a *meta-matrix* (Carley, 2003). DNA enlightens dynamic interactions resulting in emergent outcomes such as task efficiency and knowledge diffusion (Carley, 2003). DNA incorporates qualitative data collection, transformation of data into graph and network measures, and the option of modeling various dynamics to describe *relationships between entities* (Carley, 2003). DNA also incorporates a data analysis package, termed the Organizational Risk Analyzer (ORA), which includes a modeling platform called DyNet (Carley & DeReno, 2006). This study used both ORA and DyNet. ORA is a software platform that provides quantitative measures and visualizations for qualitative data; it aids coding and analysis through report generation and data manipulation. DyNet allowed exploration of what-if scenarios—by both projecting statistical probabilities (stochastic randomness) of naturalistic evolutionary trajectories, as well as allowing the manipulation of initial conditions for better understanding of organizational dynamics and relationships.

Research Design

The qualitative design for this study describes a “spontaneous and flexible” method to explore network dynamics (Rudestam & Newton, 2007, p. 32) utilizing research procedures best summarized by Creswell (2003, pp. 181-183):

1. The study consisted of multiple methods of inquiry (interview, questionnaire, and modeling), thus strengthening research validity.
2. The study primarily took place within the participant's natural setting (their offices and meeting rooms).
3. The study was interpretive; that is, like all qualitative research, it holds some degree of researcher bias.
4. The study viewed the social phenomena of ethical leadership holistically (formal and informal interaction, within hierarchical and across sub-unit structures).

The research design for this study consists of multiple means of data collection, a traditional grounded theory coding process of abstraction and constant comparison, and the use of an analysis and modeling package. Figure 3.1 lays out the design of the study.

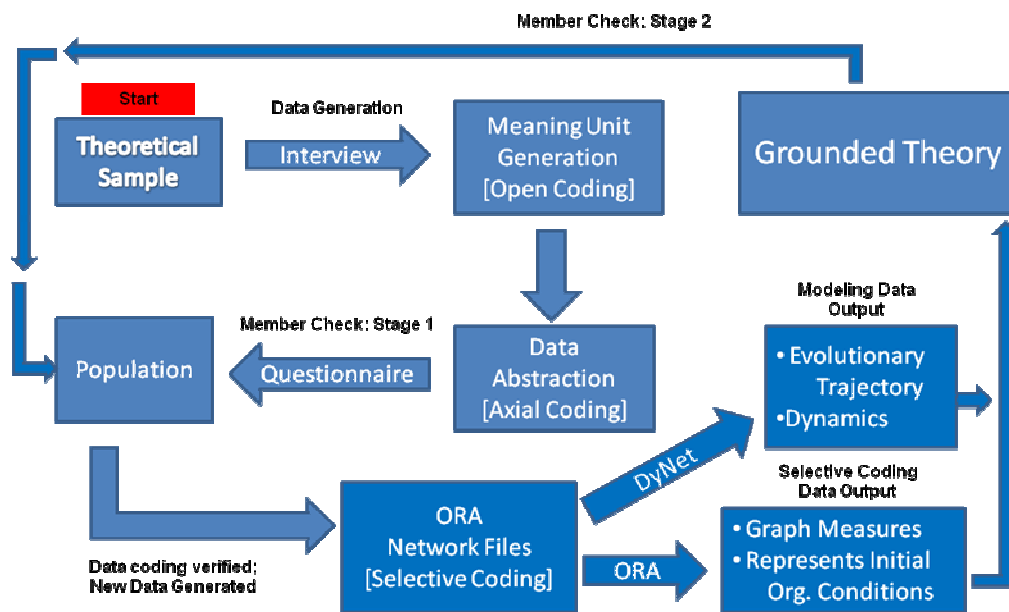


Figure 3.1. Research design displaying the role of ORA, the statistical analysis package, and DyNet, the modeling platform, to the grounded theory approach.

The design starts with identifying the theoretical sample, then moves to data collection by conducting interviews; next, it shows the beginning of data coding—first breaking data down in open coding, then putting it back together in a more abstract form using axial coding methods. Data is used to build a questionnaire, grounded in participant realities. Next, the questionnaire is given to the population, and the coding process continues with the aid of the Organization Risk Analyzer (ORA). At this point, I move into two forms of analysis; the first based upon the point in time at which data was collected, grounding findings by using member checks and other forms of qualitative validity. Next, I use DyNet, a modeling platform to manipulate data to reach a better understanding of evolutionary dynamics and generate future research questions and

propositions. Propositions are important to studying organizational dynamics with limited predictability; findings may be conditional over context and time. While findings are shown to participants, they are not assumed to be fully grounded, nor are findings used to produce a predictive model. Rather, findings are placed within the study as part of a model that elaborates institutional dynamics.

Setting

Research took place at a small private *university* undergoing significant change in its recent ascendancy from a senior college to a level three university; it is engaged in pursuing a new form of accreditation, attracting terminal degree faculty, expanding course offerings and graduate programs, recruiting older student populations, incorporating online and off-campus classes, and seeking higher student retention rates. Of its 343 employees, 234 are full-time and 109 are part-time. Of its 76 full-time faculty, 38 are tenured, 30 are on tenure track, and eight are not on tenure track. Faculty demographics among full-time faculty include 42 males; of these two are Black, 1 Asian/Pacific Islander, 1 Hispanic, and 38 White, non-Hispanic. There are 34 female full-time faculties; of these, one is Black, 1 Hispanic, and 32 White, non-Hispanic.

Sampling and Participants

Sampling was conducted in two parts—the first involved grounded theory *theoretical sampling* (based on richness of data) to conduct structured interviews using open-ended questions (Strauss & Corbin, 1990). This data was used to build questionnaire item responses grounded in participant realities. Next, an online questionnaire was provided to all members of the population under study. Both paper

interviews and online surveys took place within participant offices, homes, or other places of their choosing.

Theoretical Sample

The number of participants in theoretical sampling range anywhere from the single digits to approximately 30 (Creswell, 2003; Rudestam & Newton, 2007; Strauss & Corbin, 1990). To prevent overwhelming and unreasonable challenges to data processing and interpretation, researchers must use caution when selecting the initial number of participants for a grounded theory study (Rudestam & Newton, 2007). Theoretical sampling is a flexible process that permits follow-up interviews and adding later participants and artifacts to elaborate emerging themes (Strauss & Corbin, 1990). Its goal is data saturation rather than obtaining a specific number of participants; it is a living process, even allowing the researcher to halt further data collection and coding if no new meaning is revealed.

The theoretical sample in this study was purposeful, in that I sought to include those considered as faculty as well as others noted by faculty or literature as playing an influential role in institutional ethics logic. I sought varying demographic views throughout the organization—such as across subunits and positions (different departments and tenure status). The only criteria was for the sample to include faculty from each major college of the university as well as institutional leaders suggested by interviews or literature as exerting influence over ethical behavior in the university. Research intent was achieved with a response rate between one and four from each of the

four major colleges, as well as three university leaders from three different administrative offices—each playing some role in institutional ethics.

The participants interviewed for the first part of the study were drawn from a body of 76 full-time faculty members and a handful of university administrative leaders who possessed information believed relevant to the study. Over 40 members were invited to participate, with 13 agreeing to be interviewed. The theoretical sample included faculty and administrators of varying ranks. Table 3.1 elaborates on participant rank and position.

Table 3.1
Attributes of Participant Rank and Position in the Theoretical Sample

Rank	Professor	Associate Professor	Assistant Professor	Instructor
Population	19	25	20	12
Sample	2	5	4	2
Position	Administration VP, Assoc. VP, Director	Dean Assoc. Dean	Other Faculty	
Population	34	10	66	
Sample	3	2	8	

Later, follow-up interviews (some via email) were conducted, and new participants were sought to clarify emerging themes. Collecting data from these entities accentuated “similarities and differences” of information (Creswell, 2003, p. 14) necessary for comparison when developing a strong grounded theory.

Questionnaire Sample

Interview data was used to develop an online questionnaire for the full-time faculty population, as displayed in Table 3.2. This included both the 76 faculty members at the unit level, as well as 12 administrators holding faculty status. All 88 faculty members of the institution were invited to participate in this phase of the study.

Participants were informed that their names would remain confidential. The return rate was 72 %. Further detail on the instrument and procedures are discussed next.

Table 3.2

Attributes of the Full-Time Faculty Population under Study, Including Twelve (12) Holding Both Faculty and Administrative Roles

	Tenure	Tenure Track	Not on Tenure Track	Total
Full-time Faculty	38	30(4)	8(8)	76(88)
	Professor	Associate Professor	Assistant Professor	Instructor
Rank	19(5)	25(2)	20(2)	12(3)

Instrumentation

This research used three instruments to collect and refine data—interviews, questionnaires, and the ORA/DyNet software package. Both the structured interview and the resulting questionnaire were based upon research methods developed earlier by the author and his mentor at a regional hospital and rural high school in the southeastern United States (Hanson, 2008; Hanson & Marion, 2008; Marion, Ford, & Hanson, 2008a, 2008b). These instruments were selected after conducting an extensive instrument review, after which I decided traditional ethics instruments did not address my need in

developing qualitative questions focused on institutional ethics logic. Each of these instruments will be addressed after discussing the instrument review.

Instrument Review

A review of test instruments and measures containing ethics and beliefs revealed a host of measurements designed to obtain traditional quantitative measures from participants—focused primarily on how they think or behave as individuals across contexts. For example, some of the instruments included the Interpersonal Trust and Attitudes Toward Human Nature, measuring general ethical beliefs (Wrightsmann, 1991); the Career Decision-Making Self-Efficacy Scale, measuring the belief or confidence in participant job seeking potential (Betz & Taylor, 1983); the Defining Issues Test, which examines moral reasoning based upon Kohlberg's moral development theory (Rest, Thoma, Davison, Robbins, & Swanson, 1979); the Family Environment Scale (FES), a Social Climate Scale focused on family interactive dynamics (Moos & Moos, 1974); the Lore Leadership Assessment, which measures leadership behaviors, traits, and skills (Bacon, 1998); the Power Management Profile, elucidating the follower's perception of power distribution between themselves and their supervisor (Hall & Hawker, 1981); the Working-Assessing Skills, Habits, and Style, a self-assessment of competencies linked to exceptional workplaces (Miles, Grummon, & Maduschke, 1996); the Assessment of Personal Traits Inventory, a human resource tool used to examine ten management traits—one of which was ethics (Huebner & Stake, 1992); or the Career Beliefs Inventory, which ascertains what beliefs prevent career goal attainment (Krumboltz, 1991). These instruments are focused on quantitative measures of central tendencies,

many created to measure numbers rather than words; also many include beliefs involving all ethical aspects of life, general ethical philosophies, or are targeted to some context other than work.

Instrument Need

These instruments do not meet the purpose of the study. The intent of qualitative research is to have participant's reveal their realities—not have realities defined by the researcher. To gain qualitative data, questions must “open up the data” locked within each participant and define emergent properties and dimensions of each concept (Strauss & Corbin, 1990, p. 77) . Additionally, the purpose of this study is not to measure or determine the generic moral or ethical beliefs or reasoning of the participants in all contexts—personal and public. Rather, it is to:

- Glean participant realities on those elements playing a role in institutional ethics logic within their institutional setting
- Gain insight into how these elements are inter-related, and to better understand the interactions between them
- Limit, as much as practical, the application of these realities and beliefs to the work environment

Consequently, an interview and questionnaire instrument were generated—this is, structured and worded much like similar purpose surveys developed earlier by my mentor for collecting data for ORA. Both are described in the next section.

Data Collection

Before data collection began, the institution under study granted permission for the research (Appendix A), and the research proposal was approved by Clemson University's Institutional Review Board (Appendix B). Data collection procedures included multiple methods (Creswell, 2003, pp. 181-183), and occurred in three parts: structured interviews, online questionnaires, and modeling.

Structured interviews

Qualitative interviews consisted of structured, open-ended questions and took place in the participant's natural setting (Kerlinger & Lee, 2000). Interviews are one of the best ways to gather data on personal beliefs (Kerlinger & Lee, 2000). Participants provide "self reports of their opinions, attitudes, values or beliefs ..." (Sproull, 2002, p. 164). Structured questions keep participants, and the resulting data focused on the phenomena (Charmaz, 2008; Kerlinger & Lee, 2000). For example, while realizing the impossibility of separating such things as religious and familial ethics from ethics related to work, the intent was to ensure participants placed constructs within an institutional context—the purpose of this research. These were open ended questions, so as to generate original information not previously identified by literature holistically (Sproull, 2002). Refinement of the structured interview received input from four faculty members at Clemson University and one from Anderson University. The interview questions were then field tested by four faculty members of the institution under study; these four were purposely not included in the theoretical sample. The interview instrument can be found in Appendix D.

I next presented the survey and letter of consent to participants. (Consent letter in Appendix C.) I explained the purpose of the study and encouraged faculty to contact me to clarify interview questions or ask for assistance. Participants were informed that their names would remain confidential and they could withdraw from the study at any time. They were asked to respond to each question and return their answers via email or, if hand-written, placed in a sealed envelope with the Business College executive assistant for me to pick up at a later time.

There were 13 participants in the grounded theoretical sample; three participants were contacted to elaborate on responses, and three others were involved in multiple additional interviews to achieve data saturation. Collection of institutional artifacts and observations also contributed to the data. Data saturation was primarily achieved after analysis of 10 responses, however all data was incorporated into the coding process. Interviews explored the participant beliefs and the realities of those resources, tasks, pressures, behaviors, and other university entities that played a role in the institution's ethics logic. One of the participants provided me with a number of handbooks explaining history, policy, structure (committees, positions, roles, etc.) and other helpful data, central to the institution's ethics logic; another provided access to a code-protected employee handbook on the university web site. Further data was obtained from the university web site itself. Additional participants were considered for interviews; however this was not pursued for two reasons. First and foremost, data saturation had been achieved and little new data emerged from the last three interviews. Secondly, by this time approximately half of the faculty population had been contacted. Since all faculty members would be

asked to participate in the next phase of research, it made little sense to continue to expand the request for additional interviews.

Online Questionnaire

Once thematic analysis of the interviews was complete, a qualitative online questionnaire instrument was constructed. The online survey composed both participant realities derived from the interviews and concepts from literature gleaned from theoretical sensitivity (Strauss & Corbin, 1990, p. 51). The questionnaire allowed the population under study to accept abstracted themes and dimensions or reject them as representative of collective reality. This acted as a form of intermediate member check, and was used to collect data for the development of networks in subsequent analysis. The questionnaire instrument integrated considerations provided by Sproull (2002, p. 206); that is, items would:

- Yield data in a useable form to answer both the research question and for appropriate measurement—in this case transformation of qualitative data into graph and network measures
- Develop non-leading questions
- Ensure respondents had the knowledge and willingness to answer them
- Ensure respondents were willing to answer—focused toward the institution, not personal unethical behavior.

Next, the online survey was field tested by four faculty members. After some minor revisions it was ready to be administered. (The questionnaire instrument can be found in Appendix F). Before online activation, I created a support foundation for this

part of the study by attending multiple college faculty meetings to explain the upcoming questionnaire; members were provided a statement on the purpose and voluntary nature of the study, as well as a letter of consent (Appendix E). Later, just before the survey was activated online, I sent each member of the population a personalized card reminding them of the study.

Once activated, all 88 faculty members of the institution received an email with a link to both the letter of consent and the survey itself, as well as an individualized coded web link to access the survey. The survey remained opened for approximately 10 days and closed on a predetermined, earlier announced date. The response rate for the online questionnaire was 72%.

ORA and DyNet Modeling

The first two methods of survey research provide a snap-shot of the institution's initial conditions; that is, the resulting data defined what the institution's ethics logic was at the time the data was collected. ORA and DyNet were used to generate additional data. Modeled behavior was simulated rather than observed directly.

First, ORA was used to assist the *selective coding process*, as well as transform data into quantitative representations; ORA represents organizations as relationships “among personnel, beliefs, knowledge, resources, and tasks”, where the resulting “entities and relationships are represented by a collection of networks called the Meta-Matrix” (Carley & Reminga, 2004, p. 1). ORA generated data by allowing manipulation of data from both a researcher initiative and participant generated *what if* scenarios to better understand ethics logic dynamics.

Next additional data was generated using DyNet’s stochastic methods of multiple computational runs over a set number of time periods (Monte Carlo methods). This was conducted to project estimated evolutionary trajectories—including both those of non-intervention, as well as specific interventions such as injecting and removing various entities (nodes) and relationships (links).

This data was used for proposition generation (Dixon, 2008) and research question generation. Using modeling for theory generation is not uncommon (J. P. Davis, Eisenhardt, & Bingham, 2007; Schreiber, 2006), and particularly useful when examining dynamic processes and contexts in time (Gilbert, Jager, Deffuant, & Adjali, 2007; Schreiber, 2006).

Analysis

In the first step of this research study, *structured interview data* was coded using open coding (extraction and categorization of similar meaning units) and axial coding (developing abstracted themes and relationships) outlined by Strauss and Corbin (1990; 1998). This process began as soon as the first data were collected, emerging as sets of conceptual labels placed within categories (Strauss & Corbin, 1990). This process of using a constant comparative method and asking questions of the data continued throughout the coding process, refining categorical dimensions and properties.

Open coding represented the initial breakdown of data and included distilling words into an “incident, idea, or event, a name, something that stands for or represents a phenomenon” (Strauss & Corbin, 1990, p. 63). Similar meaning units were placed within a shared category, however at this stage, any category or relationship is tentative (Strauss

& Corbin, 1990). While many grounded theory studies develop categories determined purely by emerging data concepts, researchers can use literature to predetermine categories (Strauss & Corbin, 1990, p. 68). While this possesses some disadvantages, the authors note that advantages include greater conceptual development and shared meaning—particularly to a discipline or profession (p. 68). This study began with predetermined categories from literature related to complexity and network research. This method did not limit use of emerging categories; grounded theory methods allow researchers to change categorical titles to better reflect concepts as the study progresses (Strauss & Corbin, 1990). Categories and coding concepts were written as “code notes” (Strauss & Corbin, 1990, p. 73). An example of code notes can be found in Appendix G. Table 3.3 provides predetermined categories, influenced by complexity and network research.

Table 3.3
Predetermined Thematic Ethics-Related Categories Based Upon Complexity and Network Research

Category	Explanation
Agent	Faculty members ,and other significant agents noted by faculty
Values	Institutional values that influence ethical behavior (written and unwritten)
Meta-Agent	Agentic aggregates such as peers, committees or institutional offices
Ethics Artifacts	Those artifacts that influence ethical behavior, such as a code of conduct, religious symbol, or posted organizational values
Pressures	Those institutional pressures noted by faculty
Core Pressures (goals)	Those individual, internal motivational pressures generated by the faculty member themselves
Ethics Task	Tasks conducted by faculty, such as central to teaching an ethics class, seminar, or resolving ethical issues
Ethics Knowledge	That knowledge faculty possess to fulfill ethics functions
Ethics Resource for Student Issues	Those resources used by faculty to conduct ethical tasks or resolve ethical issues involving students
Ethics Resource for Faculty Issues	Those resources used by faculty to conduct ethical tasks or resolve ethical issues involving faculty
Ethics Resource Desired	Those resources not existing, that if offered , faculty would use to conduct ethical tasks or resolve ethical issues
Beliefs	Those beliefs or concerns regarding ethics and ethical behavior on campus
Observed Unethical Behaviors	Those unethical behaviors within the institution noted by faculty—seen, heard, or through other means of awareness

Axial coding puts the data fractured in open coding “back together in new ways by making connections between a category and its subcategories” (Strauss & Corbin, 1990, p. 97). I began by examining each category in terms of context, actions, and consequences so as to define subcategories through a set of relationships (Strauss & Corbin, 1990, p. 97). This process helped feather out new categories, achieve a parsimonious understanding of selected categories, and detect relevant patterns of categorical interactions. This method was one of abstract consideration (Strauss & Corbin, 1990). Abstraction provided “explanatory power” to emerging constructs—the higher, the level of abstraction, the higher the power (Parry, 2003, p. 135). Emerging concepts helped provide elucidation of a *social process* of how one university’s ethics logic influenced the interaction of member beliefs, various pressures, institutional agents and other entities. Abstracted data from the first two coding methods was used to build the online *questionnaire*. An example of coding data from the interview is shown in Table 3.4.

Table 3.4

Examples of breaking down interview data (open coding), placing like conceptual labels into categories, then putting it back together by abstracting concepts (axial coding).

Open Coding	Category	Axial Coding
Respect for coworkers	Institutional Values	Respect for others
Respect for the individual		
Respect for the student		
Respect for the Christian community		
Value of the individual student		
Consider all stakeholders		
Christian values and principles	Institutional Values	Promotion of Christian principles
Being a Christian University		
Value of a Christian Community		
Christian values portrayed		
Faith		
Professed Christian faith		
Religious practice	Personal Goals (core pressures)	Be effective leader
Provide leadership within my field		
Effective administrator		
Keep organization informed		
Assist organization meet requirements		
Reduce unit bureaucracy		

Selective coding—that is the final process of coding which involves selecting a centralized theme and explaining thematic relationships—was conducted *after* questionnaire data was collected and loaded into *Organization Risk Analyzer (ORA)*—an analytic platform assisting in this process. This adopts Strauss and Corbin’s (1990)

concept that the bulk of open and axial coding are likely to take place in earlier phases of the study (p. 58), and that coding procedures should remain flexible (p. 59). ORA can provide rich, thick description of data both visually through network representation, and quantitatively through precise measures, or dimensions, of various properties found within categories and subcategories.

While maintaining qualitative representations of the data, ORA defined relationships with graph binary values (where 1 defined a relationship between entities and 0 defined no relationship). By assisting the explanation of categorical relationships within a set of networks, this step operationalized participant realities within an institutional logic system. Collectively these relationships represented a snapshot of the institution's initial conditions based upon participant realities. As part of the study examining social patterns and emergent leadership roles in ethics logic, I searched for agentic *behavior patterns* correlated with various demographic data, grouping algorithms, and graph measures.

Finally, data on initial organizational conditions (existing networks of nodes and relationships) allowed simulations to generate stochastic outcomes representing future possibilities. These simulations were used for proposition generation for further research. This was first examined through the use of evolutionary trajectories without intervention. Later various interventions were conducted to explore institutional dynamics. Dynamic models represent a greater variety of behavior patterns, and provide an abstract processual representation assisting in understanding, not direct replication, of a phenomena (Huckfeldt, Kohfeld, & Likens, 1982). Specific simulations could not be

predetermined in grounded theory; determination of the parameters to be investigated was dependent upon emergent data during analysis of participant realities. In other words, those themes or patterns that seemed to reveal unusual or interesting dynamics.

In this study I used modeling contexts over time to explore variations in institutional dynamics; it assumed various forms. For example, using Monte Carlo methods, I produced an ethics logic evolution trajectory incorporating diffusion of beliefs and ethics knowledge. Modeling examined the impacts of variations in the access of knowledge, faculty pressures, and access to resources by establishing or removing links or nodes. Simulations included “what if” scenarios based upon the removal or injection of various agents or relationships. Examples of this exploratory tinkering included adding currently non-existing resources or limiting agent access to ethics knowledge.

Throughout the study, I gathered ethics-related data from institutional artifacts such as websites, structures, written instruments, as well as observations. These were integrated into research field notes to assist conceptualization. Example of field notes can be found in Appendix H.

Measurements of Evolutionary Outcomes

Complexity leadership theory is primarily focused on organizational adaptation, and examines the necessary constructs that allows this to happen. For example, organizations must use creativity and innovation to adapt; to make sure the products of such creativity and innovation are successful, they must be shared and adopted by group members—sometimes measured through organizational learning or knowledge diffusion. This research makes the assumption that the phenomena of knowledge diffusion rests

upon organizational learning and information sharing—the ability to synchronize the products of creativity and innovation into a collective, adaptive response.

Data Management

Electronic data was stored on my computer and protected by coded entry; this included online survey data, code notes, field notes, logic diagrams and ORA data files. Paper data was locked in a file cabinet in which I had the only key; this included structured interview papers. Non-coded data will be destroyed once the study is complete.

Validity

Research validity is measured by the *degree* to which the research is accepted by the population of interest—researchers, practitioners, publishers, policy makers, and others (Yardley, 2008, p. 235). Validity is the extent to which research explicates or ascertains what it sought to achieve (Hogan, 2003; Kerlinger & Lee, 2000; Sproull, 2002). Creswell (2003) believes that validity concerns for each method of research used should be addressed. While this study uses various techniques to examine data, the comprehensive research method is grounded theory, and therefore, based upon participant realities.

Validity Measures in Qualitative Design: Trustworthiness

There are many research methods that strengthen qualitative research validity, or trustworthiness, and these measures address the different stages or points in the research process (Creswell & Miller, 2000; Yardley, 2008). The term trustworthiness represents research credibility, transferability, dependability and confirm ability (Creswell & Miller, 2000, p. 126). A central means to strengthen research validity is to clearly identify

the method being used, and the measures taken within that method (Yardley, 2008). Both the terms *qualitative design* and *grounded theory method* hold specific expectations for research trustworthiness. Criteria often inappropriately applied to qualitative research are those of *objectivity*, *reliability*, and statistical *generalizability* (Yardley, 2008).

Attempting to remove all researcher interaction or quantitative “error” regarding participants so as to achieve these criteria, would remove the very strengths of qualitative research; for example, efforts to remove variances would hamper studying the “...effects of context and individual differences” (Yardley, 2008, p. 237). Johnson (1997) points out that qualitative studies often seek to achieve theoretical or logical, “rather than statistical” generalizability (as cited by Yardley, 2008, p. 238). Yet, while many specific quantitative measures of validity do not apply to qualitative research, this in no way limits the need for rigor or trustworthiness.

In this work, design threats to qualitative research trustworthiness were countered by incorporation of multiple means of *data collection*, *data analysis* and overall *findings*. Using three methods to reinforce trustworthiness of each part of research is referred to as providing *triangulation* of methods (Creswell & Miller, 2000; Strauss & Corbin, 1990, 1998; Yardley, 2008). Triangulation offers “a method of enriching understanding” (Yardley, 2008, p. 240). Triangulation also aids in the identification of repeating patterns and themes (Berson, Avolio, & Kahai, 2003; Creswell & Miller, 2000; Parry, 2003), as well as reducing “blind spots” from the use of a single method (Berson et al., 2003, p. 98). Data collection methods incorporated into this study includes interviews,

questionnaires, observations, artifacts and modeling. Each of these is described in Table 3.5.

Table 3.5
Trustworthiness in Data Collection

Multiple Means	Description
Interviews	Field tested; open-ended questions; 13 single and six follow-up
Questionnaires	Field tested; 72% response from population under study
Observations (Field Notes)	Seeing campus layout, attending faculty meeting, interacting with institutional members
Artifacts	Web value and policy statements, student and faculty handbooks
Modeling	DyNet generates data elucidating understanding through data manipulation

Data analysis methods in this research included grounded theory coding, quantitative representation within ORA, and stochastic probability through modeling using DyNet. Each of these is described in Table 3.6. (Examples of quantitative representation set within ethics logic network measuring centrality are in Appendix I.)

Table 3.6
Trustworthiness in Data Analysis

Multiple Means	Description
Rigorous coding methods	Using traditional methods outlined by Strauss and Corbin
Quantitative representation	ORA transforms qualitative data into quantitative representation
Modeling	Offers rich description through visualization and quantitative measurement of subcategories, properties and dimensions

There are a number of other methods of trustworthiness that can be used to reinforce general findings. For example, Creswell and Miller (2000) and other scholars highlight the use of conducting member checks throughout the study. In this case, I use member checks with university representatives in the form of instrument input, explicating meaning of various terms and relationships, reviewing findings in the first and second phase (interviews and questionnaires) and with the presentation of findings (Creswell, 2003; Creswell & Miller, 2000; Morrow & Smith, 1995; Yardley, 2008). Additional measures incorporated into this study include strategies of using thick/rich descriptions, clarifying bias, and presenting discrepant findings (Creswell, 2003; Creswell & Miller, 2000; Strauss & Corbin, 1990). As important, Yardley (2008) stresses the criticality of transparency and rigor in winning research credibility. Table 3.7 describes how these methods were integrated.

Table 3.7
Trustworthiness in Findings

Multiple Means	Description
Member Checks	Feedback after interview, questionnaire, and final analysis
Thick, Rich Descriptions	Incorporation of visual and quantitative representations
Clarifying Bias	Bias and assumptions presented
Presenting Discrepant Findings	Discrepant findings included in analysis or conclusions
Transparency	Opening code and field notes to review
Theoretical Sensitivity	Relating literature to appropriate findings; addressing differences

Addressing Validity of Qualitative to Quantitative Data Transformation

The transition between qualitative and quantitative representation of data was achieved through both *instrument development* and *data transformation* (Creswell, 2003). Instrument development uses a method as described earlier in the study: themes or concepts are acquired from participants, used as items in the questionnaire instrument, and then administered to the population under study. Data transformation is done by giving qualitative data quantitative representation—in this study, binary values representing network relationships and graph measures representing the structural location and number of connections to each item. This operation does not replace or remove qualitative representations; it merely “connects” them to participants, while also providing quantitative values with respect to all other entities within a network.

Addressing Validity Concerns of Modeling

While some may hold valid concerns on the use of modeling within grounded theory, I put forth three important points. First, modeling in this work used validated qualitative data. In addition, participants, representing a wide array of scholars, had a say in both the logic, and the reasonableness of the model representing institutional realities and future possibilities, hence providing face validity to findings. In general then, data input for the model, represented data grounded in the realities of the participants; modeling uses the quantitative measures derived from qualitative methods.

Second, as qualitative participant realities, findings do not necessarily represent truth (Strauss & Corbin, 1990, 1998). Not only does this apply to varied participant interpretations of their experience and environment, but to an expression of intent found

in one questionnaire item. Participant response of intended use of various resources “if available”, may never be actualized.

Third, dynamic models represent better understanding of a process, not replication of the phenomena (Huckfeldt et al., 1982). Dynamic models themselves cannot be fully “validated”. Schreiber (2006) supports this elaboration:

One important note about validation of computational models in general – validation is only a matter of degree (Law et al., 2000). Models are only approximate representations of the complex systems under study. There cannot be any objective proof of a model’s validity (Forrester, 1961). We can only have confidence that a model is a reasonable representation of the system (Greenberger, Crenson, & Crissey, 1976). (p. 36)

The use of DyNet holds reasonableness from multiple perspectives. First, simulation is designed for “human analysis and validation is provided by subject matter experts judging that the model “feels right” (face validity)” (Yahja, 2006, p. 3). Next, the model uses well know parameters of social interaction. Schreiber (2006) explains the pre-set parameters within the DyNet modeling platform:

The basic interaction processes in Construct, relative similarity and relative expertise, are based on well-known social processes of human interaction. Relative similarity is based on homophile (Lazarsfeld & Merton, 1954); the finding that people tend to interact with those similar to themselves. Arguments supporting homophile include trust, comfort, communicative ease and access. (p. 39)

Another facet of modeling reasonableness includes the fact that its use is oriented toward theoretical development. It can be “especially useful for theory development when the focal phenomena involve multiple and interacting processes, time delays, or other nonlinear effects such as feedback loops and thresholds” (J. P. Davis et al., 2007, p. 483).

Researcher Bias

While qualitative methods demand the researcher recognize and minimize researcher bias, some bias will always exist (Yardley, 2008). An important start in qualitative research is public acknowledgement of existing bias.

In this study, I recognize that some bias rests with my own experience and knowledge of higher education. I am familiar with education and teaching experiences over a ten-year period at a large four-year, public research university of over 1,400 faculty (Clemson, 2007); this shapes my understanding of higher education. This narrow perspective highlights the importance of remaining open to explicating participant realities within a different context—that involving:

- A private, religiously affiliated institution; this holds significant implications for legal variances from public institutions (Kaplin & Lee, 2006)
- A small institution of less than 90 full-time members holding faculty status
- A university emerging from college status in 2006 and undergoing accreditation and other new pressures to meet university level three standards
- A university seeking to expand teaching locations, incorporate online courses, recruit older students, and pursue more faculty with terminal degrees

In addition to recognizing different contextual elements, the use of various other research trustworthiness measures also aided minimizing bias. Observations and artifacts made me become more aware of context and processes; employment of *theoretical sensitivity* aided familiarity with topical literature, therefore elucidating researcher assumptions; and involving participants in data interpretation and findings kept data grounded in participant realities.

Ethical Issues

Conducting research on ethical constructs sometimes poses particular ethical concerns. In this study these concerns are minimized. First, the focus on this study is on institutional processes—not individual behavior per se. Secondly, interviews and questionnaires ask about institutional impressions and opinions, not about individual past behavior or character. Third, simulated events using agent based modeling remove live participants from any behavioral context. Schreiber (2006) notes that one of the advantages to agent based modeling, is the ability to conduct simulated ethical situations and behavior without posing risk to human participants.

All participant names for interviews and questionnaires were coded; no names were used for research findings. Paper transcripts and questionnaires were secured under lock and key with the principle investigator. Electronic files were secured under coded entry password. Files will be destroyed once research is complete. Due to the minimal risk to participants, the research for this study was filed with the IRB under the exemption certificate form.

Summary

This chapter presented some of the challenges to researching complexity dynamics and stressed the need to use both qualitative methods to gain participant realities and the ability to manipulate entities to gain insight into amplification and dampening of both various dynamics and organizational outcomes. Participant realities represent initial organizational conditions; modeling offers a method to clarify relationships, and generate propositions for future research.

After the research questions and some challenges to the study of phenomena representing dynamical processes were presented, this chapter discussed the research design and methods—to include research validity measures. Research findings representing the initial conditions of institutional ethics logic are presented in Chapter Four. Modeling findings are presented in Chapter Five.

CHAPTER FOUR

FINDINGS: INITIAL CONDITIONS OF INSTITUTIONAL ETHICS LOGIC

The major purpose of this study is to *explore* how an institution's ethics logic evolves over time, based upon the dynamics between agents and work-related ethics entities (both human and nonhuman). I sought participant realities of the ethics logic and its dynamics within a university setting, integrating qualitative, quantitative and modeling data within a grounded theory approach. The intent of this approach was to provide a unique, complexity network and leadership perspective grounded in participant realities; its goal is to discover more about dynamical relationships of ethics logic and to posit ways in which leaders can influence institutional ethics reform.

Chapter Four is the first of two chapters that presents research findings; findings in this chapter represent a snap-shot of the institution's current meta-network—the realities of participants at the time data were collected. I begin by elaborating on research terms and the coding process. Next I present a grounded, operationalized faculty ethics logic model for faculty when teaching and resolving ethical issues. Finally, I conduct an analysis of agent-by-agent networks to determine influential university enabling leaders. The next chapter will use participant data to explore selected dynamics within institutional ethic logic, using both manual and modeling data manipulation.

The analyses in this chapter follow the grounded theory coding process—breaking down interview data, and then restructuring and abstracting it as concepts of entities and relationships possessing related properties and dimensions (Creswell, 2003; Strauss &

Corbin, 1990, 1998). My analysis applies quantitative graph theory to graphically represent qualitative data using the Organizational Risk Analyzer (ORA), a statistical analysis package developed at Carnegie Mellon University. ORA aids the *selective* coding process by identifying clusters of relationships among entities (categories) and their nodes (subcategories); ORA supports the researcher in determining and validating categorical relationships by providing quantitative measures. ORA also assists the researcher in detecting and investigating patterns of behavior—the focus of complexity theory. In this study, network visualizations and descriptive tables of quantitative data supplement a traditional, primarily narrative description of phenomena often found in grounded theory research. This approach offers a different form of thick, rich descriptions of data within grounded theory research.

Research Questions

The following question directed the study: How does the interaction of agent work-related ethical beliefs and knowledge, perceived pressures, and institutional agents or other entities influence the evolution of institutional ethics logic over time? The supporting questions were:

1. What member *work-related* ethical beliefs and knowledge, perceived pressures, agents and other entities are found within the institution?
2. How are these entities related to each other, and to organizational members?
3. How does complexity leadership theory apply to ethics logic?
4. How are institutional dynamics related to ethics logic evolution?

5. What influences the diffusion of agent ethics knowledge and beliefs among members?

This chapter answers the first three research supporting questions. The answer to these questions emerged through the grounded theory coding process. The last two supporting research questions are answered in Chapter Five.

Grounded Theory and Network Research Terms

One of the challenges in this study was to translate grounded theory terms into network terms and vice versa. Network theory identifies various entities, such as pressures, beliefs, people, and so forth; within these entities it identifies subcategories or sets of specific elements (nodes). For example, within the entity of *pressures*, faculty reported existing forces such as publication, service, and recruitment demands. Each of those subcategories represents a *node* within the entity of pressure. Grounded theory likewise describes categories and subcategories through description of their *properties* and *dimensions*. For this study, properties are considered as various graph and network *measures* (many related to node position and influence—such as centrality). Each property possess various dimensions—usually represented either through a normalized value between 0 and 1, or through the number of raw links (representing relationships) between nodes. ORA assists in recognizing relationships between nodes as directional or reciprocal, as well as providing graph and network measures defining each node's relationship and influence within a network.

Organizational networks can be represented by two or more entities—in this study, human agents (faculty) compose at least one entity; for example, networks can be

described as an agent-by-pressures network, or an agent-by-belief network. In traditional *social network analysis* (SNA), entities within a network are primarily people, thus for the most part, agent-by-agent networks (who knows who) are analyzed. In Dynamic Network Analysis (DNA), multiple types of networks are combined and are referred to as the meta-matrix; in this study the collective set of networks represent the institution and will be referred to as a meta-network. Table 4.1 presents interpretation of grounded theory terms to those used in the description of network research.

Table 4.1

Translation of Grounded Theory Terms into Network Terms, Using “Pressure” Or “Agent” As a Categorical (Entity) Example

Grounded Theory Construct	Network Construct	Description/Example
Category (Pressures)	Entity (Pressures)	An aggregate sharing commonalities, such as Pressures in campus life
Subcategories or Conceptual Labels	Nodes	Specific elements within Pressures, such as Publication, Research, etc.
Properties	Type of Graph or Network Measure	Agent A can be described in terms of <i>Degree Centrality, Betweenness, etc.</i>
Dimensions	Normalized Values or Raw Number of Links	Agent A’s <i>Betweenness</i> can range on a continua between 0 and 1
Relationships (Directional or Reciprocal)	Links (or edges) (In-degree, out-degree or reciprocal)	A specific context in which two nodes share a relationship—a <i>professor</i> who writes a <i>grant</i>
Relationships between two Categories or Entities	A Network (When entities share links between respective nodes)	Faculty by Pressures Network: Faculty (agent entity) is linked to publication and grant writing (pressures entities)
A Collective Set of Categories	Meta-matrix	Meta-Network consisting of all Networks—their nodes and links

Data Collection and Analysis

Data collection in network analysis is an iterative process of collection, coding and validation. Data for this study was collected from participants, observations, and institutional artifacts. Participants were involved in two primary phases of data collection—interviews and an online survey. While all three coding methods (open, axial, selective) are iterative and ongoing throughout the study, for a parsimonious description, open and axial coding and findings will be addressed as part of interview analysis; selective coding will be addressed as part of online questionnaire analysis.

Data were recorded with survey instruments as well as compilation of *code notes* and *field notes*. (Samples of each are at Appendix G and Appendix H, respectively.) Code notes are “the products of coding” (Strauss & Corbin, 1990, p. 61), and provide a trail of data abstraction and relatedness. Field notes for this study are those notes incorporating activities, observations, collection of artifacts and other data relevant to the study. Data collection design is depicted in Figure 4.1.

I will first describe analysis of interview data, in which ethics logic entities and relationships emerged, and then proceed to analysis of the online questionnaire data using ORA.

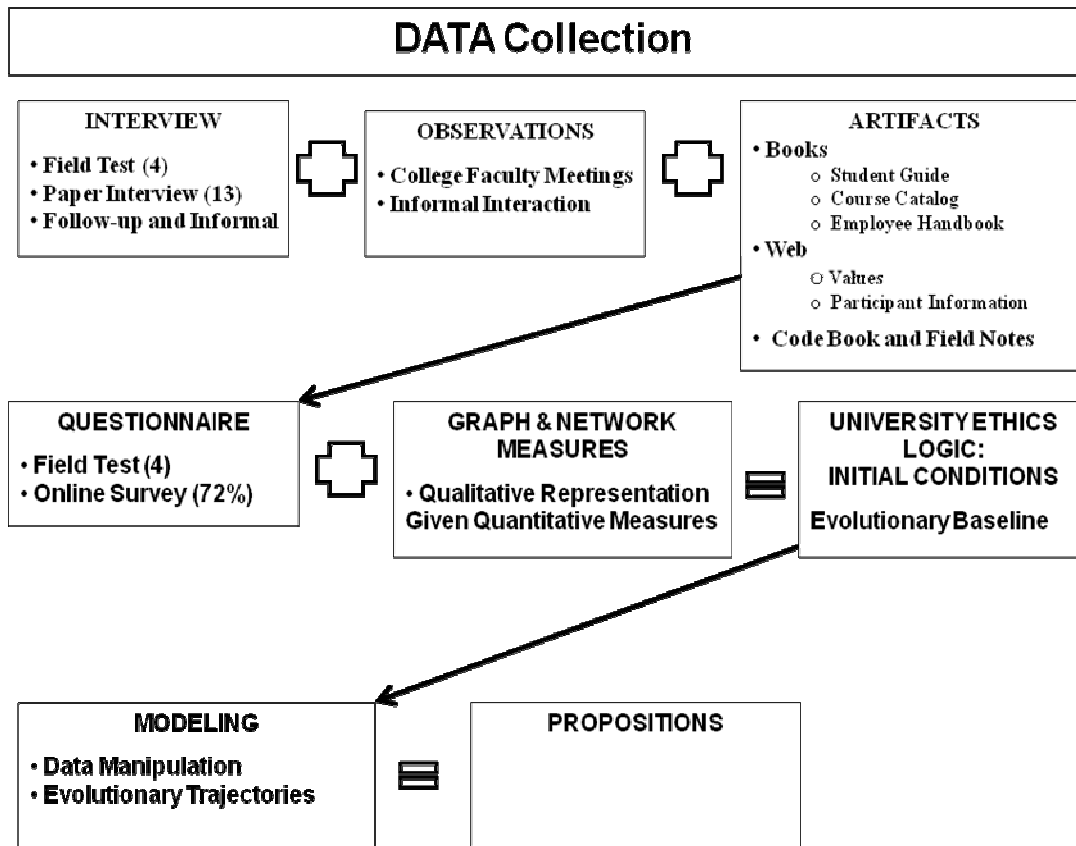


Figure 4.1. Data collection design for university ethics logic research.

Interviews and Coding

In the first phase of data collection, participants were given paper interviews to provide their realities of institutional ethics logic. They were provided 11 open-ended questions inviting descriptions of job-related ethics tasks, ethics knowledge, ethics resources, institutional norms, etc.; responses included phrases and sentences written by the participants. Strauss & Corbin (1990) note that "...one does not necessarily need a whole paragraph or list of questions in order to 'open up' the data. This can be done with a sentence, a phrase, or sometimes even with a single word" (p. 81). The paper interview method eliminated common interview risks such as interrupting or distracting the

respondent, presenting interviewer perspectives in a verbal or physical manner, or jumping around to various topics (Britten, 1995). It also allowed respondents to reflect on both the question and answer.

Thirteen participants from the small, religiously-affiliated university participated in the interview; they represented both faculty and administrative members having a role in policy and ethics resolution; six of these members were involved in follow-up interviews; two were contacted multiple times. With incorporation of observations, as well as artifacts derived from course catalogues, student and faculty handbooks, as well as web sources—data saturation was achieved. The interview instrument is located in Appendix D.

Open Coding: Breaking into Meaning Units

Open coding is the process of breaking down participant data into meaning units, or conceptual labels, representing “discrete happenings, events, and other instances of phenomena” and placing them into categories (Strauss & Corbin, 1990, p. 61). These “instances” are broken into meaning units and placed within initial categories by constant comparison and asking questions of the data (Strauss & Corbin, 1990). In this study, I followed an open coding process of *line-by-line analysis*; it is both the most detailed and the most generative method of developing categories and conceptual labels representing participant realities (Strauss & Corbin, 1990, p. 72).

Based upon the requirements of a network analysis focused on ethics, initial categories were predefined for this study based upon literature addressing ethics and higher education; for example this study began by asking about categorical topics such as

those institutional members who influence faculty behavior and those institutional pressures faculty face in daily campus life. Other network specific categories included knowledge categories, task categories, belief categories, and resource categories.

Emerging meaning units, or concepts, were sorted into these categories. Predetermined categories did not preclude adding, removing or clarifying categories as findings emerged; nor did predetermined categories hamper the coding process as one of constant comparison or assigning meaning units into their initial category placement. Shortly after open coding began, axial coding followed; holistically these processes overlap, however only those data bits having undergone fracturing can then undergo axial coding.

Axial Coding: Emerging Concepts

Axial coding begins a process in which fractured data “are put back together in new ways after open coding” (Strauss & Corbin, 1990, p. 96). Axial coding is a procedure that assists in connecting categories and subcategories, and establishing the nature of the relationships between them (Strauss & Corbin, 1990); this process involves combining and abstracting the conceptual labels derived from open coding. Grounded theory coding boundaries are non-existent and free flowing (Strauss & Corbin, 1990). This highlights the recursive process of data collection and *meaning refinement* throughout the coding process.

By the time interviews and the initial open and axial coding had been completed, three of the predetermined categories were dropped and three were added; two of the original categories (student and faculty resources) collapsed into one (institutional

resources), and the categories of *Norms* and *Meta-agents* (representing groups) had emerged. Also as conceptual label properties and dimensions emerged, terms describing categorical relationships (networks) were altered, offering a more precise representation of subcategories (nodes). Table 4.2 shows pre and post thematic categories.

Table 4.2
Changes to Predetermined Thematic Categories; Categories Represent Agentic Interaction Based Upon the Categorical Construct

Predetermined Categories	Coding Process Resultant Categories
1. Agents	1. Agents
2. Values	Dropped
3. Meta-agent (Institutional Subunits)	2. Meta-agent (Institutional Subunits)
4. Ethics Artifacts	3. Ethics Artifacts
5. Pressures	4. Pressures
6. Goals (Core Pressures)	5. Goals (Core Pressures)
7. Ethics Knowledge	6. Ethics Knowledge
8. Ethics Tasks	7. Ethics Tasks
9. Ethics Resource for Students	Collapsed into Current Ethics Resources below
10. Ethics Resource for Faculty	Collapsed into Current Ethics Resources below
11. Ethics Resource Desired	8. Ethics Resource Desired
12. Observed Unethical Behavior	9. Observed Unethical Behavior
13. Beliefs	10. Beliefs
	11. Current Ethics Resources
	12. Meta-Agents(Aggregates)
	13. Norms

The axial coding process brought clarity and power to participant realities. Table 4.3 presents some examples of breaking data into conceptual labels and placing them into categories based on similar properties and dimensions (open coding), and then putting data back together through conceptual abstraction via axial coding.

Table 4.3

Examples of breaking down interview data (open coding), placing like conceptual labels into categories, then putting it back together by abstracting concepts (axial coding)

Open Coding (grouping concepts into like properties and dimensions)	Category/Entity	Axial Coding (putting data back together)
Respect for coworkers Respect for the individual Respect for the student Respect for the Christian community Value of the individual student Consider all stakeholders	Norms	Respect for others
Christian values and principles Being a Christian University Value of a Christian Community Christian values <u>portrayed</u> Faith Professed Christian faith Religious practice	Norms	Promotion of Christian principles
Provide leadership within my field Effective administrator Keep organization informed Assist Organization meet requirements Reduce unit bureaucracy	Personal Goals	Be effective leader
Teaching excellence Teaching Effective teaching Teaching quality and quantity Managing teaching load Instruction matches expectations	Pressures	Teaching excellence
The institution is fair. The University is fair on all measures: student behavior, student academic problems, staff concerns, faculty concerns, etc. The University deals fairly with charges of sexual harassment, unethical behavior, etc.	Beliefs	The institution is fair

The completed coding process on interview data and artifacts resulted in 13 categories (entities), and 222 subcategories (nodes), not including 88 faculty members (an agent category with 88 nodes). Combining any two entities creates a network; for

relationships between faculty members, both entities will be faculty members, resulting in an agent-by-agent network. Combining all networks creates a meta-network, in this case the university ethics logic. Table 4.4 displays the entities (categories), their number of corresponding nodes (subcategories), the resulting network when combined with faculty agents, and the emergent relationships based upon context. This information answers the first supporting question, “What are member *work-related* ethical beliefs and knowledge, perceived pressures, agents and other entities found within the institution?”

Table 4.4

Organizational Networks (the Presence of Two Entities) Based Upon a Specific Context Incorporating Faculty Agents (One Entity) Combined With One Entity Listed Below

Entity Type	Number of Nodes	Resulting Networks	Relational Context (Links)
Agent	88	Agent by Agent: Interaction	Those members who interact on a weekly basis
Agent	(ibid)	Agent by Agent: Ethics Discuss	Those members sought for ethics policy or opinion discussion
Agent	(ibid)	Agent by Agent: Ethics Confide	Those members sought for confidentiality on personalized issues
Meta-Agent (Formal Structure)	6	Agent by Meta-Agent: Work	Those Colleges faculty interact with as part of job-related tasks
Meta-Agent (Formal and Emergent)	26	Agent by Meta-Agent: Influence	Those groups that influence faculty ethical behavior
Ethics Artifacts	15	Agent by Ethics Artifacts	Those things that influence ethical behavior
Pressures	33	Agent by Pressures	Institutional pressures noted by faculty
Goals	18	Agent by Goals (Core Pressures)	Self-generated motivational pressures
Ethics Knowledge	16	Agent by Ethics Knowledge	Knowledge faculty possess to fulfill ethics functions
Ethics Tasks	19	Agent by Ethics Tasks	Tasks central to teaching or resolving ethical issues
Ethics Resources	18	Agent by Ethics Resources	Resources used to conduct ethics tasks or resolve ethical issues
Ethics Resource Desired	14	Agent by Desired Resource	Resources faculty would use, if available
Observed Unethical Behaviors	22	Agent by Observed Unethical Behaviors	Behaviors noted by faculty as unethical
Norms	18	Agent by Norms	Institutional norms derived from various means of awareness
Beliefs	17	Agent by Beliefs	Those beliefs or concerns possessed about campus life

Online Questionnaire: Additional Data and Coding

Findings from interview coding—that is the emerging entities (categories) and nodes (subcategories), represented the rudimentary constructs of institutional ethics logic, and was used to construct an online questionnaire. In the questionnaire, each entity was incorporated into one of 16 questions. Two examples of entities placed within the survey are:

- Select the primary source(s) of *pressure* you feel in the context of university life.
- In the list below, which best describes the ethics *tasks* you perform in your work?

Response items consisted of corresponding node-sets derived from interview data through axial coding. There were no limitations on the number of response items participants could select. The survey instrument is located in Appendix F.

The purpose of the online survey was to (a) expand the study to the faculty population, (b) allow participants to confirm or reject the researcher's abstracted nodal (subcategory) relevance to entities, (c) establish individual and collective agentic relationships between nodes, providing dimensional values and allowing determination of their level of significance to ethics logic, and (d) detect correlating behavior patterns among institutional members.

Each question in the online survey, acted as a converging context for participants. That is, each question attempted to determine commonalities of faculty interactions or relationships (behavioral patterns) and thereby establish a degree of relevance to collective realities within ethics logic. Determining centrality of categories and

subcategories to the phenomena under study is a major step in the grounded theory *selective coding* process.

The online survey was sent to all full-time members of the institution holding faculty roles, as defined by their university’s Human Resource Department. The resulting 88 faculty members defined the *population* under study; it consisted of 76 members in full-time faculty positions, and 12 members holding both faculty status and other institutional roles. Table 4.5 provides some of the attributes of the population under study. The response rate was 72%, with 63 out of 88 faculty members completing the online survey questionnaire.

Table 4.5
Attributes of the Full-Time Faculty Population under Study, Including Twelve (12) Holding Both Faculty and Administrative Roles

	Tenure	Tenure Track	Not on Tenure Track	Total
Full-time Faculty	38	30(4)	8(8)	76(88)
	Professor	Associate Professor	Assistant Professor	Instructor
Rank	19(5)	25(2)	20(2)	12(3)

Selective Coding: Initial Conditions

Selective coding is a process that determines a central category or phenomena, and explicates relationships among the other categories (Strauss & Corbin, 1990). This is described as a higher level of abstraction and begins with the conceptualization of a “story line” (Strauss & Corbin, 1990, p. 119).

I began selective coding by importing survey data into the Organization Risk Analyzer (ORA) and transforming qualitative data into graph and network representations (visual and numerical). These representations provided normative and unscaled measures with which to determine nodal influence in various contexts; it also revealed aggregated behavioral patterns between nodes. In essence, graph and network measures revealed a degree of participant relevance to collective phenomena.

Graph and network measures also provided a method of determining agentic roles within networks—each network representing a specific context. As noted earlier in Chapter Two, agents hold varying degrees of influence are dependent upon context. Hanson and Marion (2008) elaborate the power of contextual relationships:

For example, one agent may control resources and be extremely powerful in the agent-resource network; others may seek that person out to acquire an advantageous resource allocation. Yet, in a purely social network, the same agent may lack any significant influence. (p. 20)

ORA helped elucidate relationships between networks and nodes. Once finalized, the coding process represented a snap-shot of the organizations ethics logic as viewed by participants. By establishing a set of networks, nodal relationships, as well as network measures and values (derived from survey data), I answered the second supporting question; that question is “How are these entities related to each other, and to organizational members?” However, to make sense of the data from a collective level, I worked to determine those parts that were most significant; this was a continued form of selective coding. I elaborate in the next section.

University Ethics Logic

Once the data had been scrubbed, I ran a visualization of the meta-network representing the University Ethics Logic initial conditions. The resulting meta-network displayed all the networks within the institution; nodes were presented as titled, colored shapes and placed in a location based upon relevance to the centrality of all relationships.

Figure 4.2 displays the meta-networks representing institutional ethics logic.

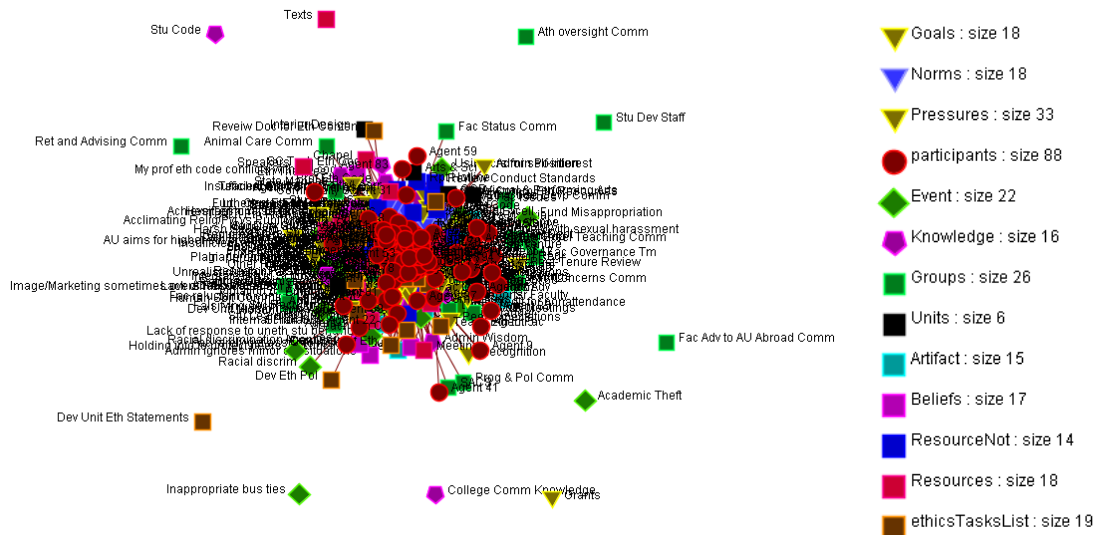


Figure 4.2. The University's Ethics Logic as a Meta-network

Visualization of the university meta-network provided a quick way to determine those sub-categorical abstractions (representing nodes) that displayed little relevance to participants realities in the context they were presented. Figure 4.2 displayed those nodes as isolates—not connected to the collective whole. For some reason, participants did not identify a relationship with those nodes detached from the meta-network. There could be

many explanations: The researcher’s abstraction did not represent participant realities; earlier participants that generated that reality did not participate in the study; or the interview context was changed within the questionnaire context and therefore did not hold the same meaning. Table 4.6 shows the nodes that were not selected by participants, as well as the entity to which they each belonged. For the purpose of this research, these nodes were not analyzed further.

Table 4.6
Nodes (Subcategories) Not Selected as Playing a Role in Institutional Ethics Logic

Node Not Selected by Any Participant	Entity Classification
Textbooks	Ethics Resources
Athletic Oversight Committee	Meta-Agent Influence
Student Development Staff	Meta-Agent Influence
Retention and Advising Committee	Meta-Agent Influence
Faculty Advisory Council to the University Abroad Committee	Meta-Agent Influence
College Committee Knowledge	Ethics Knowledge
Student developed Ethics Code	Ethics Knowledge
Academic Theft	Observed Unethical Behavior
Inappropriate ties to business	Observed Unethical Behavior
Grant Writing	Pressures
Developing Unit Ethics Statements	Ethics Tasks

I have just determined which nodes have no relevance or value to university ethics logic. Next I will examine those that do. In the following section I will identify groups of agents who correlate with (share) a belief, idea, or other element found within each entity. How do researchers determine the degree with which various entities are

attracted to a particular concept? Graph and network measures are one way of measuring the dimension of that correlation. They do this in two related ways. First, they provide a normative value within a particular context (related to the survey question and corresponding network); second, they establish a degree of relativity to the collective as a whole. These values are set within the measure being examined (centrality, betweenness, etc.). Examples of these measures and values are provided in the next section.

Relationships in Ethics Logic

This section continues the selective coding process by exploring relationships between ethics logic entities and nodes; it addresses the meaning of relationship strengths and resulting patterns of behavior.

To describe the strengths of relationships, I will use DNA measures and related normalized values. Values are collective representations, based in large part on the number of links out of all possible links within a given measure; there are two levels in which these values emerge—a single network and a meta-network. For example, using the measure *in-degree* within a single network, such as that of agents-by-beliefs, a set of 88 faculty members and one belief would result in a possible 88 possible ties to the belief. If 11 faculty select the belief, that belief would have a normalized value of .125. When examining values in a meta-network, such as the Ethics Logic Meta-network, values become much more complex, as measures are computed based upon ties across all 15 networks.

In this study, faculty members that make like selections are often viewed as “clusters”. In my previous example, those making the same selection of belief can be said

to be clustered by their common belief. Yet this is simplistic, as in most cases participants select multiple constructs (nodes) within a network, and share only some common linkages—rarely do two select all the same choices. Therefore, in most cases, complex patterns of clusters emerge—often ambiguous and overlapping. These complex patterns represent agentic bonding and correlation. Uhl-Bien et al. (2007) describe complex adaptive systems (CAS) as “neural-like networks of interacting, interdependent agents who are bonded in a cooperative dynamic by common goal, outlook, need, etc.” (p. 299). Institutional ethics logic represents a subset of all networks within the university, whereby agents are bonded in various ethics entity dynamics representing such things as ethical needs, ethical goals and ethical beliefs. Bonds are formed through an agentic process of correlation—interacting and achieving shared worldviews, assumptions, beliefs, etc. (Marion, 2008; Uhl-Bien & Marion, in press).

Significant Agents within University Ethics Logic

I explored properties and dimensions of the meta-network by running a *Standard Network Analysis Report* within ORA to find primary nodes of influence within the university’s ethics logic. Findings revealed that collective ethics realities enfold both human and non-human nodes. The top eight institutional nodes that displayed the strongest role (influence) in ethics logic included five human agents and three non-human; the human agents will be addressed later in the study.

Two of the non-human nodes emerged from the agentic goals network (Maintaining Professional Competence and Improving Teaching Quality) and the other from the agentic knowledge network (Biblical Principles). Findings are displayed in

Figure 4.3. Among the hundreds of nodes, these eight repeatedly fell within the top three measures across all meta-network graph measures. The Y axis in Figure 4.3 reveals the percentage of measures across the meta-network in which the node placed within the top three rankings. This included network properties such as in-degree centrality, out-degree centrality, betweenness centrality, closeness, as well as many others.

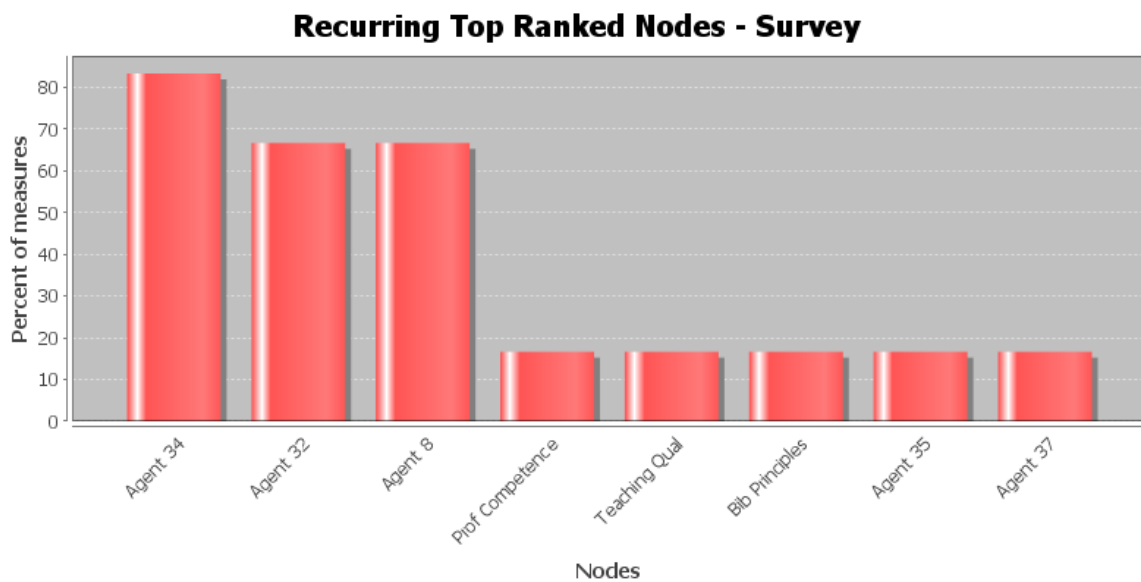


Figure 4.3. Nodes displaying the greatest influence in institutional ethics logic.

I wanted to pursue a deeper investigation into a wider set of nonhuman nodes selected by faculty as playing a significant role in ethics logic. I did this using the property of *In-degree*—that is a directional or one-way selective relationship from the faculty member to the selected node; the resulting top-ten nodes playing a significant role in ethics logic are listed in Table 4.9. Dimensional strengths are represented as both normalized values and unscaled (raw scores).

Table 4.9

Nodes Displaying the Greatest Collective Attraction or Influence to Faculty via Network Measures of “In-degree Centrality” within Institutional Ethics Logic

Rank	Value	Unscaled	Nodes	Network (Inter- Network Ranking)
1	0.1683	52.0000	Biblical Principles	Knowledge (1/16)
2	0.1553	48.0000	Maintain Professional Competence	Goals (1/18)
3	0.1553	48.0000	Improve Teaching Quality	Goals (2/18)
4	0.1489	46.0000	Faculty treat students with respect in the classroom	Beliefs (1/17)
5	0.1456	45.0000	Christian Community/Family	Group Influence (1/26)
6	0.1456	45.0000	Professional Experience	Knowledge (2/16)
7	0.1424	44.0000	Respect for Others	Norms (1/18)
8	0.1294	40.0000	Continue Learning	Goals (3/18)
9	0.1294	40.0000	Promote Christian Principles	Norms (2/18)
10	0.1294	40.0000	Handbook	Resources (1/18) & Artifact (1/10)

Once the degree of influence of these nodes within the institution were discovered, I traced them back to their originating network—identified in the far right column of table; I also examined where each of these nodes were ranked within their own network; the corresponding network ranking is provided in parentheses. The selections in Table 4.9 span many networks and represent the realities of approximately three-quarters of institutional members.

One of the more surprising findings is that three of the top ten selections include faculty member goals (Maintaining Professional Competence, Improving Teaching

Quality and Continue Learning). These goals (also known as core pressures) represent faculty pursuits in higher education. I do not know how or why they have emerged from the collective body of faculty, yet they can still be thought of as informal institutional goals. In their research on group and network goals, Kilduff, Crossland, and Tsai (2008) describe how collective goals can drive the development of relationships and attract resources focused on a particular purpose (p. 89). Even while not formal institutional goals, they can emerge as group norms and carry influence to other members, particularly new organizational members:

A new node recruited into such a network is likely to be immediately imbued with the nature and dimensions of the network goal. Slow learning nodes (those that resist adaptation to the prevailing norms, values and routines) are likely to provoke conflict...(Kilduff et al., 2008, p. 93)

The potential of faculty goals becoming collective norms or formal institutional goals implies leadership action somehow brings it into realization. From a complexity leadership theory perspective, this would be an enabling leadership function. Enabling leaders facilitate member interaction and create conditions necessary for bottom-up behaviors and transmit adaptive needs and outputs to administrative leaders, and administrative leaders apportion resources necessary for goal fulfillment (Uhl-Bien & Marion, in press). This would align quite well with complexity's administrative leaders who foster an "indeterminate" vision that allows the organization to maximize adaptive dynamics and maneuver through ambiguous environments (Marion & Uhl-Bien, 2007). As a result, I offer the following proposition:

Proposition 4.1: Agentic bottom-up goals can emerge as collective, informal goals through interaction fostered by enabling leadership; in turn, goals can become formal organizational goals when forwarded by enabling leadership and accepted by administrative leadership.

Proposition 4.2: Institutionalization of adaptive goals is enhanced when enabling leadership champions adaptive structures.

The findings in this section allow selective coding refinement, and begin arranging categories and subcategories in university ethics logic. Selective coding involves the integration of categorical data and uncovering patterns, continuing to seek a higher level of abstraction (Strauss & Corbin, 1990). Through the constant comparison method, I begin to make conceptual sense of data and explicate the story line (Strauss & Corbin, 1990). In the next section, I continue analysis using the selective coding method. I select a central category and operationalize university ethics logic in a Faculty Ethics Logic Model.

Core Category

The first two research supporting questions are, “What member *work-related* ethical beliefs and knowledge, perceived pressures, agents and other entities are found within the institution?” and “How are these entities related to each other, and to organizational members?”

These questions were answered earlier; I identified 13 core entities and 222 nodes (plus 88 faculty), and 15 ethics logic networks, which are listed in Table 4.4.

The answer to the first two questions provided the data and framework for institutional ethics logic, but it is the third question that helps us operationalize that logic—that is, “How does complexity leadership theory apply to ethics logic?” To begin to answer this question, I needed further elaboration of data meaning. Strauss and Corbin (1990) note that a primary method of analysis is to ask questions of the data. I ask questions such as “What do faculty *do* with these nodes? How and why does faculty apply them? This began to establish a bottom-up perspective on the *process of implementing* institutional ethics logic. It brings into focus that the institution’s ethics logic is used by faculty to teach or resolve ethical issues. The process of teaching or resolve ethical issues becomes the core category.

Earlier, I discovered those ethics nodes selected by faculty as the most significant, and traced them back to the entities and corresponding networks in which they originated (see in Table 4.9); these earlier findings provided clarity for model properties and dimensions.

Set within a complexity network, operationalizing the university ethics logic within a complexity framework of network properties and dimensions gave rise to emergent *causal conditions, intervening conditions, the central phenomena, contexts, resultant action/reaction and consequences*. The relationships between these constructs are presented in Figure 4.4, which displays a conceptual Ethics Logic Model for faculty when teaching and resolving ethics issues. The model addresses the “what” of ethics logic and does not explore variations in applications or changing conditions.

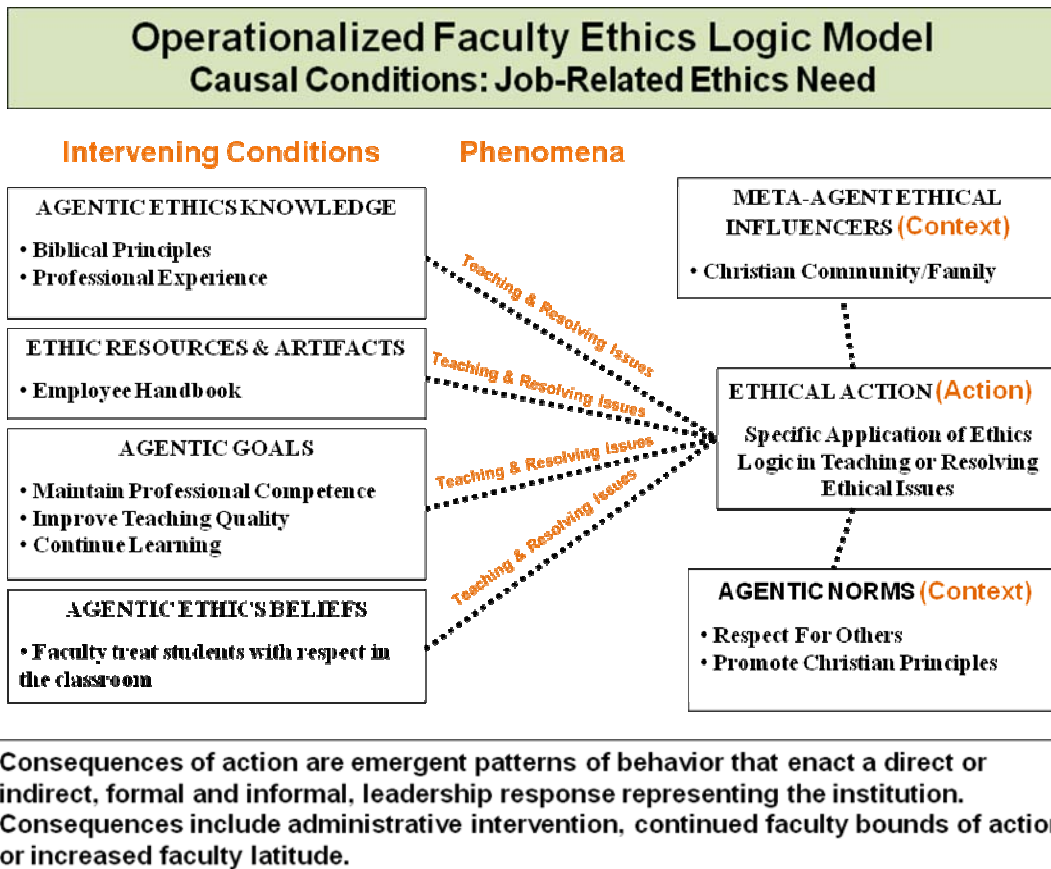


Figure 4.4. Conceptual Ethics Logic Model explicating major forces in institutional ethics logic when teaching or resolving ethical issues.

Story Line

Faculty have a job-related need to apply ethics logic in various situations: from a grounded theory perspective, this need represents a *causal condition* which is situationally based (Strauss & Corbin, 1990). When applying ethics logic to these situations, faculty must integrate “broad and general” *intervening conditions* which “either facilitate or constrain the action/interaction strategies within a specific context” (Strauss & Corbin, 1990, p. 103). In the model, the faculty aggregate primarily uses ethics knowledge related to Biblical principles and professional experience, as well as

resources such as the employee handbook, to resolve ethical issues. Within these conditions, there is a dominant ethical belief that faculty treat students with respect in the classroom, as well as the collective agentic goals of maintaining professional competence, improving teaching quality and continued learning. These conditions are based upon faculty realities, and not necessarily formal institutional standards, goals or policy.

Within the *phenomena* of institutional ethics logic application, the *action* of teaching ethics or resolving campus related ethical issues, faculty are embedded in a *context* of strong agentic norms of respect for others and the promotion of Christian principles. As an aggregate, they report stronger ethical influence from Christian community/family influence—than from institutional leaders, peers, or other meta-agent entities such as committees, accreditation or human resource entities.

The *consequences* of faculty action are that collectively, they emerge as patterns of faculty behavior exacting institutional response through administrative behavior (no response is a selected action); it also can emerge as a reaction by peers (adaptive leadership) influenced by enabling leadership. This response is influenced by past institutional history—as well as extends it.

Causal Conditions.

Faculty members have job-related needs to apply ethics logic both in the classroom and the institution. Job-related needs are based upon changing situations. The most frequent types of causal conditions included modeling ethical behaviors, application of biblical principles, review of student work for plagiarism and the observance of

institutional policy. Development of unit ethics codes, ethics policy, or ethic statement or developing organizational values were least recognized as tasks with which faculty were involved. Faculty also identified concerns of ethical infractions by other faculty, as well as networks of ethics policy discussion and confiding in other faculty.

Intervening Conditions.

Intervening conditions pointed to constructs of faculty knowledge, goals, resources and artifacts, and beliefs. Faculty noted that much of the knowledge they used to teach or resolve ethical issues centered on Biblical principles and professional ethics codes. The most common goals (or core pressures) were: improve teaching quality, maintain professional competence, and continue learning. Achievement and recognition were least mentioned. While faculty members noted external pressures—such as budget constraints and workload (including committee work and student advising), this category did not garner significant reinforcement to identify it as a major influence in the university’s holistic ethics logic.

Resources and artifacts noted as part of teaching or resolving ethics issues most included items such as the Bible and Professional Values; these were reported as influencing agent behavior more than twice the level of the university mission, senior faculty, and scholarly writing or discourse. The Christian campus environment along with university values and policies also play a significant role in faculty influence. Faculty agent behavior reverberates strongly with institutional policies, university values, the Bible, the Faculty Handbook, the general institutional environment, and professional values.

Beliefs playing a significant role in university life, were those that faculty showed respect for students in the class room and that the institution was fair. Few felt hesitant to raise ethical issues.

Phenomena.

Teaching or resolving ethical issues became the emergent phenomena. For some, it is premier; when asked what some of the top-five ethics tasks they faced, faculty gave similar responses:

- “Resolving ethical issues... [and]... including ethics in teaching materials presented to students.”
- “Teaching ethics in core courses.”
- “Teaching ethics to pre-service teachers.”
- “Teaching ethical concepts.”
- “Modeling and teaching ethical behaviors for future teachers”

Context.

The university is surrounded by a Christian environment, where religion plays a large part of university life. A chapel is on campus, and there are ministers teaching theology courses. By far, the Christian Community/Family as a collective agent was noted as playing a dominant role in influencing faculty ethical behavior. Other groups such as peers, students, and deans also played important roles, while committees and external campus stakeholders such as the university accreditation agency and the state Baptist Convention held less influence in the realm of faculty ethical behavior.

Also, faculty mentioned what they believed to be the institutional norms. They believed that those norms representing their institution reflected respect for others, promotion of Christian principles, kindness, integrity and practicing moral behavior. Practicing family values and leadership excellence were least noted.

Action.

Teaching or resolution of ethical issues is based upon a situation (classroom, committee, etc.), and therefore can be seen as varied by each individual response; yet, collectively these responses are revealed as aggregated patterns of behavior within a complexity network. These are guided both by the preceding constructs, and by direct and indirect formal and informal leadership.

Consequences.

General consequences of action are emergent patterns of behavior that enact a direct or indirect, formal and informal leadership response representing the institution. Consequences can include leader intervention, continued bounds of action, or increased agent latitude of action.

When discussing institutional ethics logic, leaders can see that much of it resides in the agents themselves and not merely as a set of resources and policies that ensures institutional well-being. Schwandt (2008) highlights the effect of individual action within a larger pattern of institutional agents:

It can be seen that the definition of human actions is comprehensive in that it relates the latent normative character of the social system (value of country) to its structuring processes such as acts of allegiance (standing of the individual). It

illustrates the interdependent and coevolutionary relation between an individual agent's actions and the social structure of the collective. (p. 105)

The Faculty Ethics Logic Model

The faculty ethics logic model operationalizes institutional ethics logic within an aggregated complexity perspective. The model represents the primary forces which drive faculty teaching or resolution of ethics issues; it recognizes that other forces may play a role in individual agentic action. The model explicates the dynamics involved in faculty action—that intervening conditions hold potent individual differences (such as each member's goals and beliefs), which in turn, hold powerful implications for the emergence of change in collective behavior—spurring collective evolution. While the model does not exclude all formal institutional influence, it highlights the importance of the emerging nature of outcomes largely due to agentic response and not formal mechanisms of hierarchy and institutional policy. To think otherwise would be to imply that institutional formal leaders can invoke complete member response through forcing contextual norms and influences, dictating individual knowledge, goals and beliefs that merge into collective resonances. The collective resonance that develops around model elements requires some form of contagion, resulting in agentic correlation.

Complexity leadership highlights the roles of positional and informal leaders with regard to agentic resonance and emergence—both play some part in the aggregation of agentic response and organizational adaptation. It is the analysis of these model constructs within a complexity leadership network that helps us better understand the role and strengths of informal leadership within the institution's ethics logic.

In the next section, I continue selective coding to “make sense” of patterns of faculty behavior by examining the three social networks: weekly interaction, policy discussion, and confide.

Leaders in Complexity Leadership Theory

Earlier in this chapter, I partially answered the third question as to how participant ethics logic realities apply to complexity leadership theory by operationalizing the faculty ethics logic model set within a complexity meta-network. But, to gain a better grasp of how ethics logic applies to complexity leadership theory and ethics logic dynamics, I need to explore network patterns of behavior and leadership roles.

In this section I will continue to pursue answering the third research question. I will do this by examining the university’s ethics logic networks for patterns of complexity leadership—starting with a short review of general network structure and characteristics by using the faculty weekly interaction network. I will then begin the search for complexity enabling leaders in each of the three agent-by-agent networks identified at the beginning of this chapter.

Schwandt (2008) mentions the many appearances of social network structure formed by various patterns of behavior, rising from any number of network mechanisms: Social structure is any enduring pattern of social arrangements within a particular collective (the term “collective” represents social configurations that include groups, teams, units, and organizations). These patterns can emanate from visible mechanisms such as rules and language, or they can be less visible and emanate from cultural values, norms, and relationships among the agents. (p.103)

Schwandt (2008) identified that behavioral patterns represent a specific relationship agents hold with each other. While leadership is a process between agents in which some form of interaction and influence occur, I will look at a more specific context. Specifically, I will explore complexity leadership dynamics for enabling leadership patterns set within a context established by the survey.

Network Introduction: Faculty Weekly Interaction Network

I will begin viewing the faculty *weekly interaction* network to “get a feel” for the organization as a whole. This network is only generally focused on the institutional ethics logic (constructs such as consideration and respect); but it also establishes an interaction baseline—fundamental to discovering enabling leaders. The weekly interaction network depicted in Figure 4.5 shows those agents that interact on a weekly basis. Figure 4.5 reveals a loosely clustered aggregate formed into four groupings or “clusters”, held together by a tenuous string of agents in the center.

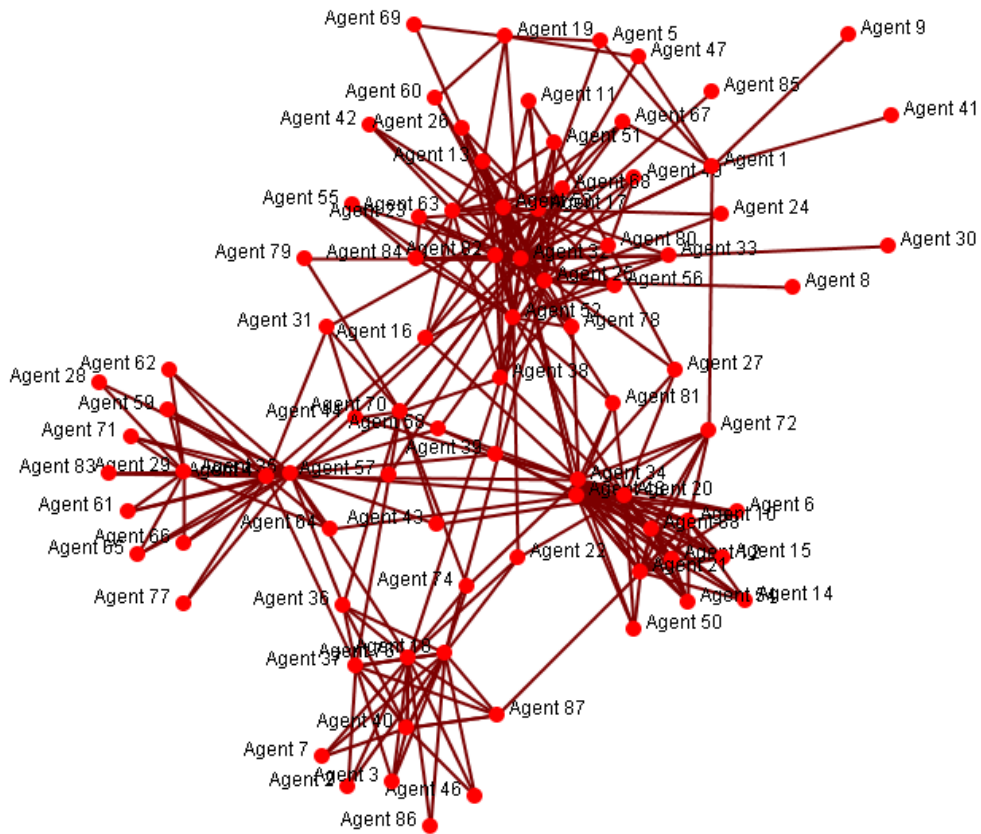


Figure 4.5. Institutional pattern of faculty weekly interaction; findings reveal four loosely clustered aggregates.

A little more analysis exposes a reasonable answer to an interesting network formation. Figure 4.6 reveals that the faculty interaction sub-networks materialized around its major colleges. Each color represents a major college group with some small-college faculty and administrators denoted in red. The faculty pattern of weekly interaction in Figure 4.6 displays few across-college exchanges when compared to internal college interaction. There are a handful of agents that bridge the colleges and either disseminate information or hoard information; analysis of who passes or does not

pass information does not directly apply in this study and can be addressed in future research.

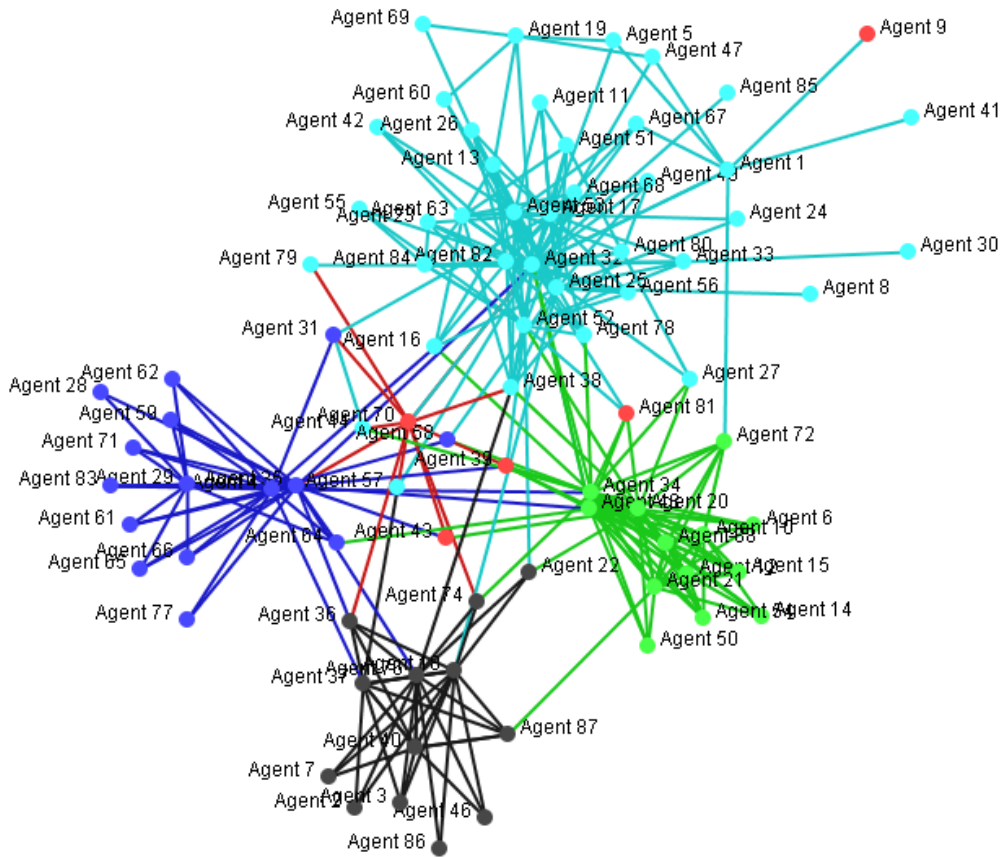


Figure 4.6. Institutional pattern of faculty weekly interaction reveals clustering by major college subunits, each represented by a different color.

Faculty Enabling Leaders

Uhl-Bien et al. (2007) present complexity leadership theory as one in which leaders can fulfill one or all three leadership functions: administrative, enabling, and adaptive. Faculty play a formal leadership role in institutional positions—such as deans and administrators, or in daily classroom interaction with students; however, many times

they also play an enabling role among peers—for example, sharing knowledge or other entities which peers seek for goal accomplishment.

For the purpose of this study, I will begin a search for those filling enabling leadership functions within the context of the three agent-by-agent networks: institutional weekly interaction, policy discussion and confiding in others. For this paper, I will assume those faculty identified as positional leaders fill administrative roles; this does not preclude them from also filling enabling leadership functions.

The model story line operationalizes institutional faculty ethics logic and reinforces the importance of complexity leadership (i.e., who plays what role in institutional ethics logic). Conceptually, administrative leadership provides the formal structure for university functioning, such as the employee handbook (resources/artifacts) and the focus on Biblical/Christian principles (as seen in the handbook and web artifacts). Enabling leaders foster ethical norms, interaction, and healthy levels of tension between agents. Resulting adaptive leadership produces emerging collective, ethically grounded goals. In other words, much of the ethics logic system is self-ordered. Formal leaders in complexly structured systems do not need to exert overt control to guide members toward ethical goals or visions; they need only provide such things as ethics resources and a general direction or vision. For example, in the artifact network and goal network, agents will (and do) self-order around nodal tags. Tags are simply those things that “facilitate the formation of aggregates” (Holland, 1995, p. 12); that is, they bring together people and encourage interaction (Holland, 1995; Marion, 2002). Administrative leadership has the potential to hinder or amplify the speed and momentum of self-order, but not

completely suppress it (Hanson & Marion, 2008). The proposition is that with or without administrator leader influence, agents will be attracted to many of these nodal tags, and through bottom-up interaction (adaptive leadership), begin to correlate and attract others. This is a classic description of peer interest in generating a new journal or creating a new scholarly conference. Enabling leaders emerge on the basis of fostering group efficacy, influencing aspects such as the specific direction and speed of agentic correlation and the resulting outcome emergence (a new journal).

Normalized Leadership Measures

Traditional network measure indicators for agents fulfilling enabling leadership roles are *total degree centrality*, *closeness centrality*, *betweenness centrality*, *cognitive demand* and *boundary spanners* (Hanson & Marion, 2008; Krackhardt, 1990; Schreiber & Carley, 2008). The first four measures are normalized—that is they possess a value ranging from 0 to 1, whereas boundary spanners are dichotomous—they either exist or do not, and can only be valued by an absolute of 0 or 1. Table 4.10 displays and defines graph and network measures important to determining complexity leadership in this study.

Table 4.10
Primary Network Leadership Measures for the Study

Network Measure	Explanation	ORA (Carley & DeReno, 2006)
Total Degree Centrality	That agent holding the most links to others in the organization (Krackhardt, 1990; Schreiber & Carley, 2008); they are expected to have the most exchanges and act as catalyst for knowledge accumulation and flow (Schreiber & Carley, 2008).	The normalized sum of its row and column degrees.
Closeness Centrality	That agent having the shortest path to all other agents in the network, implying rapid access and distribution of information (Krackhardt, 1990; Schreiber & Carley, 2008).	The average closeness of a node to other nodes in a network: the inverse of average distance in the network between the node and all other nodes.
Betweenness Centrality	That agent connected to pairs of other agents, “across all node pairs that have a shortest path” involving that agent (Carley & DeReno, 2006, p. 89). It is the strongest measure determining information access control, and influence or power (Krackhardt, 1990).	For node v, across all node pairs that have a shortest path containing v, the percentage that pass through v.
Cognitive Demand	That agent undergoing a significant level of interaction and demand (Schreiber & Carley, 2008); strong agentic cognitive effort of an individual implies an emergent leader.	Measures the total amount of cognitive effort expended by each agent to do its tasks.
Boundary Spanners	Agents likely linking disjoint groups (Carley & DeReno, 2006; Schreiber & Carley, 2008). As enabling leaders, they facilitate collective correlation and action (Schreiber & Carley, 2008; Uhl-Bien et al., 2007).	A node which if removed from a network creates a new cluster of agents.

Earlier, I ran a Standard Network Analysis Report and a Key Entity Report from the analysis package to detect agents playing a significant role within the meta-network. In earlier findings (Figure 4.3), I discovered Agents 32, 34 and 8 as three of the most influential faculty in the meta-network. I will see more of these three university members

in the three agent-by-agent networks identified by context: the weekly interaction network, the ethics policy discussion network, and the confide network.

Network Search for Enablers

For this study, positional leaders (deans, associate deans, etc.) are considered fulfilling administrative leadership functions; I will identify administrative leaders in the forthcoming figures as colored nodes (blue, green, red); different colors represent different positions. Specific leadership positions will not be revealed so as to maintain confidentiality within the small population—identifying an agent as a dean or associate dean may put their identity at risk. Faculty members not within a formal position will be shown as a black node. At the same time, while I identify positional leaders with a color node, within a complexity leadership framework they may also play an enabling role. I identify enabling leaders using the measures already noted in Table 4.10.

In this section, I will identify faculty enabling leaders for each network in the following order: the weekly interaction network, the ethics policy discussion network, and then the confide network. For each network, I will present normalized values for the leadership measures identified in Table 4.10. Next, I will identify each of the top-ranked faculty enabling leaders by presenting a visualization of the network under analysis, so readers can locate them within the network as a whole.

Weekly Interaction Network

Earlier in Figures 4.5 and 4.6, I saw a general graph of the weekly interaction network and the emergence of four major clusters. After running an All Measures Report in ORA, I was able to feather out the top five agents for all enabling leadership measures.

Table 4.11 displays all measures except network boundary spanners, which I will discuss after I address those in the table.

Table 4.11
Enabling Leaders in Weekly Interaction Network

Rank	Total Degree Centrality	Betweenness Centrality	Cognitive Demand	Closeness Centrality
1	Agent 32 0.264368	Agent 32 0.140563	Agent 82 0.357378	Agent 32 0.171937
2	Agent 34 0.16092	Agent 35 0.0414708	Agent 57 0.353218	Agent 35 0.17126
3	Agent 48 0.132184	Agent 48 0.0387611	Agent 28 0.324699	Agent 70 0.16171
4	Agent 20 0.132184	Agent 70 0.0360495	Agent 77 0.307811	Agent 25 0.160813
5	Agent 25 0.126437	Agent 34 0.0266806	Agent 37 0.306666	Agent 34 0.160221

In this network, Agent 32 is the top ranked enabling leader for all three centrality measures. This agent stands out when compared to the others—particularly in relation to total degree and betweenness centrality; this implies that not only is the agent most connected, but can also quickly collect, control and disseminate information. Consequently, this Agent may also hold significant influence or power in the weekly interaction network (Krackhardt, 1990). In addition to this agent’s extensive network connectivity, Agent 32 holds a position as a boundary spanner—possibly linking disparate groups.

Agent 82 holds the highest level of cognitive demand for the network, because of high levels of interaction as well as work related demand; therefore this agent emerges as another top enabling leader. This network also contains three boundary spanners, in addition to Agent 32: Agents 1, 25, and 33. Figure 4.7 displays each of these enabling leaders in the weekly interaction network using red and blue tabs on the right hand side of the network visualization. In the network visualization I can identify Agent 32 as also fulfilling administrative leadership functions, since the agent is represented as a blue node. As a result, I pose the following question: Is the agent's strong enabling influence in any way tied to related administrative functions? Another question is: What is the significance of all of the strongest enabling leaders emerging from the same "cluster"? While I can say that the cluster in question appears more robust (more relationships and tighter structure), this, and the earlier question must be investigated in later research.

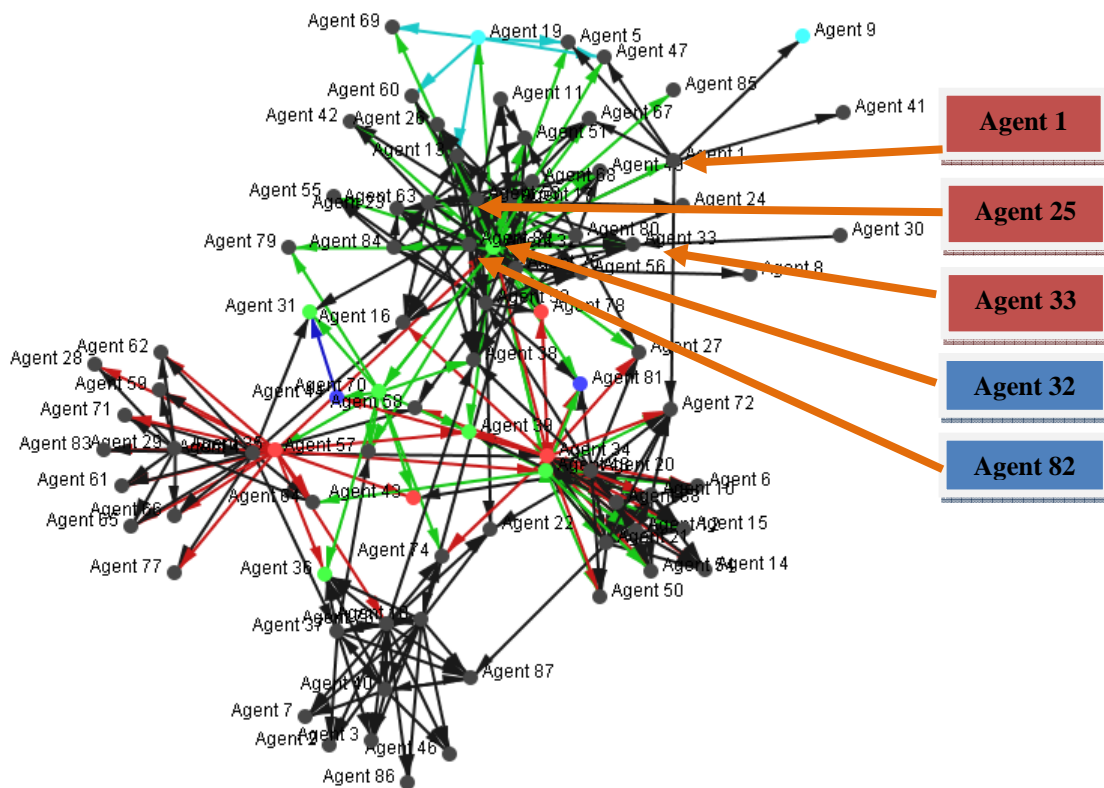


Figure 4.7. Faculty pattern of behavior within the weekly interaction network reveal enabling leaders (identified by blue tabs for centrality and cognitive measures, and red for boundary spanners).

Ethics Policy Discussion Network

For the policy discussion network, I again start by running an All Measures Report. I discover that in this network, Agent 34 possesses the highest normalize value in two degree centrality measures (total degree and betweenness). This agent displays significant influence in faculty interaction when discussing ethics needs and policies. I also find Agent 8 as the top-ranked enabling leader within closeness centrality, inferring greater access to information. Agent 8 also acts as a boundary spanner, possibly linking

disjoint groups. Table 4.12 displays all measures except network boundary spanners, which I will discuss in the following summary.

Table 4.12
Enabling Leaders in Ethics Policy Discussion Network

Rank	Total Degree Centrality	Betweenness Centrality	Cognitive Demand	Closeness Centrality
1	Agent 34 0.201149	Agent 34 0.143813	Agent 82 0.357378	Agent 8 0.163534
2	Agent 32 0.149425	Agent 32 0.123877	Agent 57 0.353218	Agent 77 0.128508
3	Agent 74 0.143678	Agent 79 0.115341	Agent 28 0.324699	Agent 16 0.124464
4	Agent 79 0.143678	Agent 74 0.0773957	Agent 77 0.307811	Agent 17 0.121849
5	Agent 17 0.126437	Agent 35 0.070855	Agent 37 0.306666	Agent 79 0.121339

Interestingly enough, I find the same agent as in the last network, holding the highest measure of cognitive demand; Agent 82 stands out as one engaged in high levels of interaction as well as work-related demand in both contexts; subsequently displaying steady influence across the two networks; this seems to offer a measure of validity as a strong enabling leader. Also in this network there are nine boundary spanners: Agents 1, 8, 17, 33, 43, 52, 58, 74, 79; only Agent 1 and 33 play this role in both networks examined thus far. Figure 4.8 displays the two enabling leaders of centrality and the one

of cognitive demand, labeled by blue tabs; in this figure I will only display the repeat boundary spanners in both networks, labeled by red tabs. As before, the color nodes within the network also fill roles as administrative leaders. In Figure 4.8, I find that Agent 34 emerges as holding both administrative and enabling roles in the policy discussion network. This posits the same question I held for Agent 32 in the earlier network—that is, is the strong level of influence, in part, because this agent knows how to fulfill both enabling and administrative leadership roles?

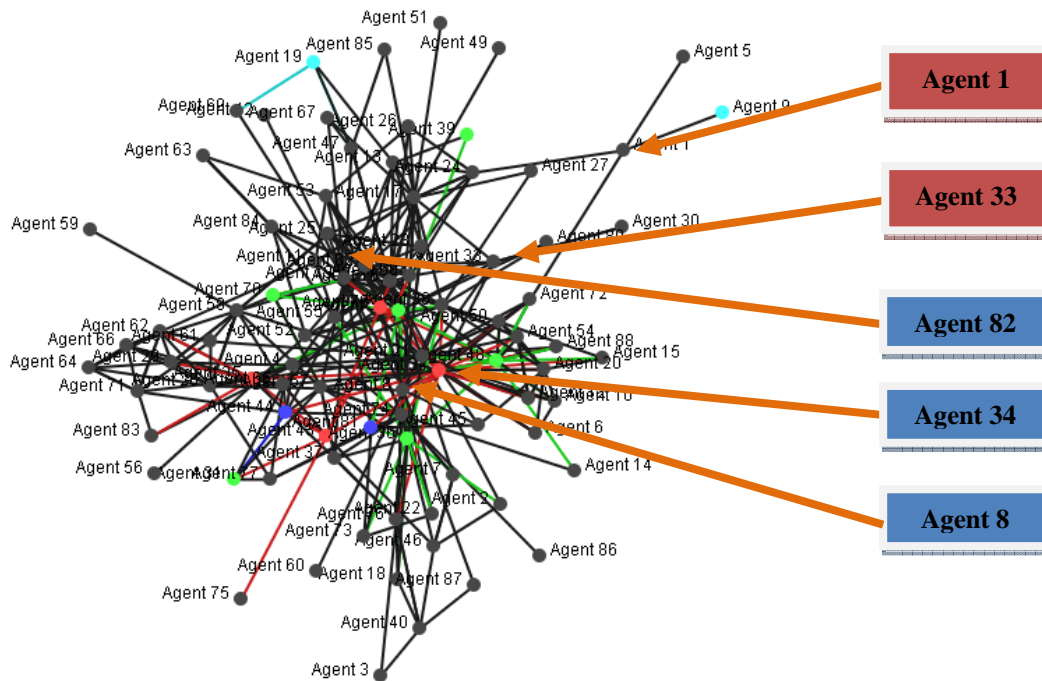


Figure 4.8. Faculty pattern of behavior within the policy discussion network reveal enabling leaders (identified by blue tabs for centrality and cognitive measures and red for boundary spanners).

The ethics policy discussion network displays a tighter collective than the weekly interaction network. Figure 4.9 reveals that subunit clusters are still discernable (colors represent college, not leadership role). Yet, clusters do not seem to play as strong a role in ethics policy, as faculty members appear to be more integrated. Figure 4.9 suggests a stronger collaboration across colleges within a context of ethics policy.

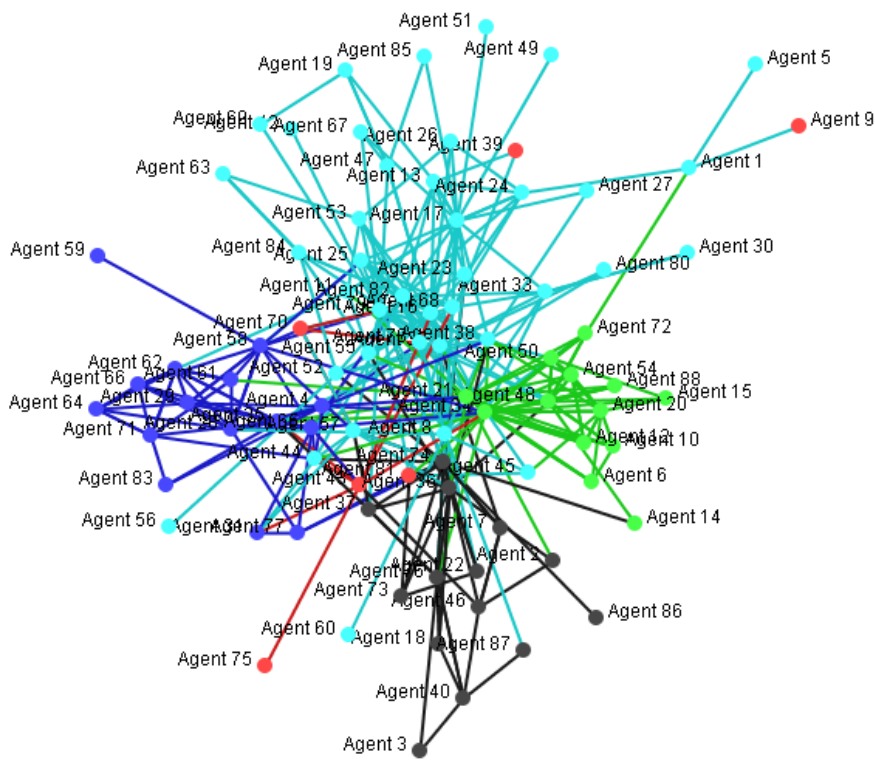


Figure 4.9. Institutional pattern of faculty ethics policy interaction, colored by subunit, reveals tighter centrality of faculty agents than the interaction network.

Confide Network

Again, running an All Measures Report for the confide network reveals those agents exhibiting the highest enabling leadership measures. In this network, Agent 32

reappears as the faculty member possessing the highest values in total degree and betweenness centrality (as in the weekly interaction network); however, since Agent 79 also possesses the same normalized value for degree centrality as Agent 32, as well as fulfills a role as a boundary spanner in this network, I will incorporate Agent 79 into the discussion. In this network, Agent 17 is recognized as the top-ranked faculty for closeness centrality, and Agent 82 again holds the strongest cognitive demand. Table 4.13 displays all measures except network boundary spanners.

Table 4.13
Enabling Leaders in Confide Network

Rank	Total Degree Centrality	Betweenness Centrality	Cognitive Demand	Closeness Centrality
1	Agent 32	Agent 32	Agent 82	Agent 17
	0.0977011	0.15785	0.357378	0.0276454
2	Agent 79	Agent 79	Agent 57	Agent 43
	0.0977011	0.0829591	0.353218	0.0275928
3	Agent 34	Agent 74	Agent 28	Agent 8
	0.091954	0.0794284	0.324699	0.0273585
4	Agent 17	Agent 34	Agent 77	Agent 65
	0.0747126	0.0746748	0.307811	0.0272386
5	Agent 43	Agent 29	Agent 37	Agent 24
	0.0689655	0.060924	0.306666	0.0272045

This network reveals twelve boundary spanners: 1, 4, 17, 20, 21, 29, 33, 43, 47, 72, 74, and 79; many of these have fulfilled this role in other networks, but Agents 1 and 33 have remained consistent throughout all the networks I have examined.

As mentioned earlier, Agent 32 was also an influential member of the weekly interaction network. Also, Agent 82 continues to emerge as displaying high levels of cognitive demand. These two agents, as well as Agents 1 and 33, display repeated patterns of influence across networks.

Figure 4.10 displays the four enabling leaders of centrality and cognitive demand (blue tabs); also, I will only display boundary spanners appearing in all three networks.

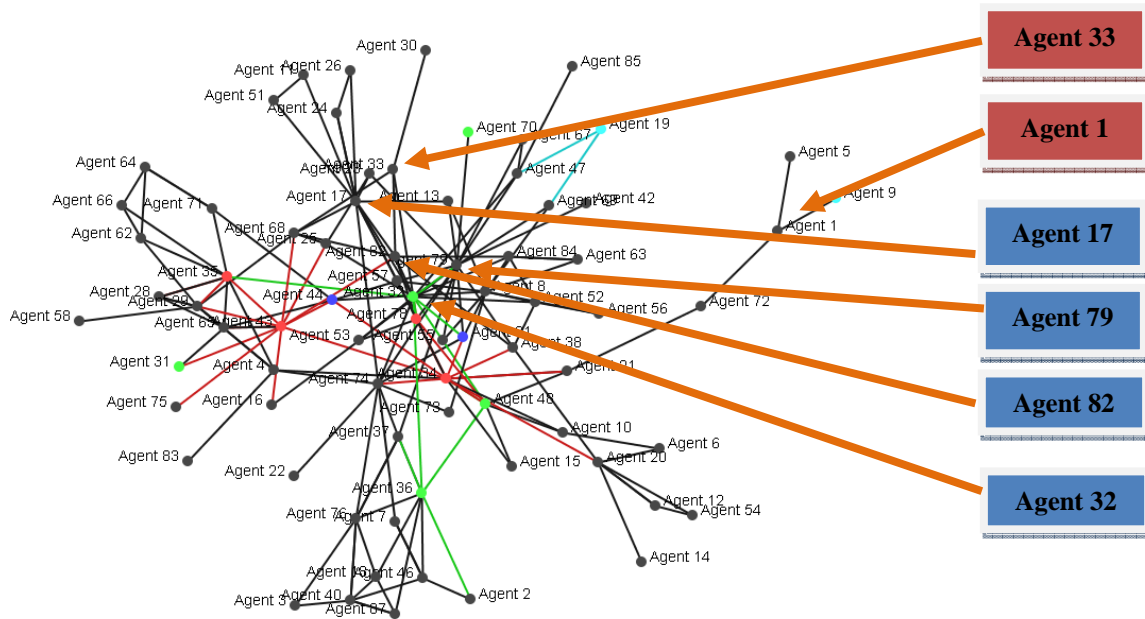


Figure 4.10. Faculty pattern of behavior within the confide network reveal enabling leaders (identified by blue and red tabs—blue for centrality and cognitive measures, red for boundary spanners).

Unseen in the figure, the confide network contains more isolates than the previous network; implications may be that faculty are less as likely to confide in another faculty member than they are to discuss ethics policy; or, in a survey, they are less likely to report with whom they confide.

Figure 4.11 reveals a network of less connectivity and more dispersion. Generally speaking, it continues to reveal distinct clusters by college—barely connected to each other; there are a few exceptions. Notice that to the far right of the network, agents representing three colleges are intermixed.

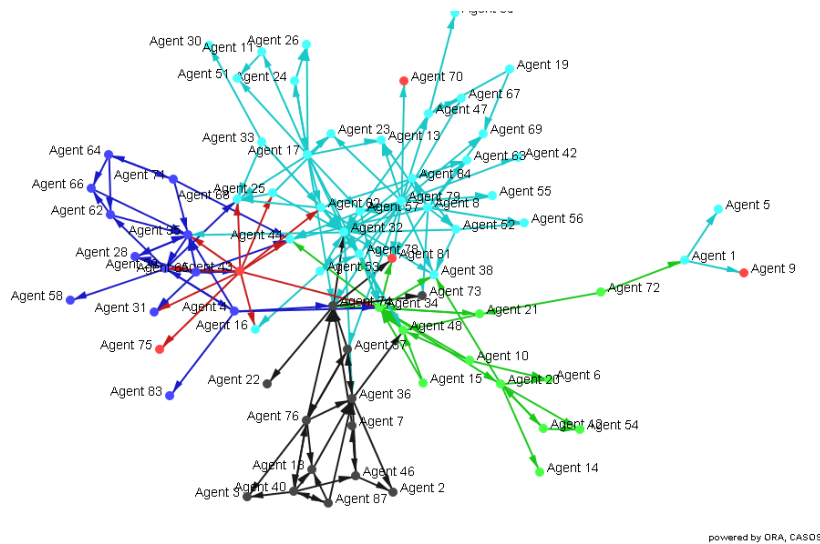


Figure 4.11. Institutional pattern of faculty ethics policy interaction reveals tighter centrality of institutional agents, colored by subunit.

Selective coding and the resulting agentic roles, as well as relational measures among agents and other nodes, helps answer the third supporting question, “How does complexity leadership theory apply to ethics logic?”

Network Leadership Observations

One of the notable findings in the study is that influential enabling leaders—whether or not they also hold administrative functions, can consistently display their influence across many networks—patterns across organizational contexts. This may not be surprising when I consider the consistent appearance of Agents 32 and 34, and Agents 1 and 33 as enabling leaders. These findings lead to two observations. First, network research is one way to show such patterns, and conduct what-if scenarios to research them. Once the “consistent” leadership patterns of influence are discovered, the question may change to “In what context will the leader no longer show a high degree of

influence?” Another question posited for further research in this study is “Do those sharing both administrative and enabling roles have potential for greater influence than someone only practicing one or the other?” The strong and consistent influence of Agents 32 and 34 spanning network contexts—from faculty interaction, then narrowing to ethics policy discussion, and then further to ethics confidentiality regarding more private issues, was surprising. How many formal leaders hold such a relationship with their organizational members?

Proposition 4.3: Enabling leader influence sometimes changes when network contexts change.

Proposition 4.4: Enabling leaders viewed by members as ethical, demonstrate persistent influence over changing context.

In Chapter One and Two I discussed the importance of organizational legitimacy and how unethical behavior by a group or even a singular agent can damage that legitimacy. Administrative leaders often respond by tightening control from a sense of organizational survival. Intuitively leaders know that they cannot always “make” people willingly embrace the injection of new, top-down policies or other measures. Findings imply that agentic goals may not be far from what the institution desires. And rather than forcibly injecting artifacts (policies, regulations, codes of conduct) or other measures of control into the institutional population, perhaps enabling leaders can “foster the conditions” that allow bottom-up emergence of institutionally congruent collective goals seeking the same end. Why force agents to do something, they would do on their own collectively—albeit, perhaps with a different means emerging in a different structure?

Summary

Through the grounded theory coding process, this chapter determined participant realities regarding institutional ethics logic. Findings answered the first three supporting research questions. First, I identified member *work-related* ethical beliefs and knowledge and other entities found within the institution—distilled into 13 entities (categories) and 222 nodes (subcategories), in addition to the 88 agents themselves. This was derived from coding interview data. The second question, asking how entities and nodes are related within institutional ethics logic, was answered once data coding was complete. Participant selections in the online survey established links among a set of networks and relevant nodes set within a particular context (sample in Appendix I); participants also established relational measures and values (properties and dimensions). The third research question—that is how does complexity leadership theory apply to institutional ethics logic—was answered in two parts. The first part proposed a model of faculty ethics logic set within a complexity meta-network (the institution). This was completed after determining the dominant forces in the application of ethics logic (a process); it operationalized a faculty ethics logic addressing the phenomena of teaching and resolving ethical issues. The other part of the answer to the third question, incorporated complexity leadership theory by identifying those faculty fulfilling administrative and enabling roles within a set of networks—each of which reflected an specific context.

Chapter Five will use participant data to explore selected dynamics within institutional ethic logic; I will use ORA for manual data manipulation, and DyNet, a modeling platform, to present evolutionary trajectories of various aspects of ethics logic.

Trustworthiness of data will be further addressed upon conclusion of finding in the next chapter.

CHAPTER FIVE

FINDINGS: ETHICS LOGIC EVOLUTION

The major purpose of this study is to *explore* how an institution's ethics logic evolves over time. Consequently, this research seeks to discover more about dynamical relationships of ethics logic and posit ways that leaders can influence institutional ethics reform, couched within complexity leadership theory.

This chapter presents the results of exploring selected dynamics within institutional ethic logic. The chapter represents a perspective for leaders to consider the “*what if*” and “*what could be*” in ethics reform. Findings are generated in two ways. In the first half of the chapter, I will examine some of the holistic network effects of injecting and removing network nodes, based in part, on hypothetical leadership intervention. I manipulate selected nodes and relationships to explore ties to various patterns of behavior; I manipulate these in such a way as to obtain both a faculty bottom-up adaptive leadership perspective and a top-down administrative leadership perspective.

In the second half of the chapter, I will examine the consequences on the diffusion of ethics knowledge and beliefs by removing the most influential enabling leaders from each of the agent-by-agent faculty networks. With the aid of DyNet, the modeling platform, selected evolutionary explorations are conducted to view change over multiple periods of time. Initially, without intervention, a baseline trajectory is established for knowledge and belief diffusion. Next, data are manipulated for each of these entities in

exploratory interventions, establishing what-if trajectories to examine resulting impacts on network diffusion capacities.

Model-generated data in this study cannot fully replicate “real world” phenomena and is meant instead to generate questions and propositions. Even the original data collected through paper interviews and questionnaires by grounded theory methods does not fully represent actuality (Strauss & Corbin, 1990) for the only way to do so is to fully replicate the system itself (Cilliers, 1998); that is, it is not uncommon for modeling to be unrealistic or exaggerated (Bankes, Lempert, & Popper, 2002). Models in complexity theory, then, are caricatures of reality that seek to understand the dynamics of salient features in order to understand the mechanisms by which the system operates.

Modeling

Models are a link between theory and reality, a visualization of a theory or part of it—simplified in order to bring out the concepts to be studied while excluding or minimizing others (Skyttner, 2001). Models help develop new knowledge, modify existing knowledge, or give knowledge new applications (Skyttner, 2001). Models can be used to interpret phenomena, predict outcomes, and manipulated to conduct prohibitively complex or dangerous inquiries (Skyttner, 2001).

Exploratory modeling is particularly useful in examining a wide array of context, thought, and mechanisms (Bankes et al., 2002; Macy & Willer, 2002). Bankes et al. (2002) note that when examining uncertainty (descriptive of complexity)—predictive modeling attempts to limit that uncertainty while exploratory modeling, such as that which will be done in this paper, seeks to delve into and explain it. Laine (2006)

elaborates this concept when explicating processes; he states that “Explanation means an attempt to understand how structures and mechanisms underlying a system contribute to the observed behavior of the system” (p. 9).

Research Questions

The question that has directed the study is: How does the interaction of agent work-related ethical beliefs and knowledge, perceived pressures and institutional agents or entities, influence the evolution of institutional ethics logic over time? Supporting questions:

1. What are member *work-related* ethical beliefs and knowledge, perceived pressures, agents and other entities found within the institution?
2. How are these entities related to each other, and to organizational members?
3. How does complexity leadership theory apply to ethics logic?
4. How are institutional dynamics related to ethics logic evolution?
5. What influences the diffusion of agent ethics knowledge and beliefs among members?

The first three supporting questions were answered in the previous chapter; this chapter answers the last two.

Leading Change Through Adaptive, Enabling and Administrative Roles

Institutional entities and relationships change; evolution implies a more complex, never-ending series of shifting dynamics and elements over time, focused on a specific, purposeful outcome. Evolution is primarily thought of as movement toward a means of survival, and most commonly for institutions, a drive to seek or maintain legitimacy. In this section, I investigate the dynamics of leadership intervention by injecting and removing network ethics nodes within a complexity leadership perspective. First, I will review the dynamics of network change and the three leadership functions of complexity leadership theory. Next, I will identify participant realities regarding the existing ethics resource network structure and inject additional resources based upon self-reported “intent to use” data. In the latter part of this section, I will then remove selected nodes from an agent-by-artifact network to further explicate ethics logic dynamics and complexity leadership functions.

Network Change

From a network perspective, change is represented by removing or adding links and by removing or adding nodes. The removal of a link, or relationship, is a representation of a loss of connectivity in a particular context. If between two people, it may represent the loss of relationship by no longer attending the same meeting, or one in which two agents no longer discuss ethics policy needs. The removal of a node represents the loss of some element within the organization; if representing a human being, the person may have retired, taken a job, or moved to another location. Adding links or nodes implies the opposite. A new person (node) may arrive and meet new people, establishing

various relationships (links) based upon contexts representing all facets of daily life. In this study, network change represents institutional logic change.

Within a complexity leadership framework of university ethics logic, changes to nodes and links create a degree of shift in both proximal and distal ethics logic. Change is influenced by a host of sources, but this study focuses on that of leadership and faculty interaction. Leadership catalysts spurring change to links and nodes can emerge from any of the three complexity leadership functions addressed earlier. For example, the removal of nodes and relationships can represent direct and indirect methods of administrative leadership influence (Lord & Maher, 1991), such as decisions to remove ethics artifacts or cut funding for ethics resources. Another example may be that enabling leadership facilitates conditions that allow the emergence of an ethics conference or code of ethics from a bottom-up initiative driven by faculty interaction (adaptive leadership).

Complexity Leadership Functions

As I discussed in Chapter Two, complexity leadership consists of administrative, enabling and adaptive leadership functions. A single leader can serve any or all of these functions. *Administrative leadership* represents traditional roles of bureaucratic leaders and managers who carry out centralized planning and coordination functions (Uhl-Bien et al., 2007). *Adaptive leadership* embodies a bottom-up, collective and emergent change movement as the result of agentic interaction (Uhl-Bien et al., 2007, p. 306). *Enabling leadership* is characterized by those who catalyze adaptive leadership through nurturing productive levels of interdependency, tension and interaction among collective members,

and by acting as an interface between adaptive and administrative leadership (Uhl-Bien et al., 2007).

Change Based upon Enabling and Adaptive Leadership

In the first look at network dynamics through data manipulation, I will examine the ethics logic resource network; then I will inject those resources that participants state they would use, if available. This represents a potential bottom-up, adaptive change movement—requiring an enabling leader to catalyze the actions necessary to allow these new resources to emerge within the university ethics logic structure.

One question in the online survey asked faculty, “What resource do you use to resolve ethical issues? Survey answers were used to establish an agent-by-resource network. Literature in ethics and higher education identifies institutional faculty resources as helpful for resolving ethical issues involving peers and students. Figure 5.1 presents a visualization of the original self-reported faculty-by-resource network based upon participant realities. Notice the Handbook represented as a blue oval in the center; this is one of the key resources seen earlier in the faculty ethics logic model found in Chapter Four. Also note the location of Agent 88 at the top of the network, as well as the general location of ethics resources.

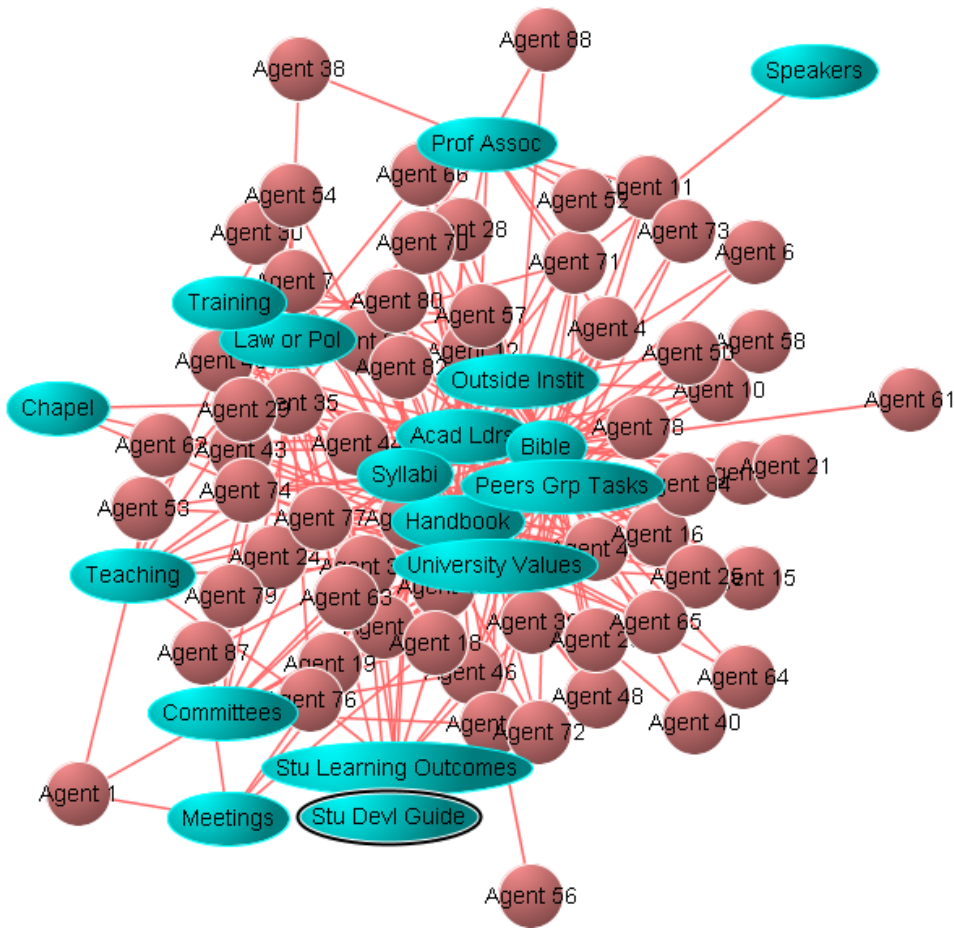


Figure 5.1. Self-reported faculty-by-resource network; agents are circles and resources are ovals.

Another question in the survey asked faculty, “Which resource would you likely use, if provided, to resolve ethical issues?”. Fourteen response items were identified in earlier participant interviews. From the online survey selections, an agent-by-added resource network was generated. Three of the most central new resource nodes were: Informal Peer Discussions, an Ethics code, and Faculty Ethics Workshop/Seminar; these abstracted nodal representations obtained selection rates of 49%, 38%, and 35%, respectively (see Figure 5.2). For exploratory purposes, I want to look at ethics logic

implications—if what faculty stated could be catalyzed by enabling leadership, how would that change the current network representation? In other words, enabling leaders, by fostering collective faculty correlation through interaction and compromise, could create the momentum to allow new resource emergence.

Figure 5.2 displays the expanded ethics resource network, which combines both the original agent-by-resource network and the agent-by-desired resource network. Note in the modified network that Agent 88 shifts a little closer to group centrality, and that there is a general tightening of the network as a whole. The resulting network becomes more complex. (ORA reported an increase of 2.11% in overall complexity.) A quick glance will show an increase in the number of nodes that appear central to the collective (note the tighter agent overlap), as well as showing additional connectivities to network nodes. This implies a more robust relationship, where Agent 88 is now connected to six rather than two ethics resources. Multiple connections among agents suggest a more vigorous and lasting collective relationship with shared resources. Increases in network robustness imply a system in which the collective set of agents can better withstand disruptions and retain connectivity (Marion, 1999).

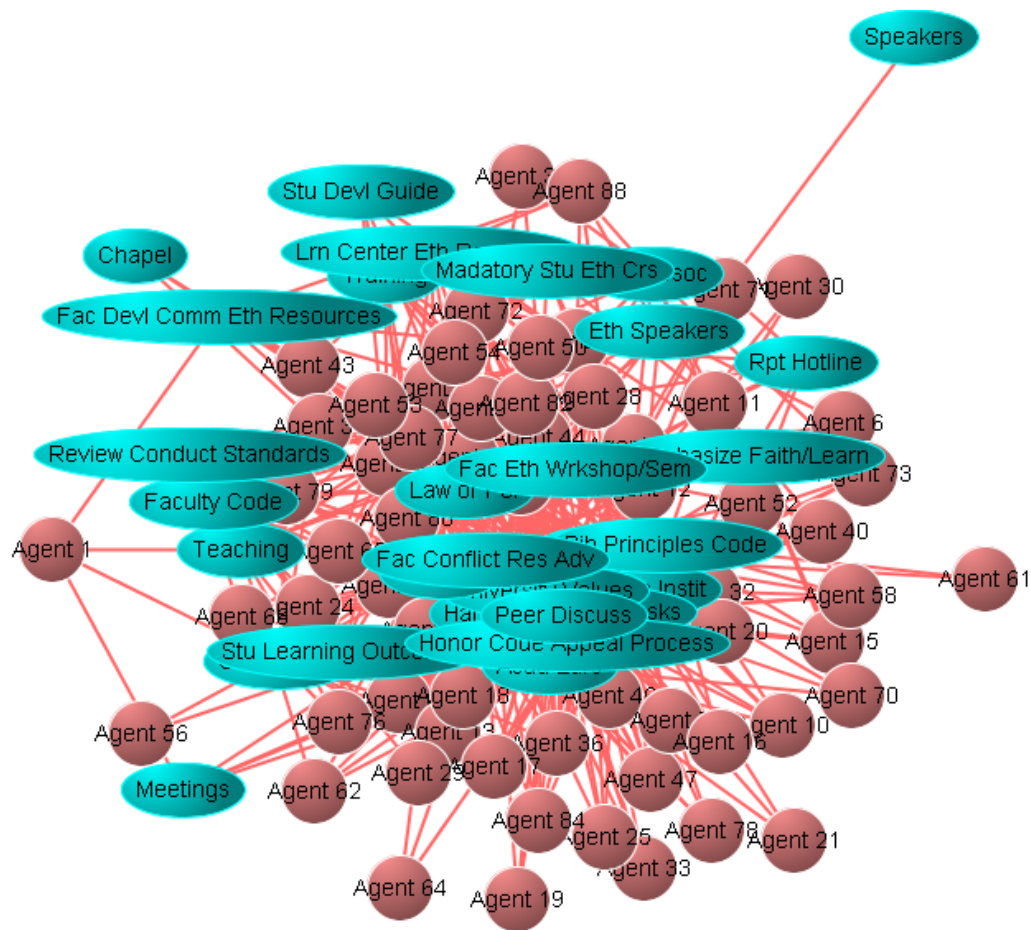


Figure 5.2. Modified faculty-by-resource network, based upon faculty intent to use.

To obtain a more relational perspective of the network evolution, the *before* and *after* centrality of the top ten network nodes are presented in Table 5.1. The ranking of resources begin to change when Peer Discussions, from the desired or added resources list, replaces University Values in 4th place; the greatest change occurs with the addition of an Ethics Code in eighth place, when the ranked nodal centrality value increases by 84.62%. Results do not necessarily mean the resource nodes that are currently in place at the university would drop from the table or have been diminished in usefulness. Rather,

change is not necessarily represented by one resource taking the place of another, but by the emergence of *different* faculty patterns of activity “acting in concert around a common preference” (Marion, 2008, p. 8). In this case patterns shift around a changed set of nodal resources, where some new nodes supersede the degree of faculty correlation held by previously strong nodes. This shift to a new and uniquely recognizable pattern of behavior by a group of agents represents a movement toward a new attractor (the set of modified resources). While faculty members continue to correlate with these now weaker nodes, they may correlate more strongly with emergent resources, and hence have a more dramatic impact on system wide dynamics.

Table 5.1

Total Degree Centrality Comparison of Current Ethics Resource Network Top Ten, to the Addition of Futuristic Resources, Based Upon Faculty Intent to Use

Current Resources			Adding Proposed Resources		Centrality Difference
Rank	Value	Resources	Value	Resources	
1	0.4545	Handbook	0.4545	Handbook	+0%
2	0.4432	Bible	0.4432	Bible	+0%
3	0.4091	Peers Grp Tasks	0.4091	Peers Grp Tasks	+0%
4	0.3409	University Values	0.3523	Peer Discuss*	+3.33%
5	0.2841	Academic Ldrs	0.3409	University Values	+20.00%
6	0.2841	Law or Policy	0.2841	Academic Leaders	+0%
7	0.2273	Syllabi	0.2841	Law or Policy	+25.00%
8	0.1477	Committees	0.2727	Ethics Code*	+84.62%
9	0.1477	Outside Institutions	0.2500	Faculty Ethics Wrkshop*	+69.23%
10	0.1250	Teaching	0.2386	Bib Principles Code*	+90.91%

Note: Findings are based upon a report produced by ORA; added new resources are denoted with an asterisk.

These findings represent an example of ethics logic evolution driven by faculty adaptive leadership—where faculty wants and needs materialize with the help of enabling support. Put another way, if adaptive leadership was strongly represented, enabling leadership would bring faculty attention, discussion, and efforts toward creating, sharing, or acquiring new ethics resources representative of bottom-up constructs. But this may not be the case.

Most faculty selections in Table 5.1 indicate a reliance on resources produced through administrative functions—employee handbook, institutional values, policy, and so on. Further, there are three current resources in the bottom four that are products of the actions of faculty themselves (syllabi, committees, teaching), yet, they drop off the modified list and are replaced by resources that seem administratively based. One of the few exceptions is the apparently, bottom-up emergence of *informal discussions with peers*; it appears as the newly ranked number three resource in the modified network and represents a dynamic that is a function of self-ordering, or bottom-up activities. The strength of institutionally produced resources used by faculty agents in the current network, along with the dominance of emerging resources in the modified network, raises questions on why bottom-up resources occupy little prominence in ethics logic. These and other finding suggests several implications and resulting questions for future research:

- If *informal discussions with peers* are a resource derived from self-order, has it emerged as a “new” construct not already in the system and if so, why is it not characteristic of the current system? Peer interaction is, after all, a omnipresent characteristic of social systems (Lewin, 1952; Roy, 1954).
- Does the apparent reliance on administrative based resources imply:
 - An excellent relationship among all three leadership functions, representing Burn’s (2003) collective “mutual actualization”?
 - Low efficacy of enabling leadership or adaptive leadership? In other words faculty members face too much administrative resistance to

obtain new resources or lack an enabling catalyst nurturing collective adaptive emergence?

- Does the control structure at the university inhibit bottom-up emergence of resources for resolving ethical problems?

In summary, if complexity leadership mechanisms were allowed to function, agentic correlation around *informal peer discussions* (selection rate of 49%) or developing a faculty *ethics code* (selection rate of 38%) may lessen the role of administrative leadership in fostering ethics logics. Also, movement from the current set of ethics resources to a set of modified resources begins to change both the number of relationships and nodes (more, less, different). This infers potential changes in the interactive network—as seen in the tremendous swings in nodal centrality displayed in Table 5.1. It also reveals a more robust or “tighter” network as seen in Figure 5.2. These potential changes represent a shift in collective behavior patterns, representing the generation of a new ethics logic attractor. Lord (2008) describes attractors as “points of stability toward which related behaviors are drawn” (p. 160). Attractors influence patterns of behavior over time (referred to as trajectories) and represent a dynamic of evolution (Lord, 2008). (I will see an example of behavior trajectories in the latter half of this chapter.) In shifting social contexts, Lord (2008) provides the following example of behavioral change:

In the social dynamics of teenage dating, a girl’s former boyfriend, who once functioned as an attractor for social behavior, may become a repeller after a breakup as social interactions with the former beau are avoided. (p. 160)

Lord's (2008) also provides a later example where organizational goals act as attractors offering points of stability, which in turn structures further interaction (p. 161). I argue that ethics entities and their nodes represent what Lord (2008) terms as attractors for social—specifically ethical, behavior.

Attractors pull agents together; agents begin drawing in other agents (people, resources, etc.) to support an emergent goal. But, it can be more complex; as I have seen earlier in varying nodal selection rates; different agents are pulled (at least initially) toward different attractors. Vallacher and Nowak (2008) point out that an organization may have multiple attractors offering different stable states—which in some instances may conflict: “In a conflict situation, for example, there may be two dominant responses, corresponding to aggression and conciliation” (p. 66). Or, in ethics logic vernacular, I might propose corresponding to unethical or ethical behavior.

Potential Change Based upon Administrative Leadership

I will now take a different approach to imposing a shift in collective agentic resonance and correlation. I posit that some of the earlier network change could be based on the bottom-up emergence of expressed agentic needs. (Yet, the desired resources do not currently exist, implying unfulfilled catalyzation and actualization.) While potential emergence is there, perhaps the “interaction” is not; it suggests that until enabling leaders foster the right conditions and catalyze agentic interaction, related change may rest dormant. This section will present hypothetical changes that administrative leadership might impose, set within the agent-by-artifact network. Ethical artifacts are those things which retain ethical meaning for people; the faculty at this university gave ethics

meaning to such constructs as the Bible, Faculty Hand Book, and Christian Environment, as well as the University Mission, Values and Policies, etc. Fagan (1998) stresses, “All of these things [artifacts] carry messages about people’s experiences, values, and knowledge” (p. 101).

In the online survey, participants were asked which artifacts most strongly influenced their ethical behavior; of all responses, seven artifacts were most central to the group. Earlier in the study, I discussed how people share relationships based upon various contexts. When certain nodes or tags are removed, contextual relationships may no longer exist or may somehow change (certain links are lost, but others remain). In the agent-by-artifact network, faculty share relationships with each other based upon those things that influence their ethical behavior. For example, in most cases agents hold more than one relationship among friends. Not only do agents hold many relationships, but they often share them; that is, other agents are also connected to the same friends. Collectively, these relationships represent networks, where centrality is represented by those holding the most connections to everyone else. When an agent suffers a broken relationship (link) with a friend in their friendship network, their centrality is lessened (compared to everyone else). If they are no longer connected because that was the only friend in the network, then they become detached and are considered an isolate.

In organizations, change is often brought about by formal leader and stakeholder actions, or environmental forces beyond leadership control. In this analysis I play the role of administrator and remove the seven most central ethics artifacts binding agents together. The resulting disruption of relationships can be seen in Figure 5.2.

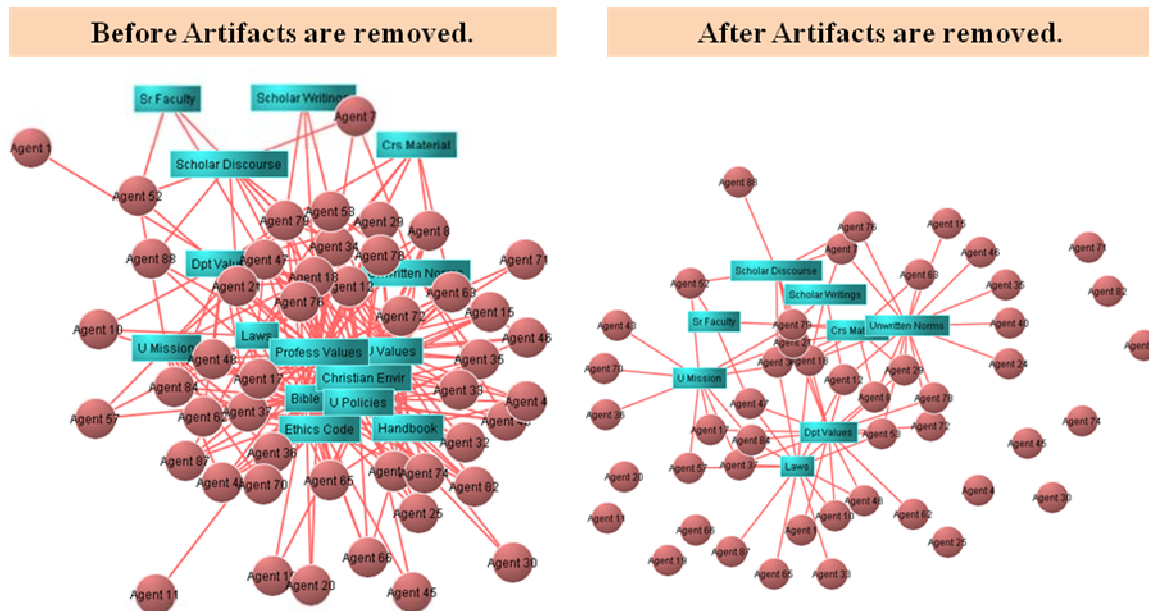


Figure 5.2. Centrality comparison of ethics artifact network before and after removal of key artifacts; change through purposeful or naturalistic perturbation.

In the resulting network, I see both the emergence of different clusters of agents centered on various remaining artifacts, and a large group of now detached agents (isolates) no longer seeming to share commonalities with fellow agents (no ethics artifact resonance). This result poses the following questions for future research:

- When clusters are fractured in this way by administrative leadership actions, how do new cultures and group norms emerge and what effect does this have on an organization's ethic logic?
- Would isolated agents eventually join an existing group, form a new group or behaviorally drift from the culture of (or even relationship with) the college or university entirely?

- Does the degree of network robustness containing disparate groups influence the likelihood of disruption in ethic logics? What is the process by which destructive administrative behaviors disrupt an ethics logic network?

This hypothetical action raises questions regarding administrative leadership behavior: Would decisions to remove artifacts, resources and other constructs for rational reasons (save money, avoid controversy, etc.) weaken sought-after dynamics such as agentic correlation, or more generally, with desired patterns of behavior? Does this process represent dissonance between what Philip Selznick terms “rational goals” of administrative leadership functions and “irrational” agentic needs and behavior (as noted by Marion, 2002, p. 69)? Or, can it simply be a difference between proximal organizational needs and the lack of recognition on the part of administrators of distal implications for agentic correlation?

Leaders knowingly and unknowingly manipulate collective dynamics. Direct action removing or adding nodal constructs can influence a typically robust balance within complex adaptive systems. On the one hand, administrative leadership functions inject, maintain, or remove ethics nodal elements for a variety of rational reasons. Such direct intervention though may influence ethical patterns of behavior in unanticipated ways. So as not to lose the psychological support of the collective as Simon (1957) so aptly describes, formal leaders should (as much as possible) allow the collective to decide *how* change emerges. This “indirect approach” may need facilitation by enabling leaders to both encourage adaptive ethics logic emergence and prevent an administrative lock on rigid stability—allowing adaptation with requisite variety.

Implications of course, are that through various methods, administrative and enabling leaders can facilitate the removal of nodes promoting undesired behavior; equally important is for leaders to keep in touch with those tags promoting ethical behavior so as to promote adaptive interaction and emergence, as well as injecting administrative support (planning, visioning, etc.). In other words, leaders both influence organizational structure directly (when they remove or add links or nodes) and indirectly (when enabling leaders promote interaction, which, in turn, fosters emergent structures). Direct action to create particular structures by administrative leaders embodies control of the few (Simon, 1957) and holds risks for agentic correlation and organizational robustness. The findings in this section answer the fourth research support question “How are institutional dynamics related to ethics logic evolution?”

Proposition 5.1: Administrative leadership, acting to remove or inject all nodal changes—even when expressed as agentic needs, will lose agentic correlation if agents play little part in the process of actualization.

Evolutionary Trajectories

In the previous section, I examined some of the dynamic ethics network changes brought about by complexity leadership functions; I saw changes in the patterns of relationships (i.e., shifts in network robustness, agentic clustering, and nodal centrality). In this section I will examine dynamical change of network belief and knowledge diffusion over time, by removing enabling leaders identified earlier in Chapter Four. For each network, I will establish a general baseline of entity diffusion over time—

representing the evolution of university ethics logic of belief and knowledge entities among faculty members.

In Chapter Four, I examined informal patterns of faculty interaction—that of weekly interaction, that of discussing ethics policy needs or opinions, and that of seeking others with whom to confide regarding ethical issues involving themselves or their associates. Each pattern of behavior is set within a given context that forms a network structure of at least two sets of entity nodes, such as faculty representing one set and beliefs nodes representing another set. Resultant network structure both constrains and enables behavioral outcomes; for example, information access is *limited* to the chain of agents that receive and passes information. In top-down formal organizational structure (like, President to College Deans to Department Chairs) information may be stymied—it is limited to a narrow hierarchal chain. At the same time, informal structures often allow information to travel outside “official” formal channels and allow greater agent access in robust networks (multiple links characterized by redundancy of channels). The resulting diffusion of information is greatly tied to network structure.

Background

The exploration of university ethics logic evolution involves delving into the hypothetical diffusion of agentic beliefs and knowledge throughout organizational networks. In the analysis and modeling package, diffusion findings are determined in large part, by the graph formula *Watts and Strogatz clustering coefficient* (Carley, Columbus, DeReno, Reminga, & Moon, 2008). For each of the faculty agent-by-agent networks (weekly interaction, policy discussion, and confide), I first run a non-

interventional, naturalistic trajectory; I then follow-up with another run, examining the effect on diffusion with the loss of those faculty members identified as performing enabling leadership functions noted in Chapter Four.

In all analyses, I evolve the construct under study by 100 time periods—each repeated 25 times (Monte Carlo method). Agent loss was executed at time period two, occurring early enough to observe the evolutionary dynamics of cognitive disbursement throughout the university. In some respects, this represents organizational learning capacity (i.e., how many of the university faculty will share the information). Beginning at initial conditions, grounded in participant data, each experiment starts with a percentage measure representing the average amount of total collective beliefs or knowledge each organizational agent possesses. The run concludes with a graph trajectory representing the diffusion of the selected entity, the end point representing no change, growth, or loss in the average amount each agent holds at a specific period of time. The difference between any two points represents the raw amount of change—Each holding implications for organization adaptive response (Schreiber, 2006).

Changes over Time: Diffusion of Beliefs

Beliefs shared by faculty represent one of the important constructs of the Faculty Ethics Logic Model. Faculty beliefs represent concepts that may be shared by many or by no other agents. But, although agents may not completely “share” a belief, they may still pass them on to others, and possibly alter their own belief. In this sense, diffusion of beliefs represents a form of knowledge diffusion.

To determine the capacity for diffusion of faculty beliefs throughout the university, I first conducted diffusion runs in the faculty weekly interaction network using DyNet. With a 95% confidence interval (CI), I ran 25 replications, each at 100 time periods. (Confidence intervals define the probable trajectory outcome over repeated experiments.) Figure 5.3 reveals a starting point of faculty holding, on average, approximately 20% of university beliefs, which evolves to about 42% over 100 time periods.)

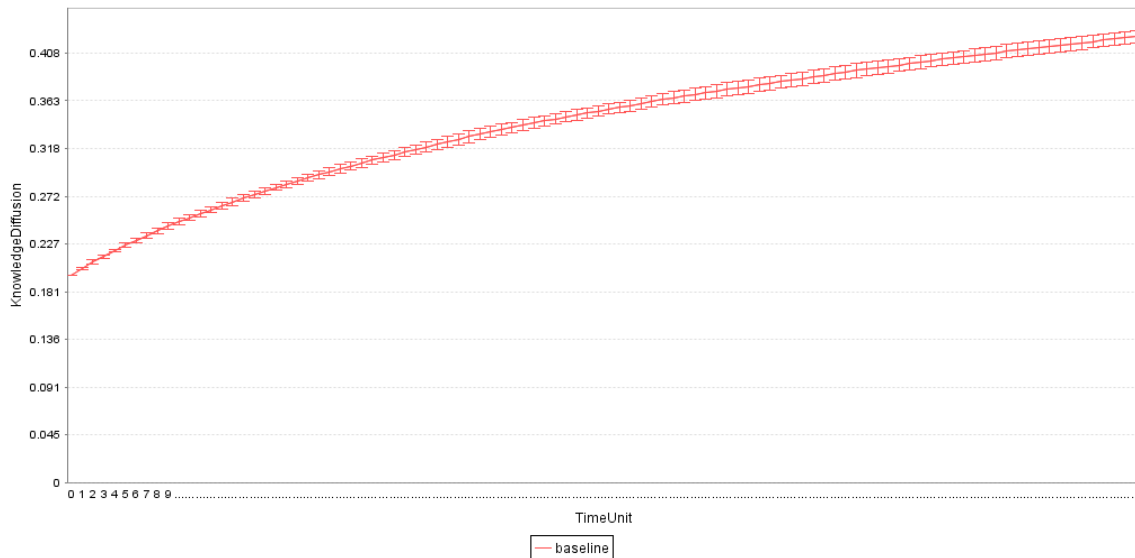


Figure 5.3. Diffusion of university beliefs in weekly interaction network over time; within a 95% CI, at 25 replications, each at 100 time periods.

Next, I remove the top two enabling leaders (identified in the last chapter) at time period 2 so I can see the effect on diffusion throughout the university in the weekly interaction network. These leaders are Agents 32 (all centrality measures) and 82

(Cognitive Demand). Schreiber (2006) describes how diffusion is determined, and the implications of removing an agent:

The measure calculates the total percentage of knowledge known in the organization and divides this by N, the total number of agents. When agent loss occurs, the lost agent and all of their knowledge are taken out of the organization. So not only does knowledge diffusion calculate with less knowledge but also one less agent, N-1, which is a different denominator than the baseline comparison of N. (pp. 56-57)

The resulting deviation from the baseline of diffusion potential declined by almost 2.4 %, and is shown in Figure 5.4. Divergence from the baseline continues to grow through 100 time periods, implying continued decline to an undetermined point in time.

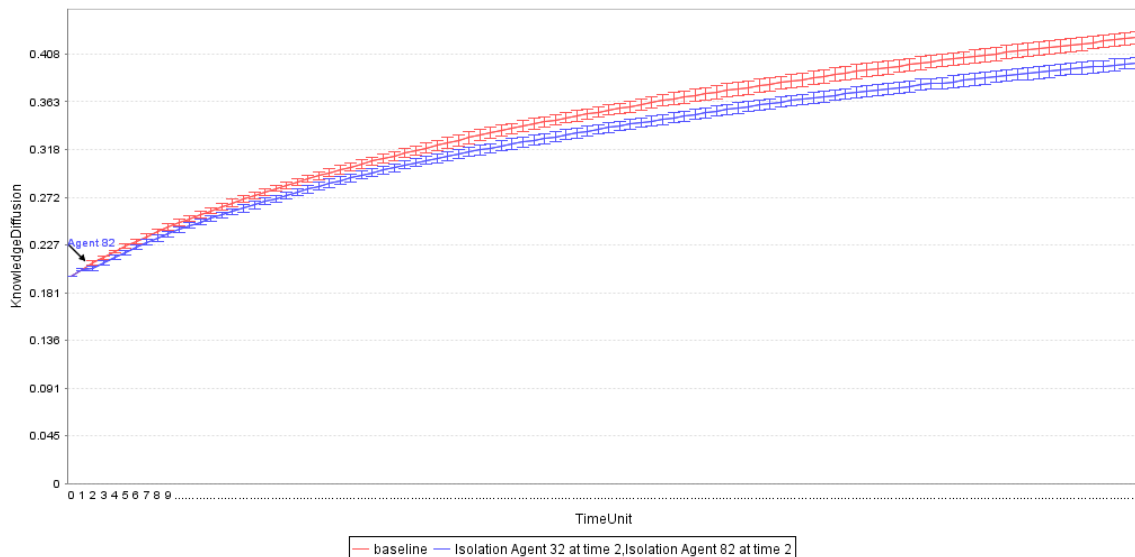


Figure 5.4. Removal of the weekly interaction network enabling leaders at time period 2, and resulting impact on university beliefs in over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Next I conduct a run on the policy discussion network—again within a 95% confidence interval (CI) at 25 replications, each at 100 time periods. Figure 5.5 reveals a starting point of beliefs at approximately 20% of university faculty member capacity, which evolves to about 53% over time. Network structure and embedded leadership within the network (refer to Figures 4.5 and 4.6 for visualizations) imply that the policy network has a greater capacity for diffusion potential (better, more tightly connected). Although they both begin with the same capacity at initial conditions, the policy network achieves approximately 10% higher capacity after 100 time periods.

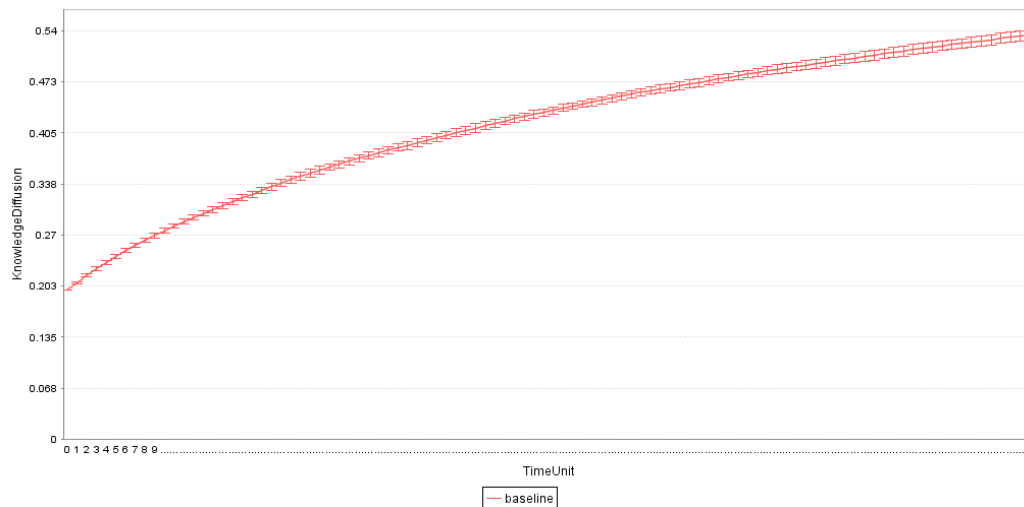


Figure 5.5. University belief diffusion in the policy discussion network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Next, I remove the top three enabling leaders identified in the last chapter at time period 2 so I can see their effect on diffusion of beliefs in the confide network. These are Agents 8 (Closeness Centrality), 34 (Degree and Betweenness Centrality) and 82 (Cognitive Demand). The resulting deviation from the baseline of belief diffusion

potential declined by over 2 percent, as shown in Figure 5.6. Divergence from the baseline continues to grow through 100 time periods, implying continued loss of diffusion capacity.

While, this network displayed only slightly less deviation from the baseline than the interaction network, it lost three agents—one more than the interaction network. This also seems to imply a more robust network.

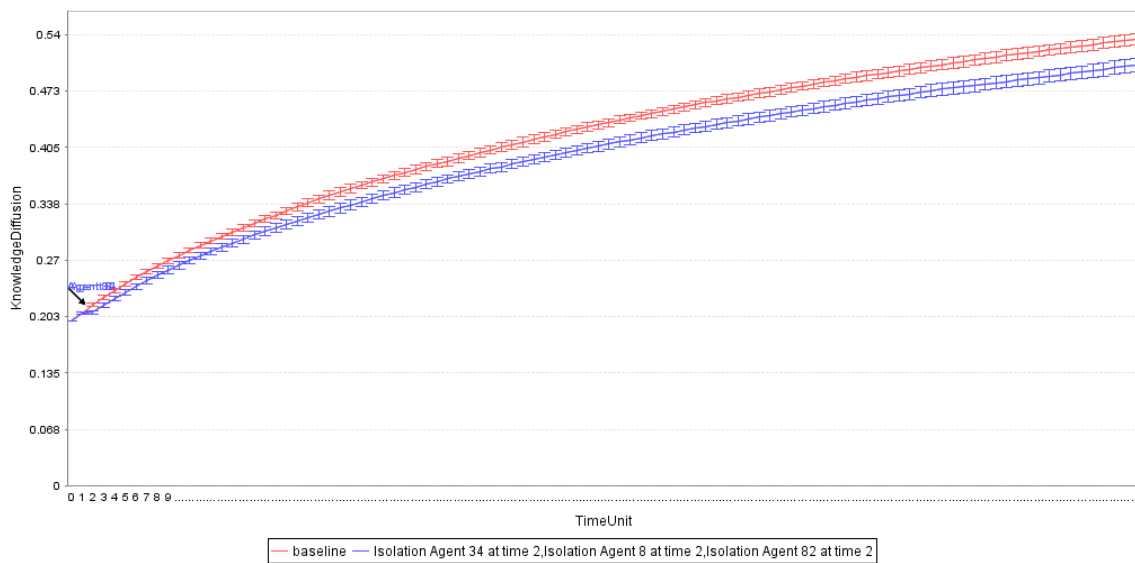


Figure 5.6. Removal of enabling leaders at time period 2, university beliefs diffusion in policy discussion network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Now I conduct a run on the confide network—again with a 95% confidence interval at 25 replications, each at 100 time periods. Figure 5.7 reveals a starting point for belief diffusion at approximately 20% of university member capacity, which evolves to about 40%—very similar to the interaction network. Network structure and embedded leadership imply the confide network and weekly interaction network have similar

diffusion capacity. Why? Do they share a like robustness—perhaps weaker than that of the policy discussion network? This is a topic for future research.

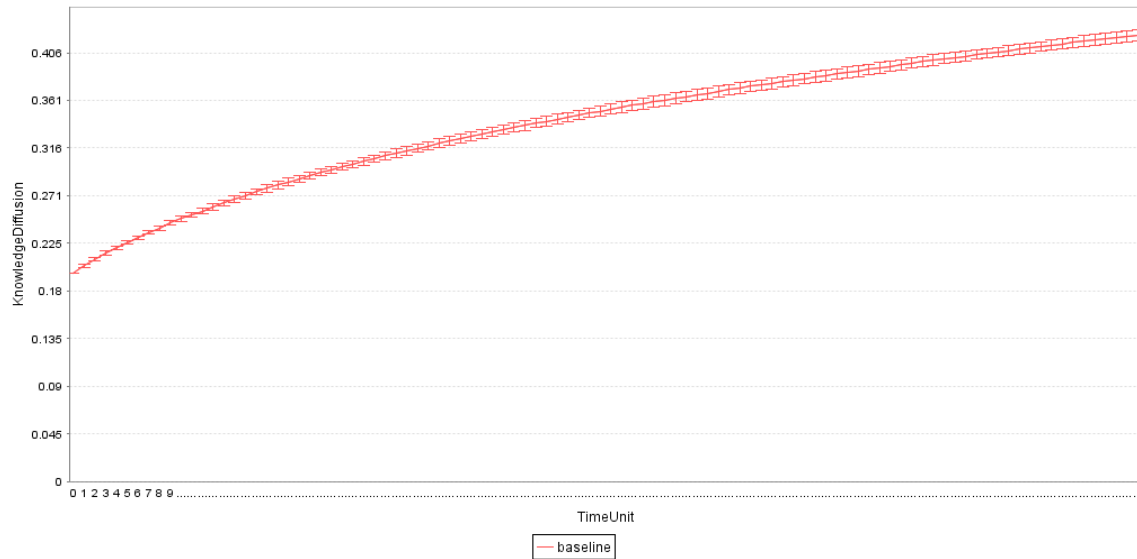


Figure 5.7. University diffusion of beliefs in confide network over time within a 95% CI, at 25 replications, each at 100 time periods.

Next, I remove the top three enabling leaders identified in the last chapter at time period 2 so I can see their effect on diffusion of beliefs in the confide network. These are Agents 17 (Closeness Centrality), 32 (Degree and Betweenness Centrality) and 87 (Cognitive Demand). The resulting deviation from the baseline is shown in Figure 5.8; diffusion potential declined by over 2.6%. This seems a significantly higher level of impact on diffusion capacity than the loss in the policy discussion network; both lost three agents yet obviously were affected differently. Divergence from the baseline continues to grow through 100 time periods, implying continued loss of diffusion capacity.

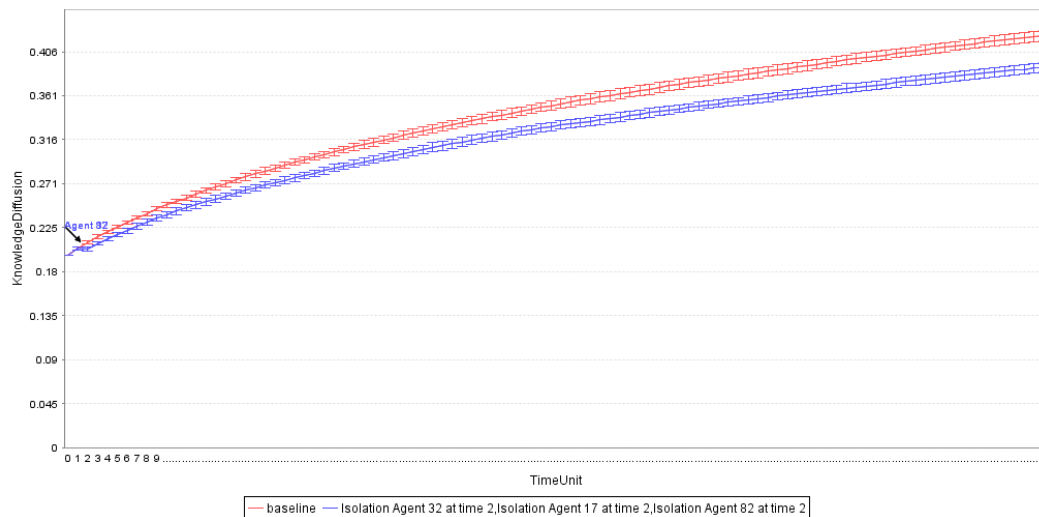


Figure 5.8. Removal of enabling leaders at time period 2, university beliefs diffusion in confide network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Ethics Beliefs Diffusion Summary

Each of the changes to belief diffusion trajectories shows an immediate drop in diffusion of beliefs and a continued widening of difference between the baseline and adaptive response. Part of the story is that while the loss seems significant and long term, it does not prevent the diffusion of knowledge from “recovering” and continuing to grow over time. The continued rise in the rate of diffusion implies that eventually, the networks suffering agent losses will continue to recover to a certain point, yet unless another agent holding like beliefs is pulled into the collective, any of that agent’s exclusive beliefs may be lost permanently.

What I can say is that each network diffuses the same set of beliefs and shows variation in capacity; findings also show that loss of capacity is not directly correlated

with the number of agents lost, or with general removal of top-ranked enabling leaders as identified in Chapter Four. Belief diffusion findings are presented in Table 5.2.

Table 5.2.
Beliefs Diffusion Differences between Networks.

Network	Baseline Diffusion over 100 Periods	Number of Agents Removed	Capacity Loss in 100 Periods	% Deflection (%loss ÷ % growth)
Interaction	20-42%	2	2.39%	10.86%
Policy Discussion	20-53%	3	2.07%	6.37%
Confide	20-40%	3	2.65%	13.25%

The results for each network (both the baseline and change) were products of university faculty interactions within a given network context (weekly routine, policy discussion, and confidentiality); these interactions represent network structures. Each network, while structured differently, diffused the same content—that is, the same set of beliefs. In other words, in all cases, change was initiated by network structure change, not content change. Notice that in the confide network, the baseline diffusion is weaker than the other networks, and it suffers the greatest loss of diffusion speed and capacity when enabling leaders are removed. This implies that it is a less robust network; this makes sense as the word “confide” implies a very cautious and purposely selective network structure formation. This means keeping information *controlled and contained within a limited group—such as keeping secrets*. This leads us to consider other sensitive contexts in which ethical issues are discussed or handled, and leads to the following proposition.

Proposition 5.2: Networks formed around a specific context or purpose to limit the spread of information will be less robust than others.

The proposition considers groups that attempt to hide or limit the spread of knowledge. For example, terrorist and other crime cells, or those with access to confidential information such as health professionals and military personnel, will limit the people who have access to varying clusters of information. This implies few redundant links, best expressed by military officials granting access only to those “with a need to know”.

Changes in the process of belief diffusion were based on agentic behavior patterns and impacted belief “flow” (speed and capacity); the range of differences in diffusion for each network may well be determined by the number of clusters that form around ethics nodes—in this case, beliefs. As observed in the agent-by-artifact network, there are multiple clusters of groups attracted to multiple clusters of nodes. In the agent-by-resource network I discovered that the introduction of new constructs dramatically altered the top ten ranking resources of ethics logic. I argue that beliefs are no different, and for leaders to resolve conflicting values among agents as Burn’s (2003) proposes, is a worthy challenge, with dynamical implications—that centrality of beliefs will continuously change as people change and interact within a university.

Changes over Time: Diffusion of Ethics Knowledge

Ethics knowledge held by faculty represent another important construct of the faculty ethics logic model. Through interaction, agents are exposed to other knowledge and share their knowledge with others; this is knowledge diffusion. To determine the ethics knowledge diffusion capacity for the university, I followed the same procedures as for faculty beliefs. I first conducted diffusion generation in the faculty weekly interaction

network using DyNet. I obtained a 95% confidence interval (CI) at 25 replications, each at 100 time periods. Figure 5.9 reveals a starting point of shared knowledge at approximately 17% of university faculty capacity, which evolves to about 38% over 100 time periods. Both capacity measures (start and finish) are slightly less than I obtained earlier for beliefs diffusion for the same network.

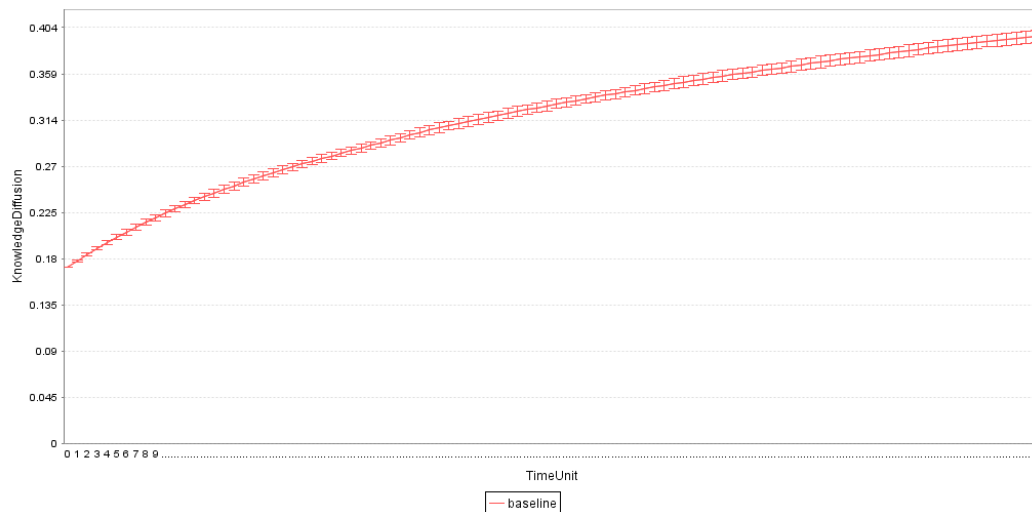


Figure 5.9. University knowledge diffusion in weekly interaction network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Next, I remove the top two enabling leaders identified in the last chapter at time period 2 so I can see their effect on diffusion of ethics knowledge in the weekly interaction. These are Agents 32 (all centrality measures) and 82 (Cognitive Demand). The resulting deviation from the baseline is shown in Figure 5.10; diffusion potential declined by a little over 1.5%. This seems a significantly lower level of impact on diffusion capacity than I saw earlier in the belief interaction—as well as the other two networks. Divergence from the baseline continues to grow through 100 time periods, implying continued loss of diffusion capacity.

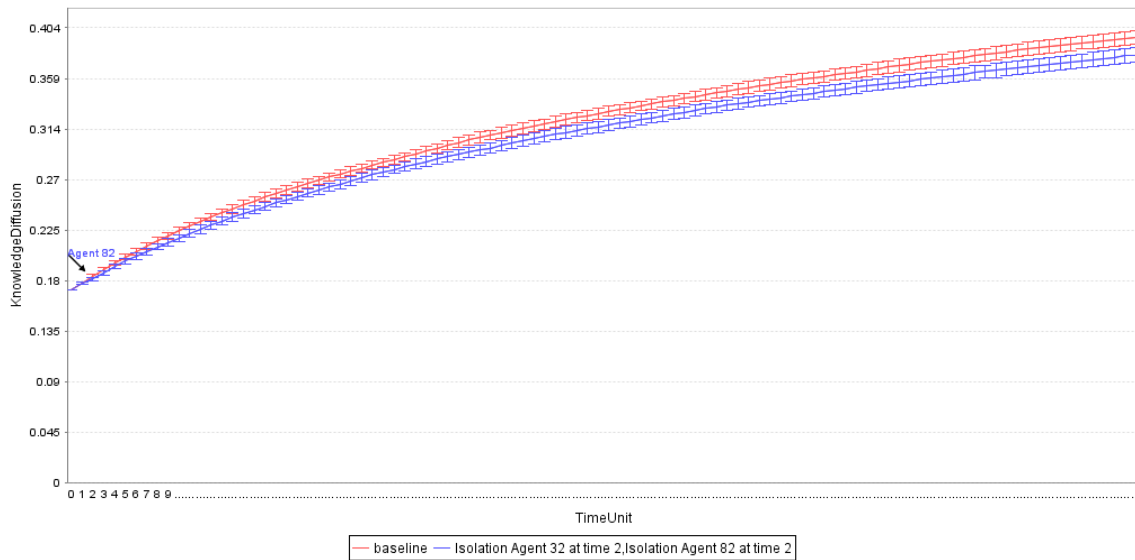


Figure 5.10. Removal of enabling leaders at time period 2, university knowledge diffusion in weekly interaction network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Next I conduct a run on the policy discussion network. Figure 5.11 reveals a starting point of knowledge at approximately 16% of university capacity, which evolves to about 50% over time. As opposed to comparisons between the interaction and policy networks for beliefs, in an ethics knowledge diffusion context, the policy network starts at a lesser point of capacity, rather than the same. Yet again, it still achieves a greater diffusion capacity after 100 time periods.

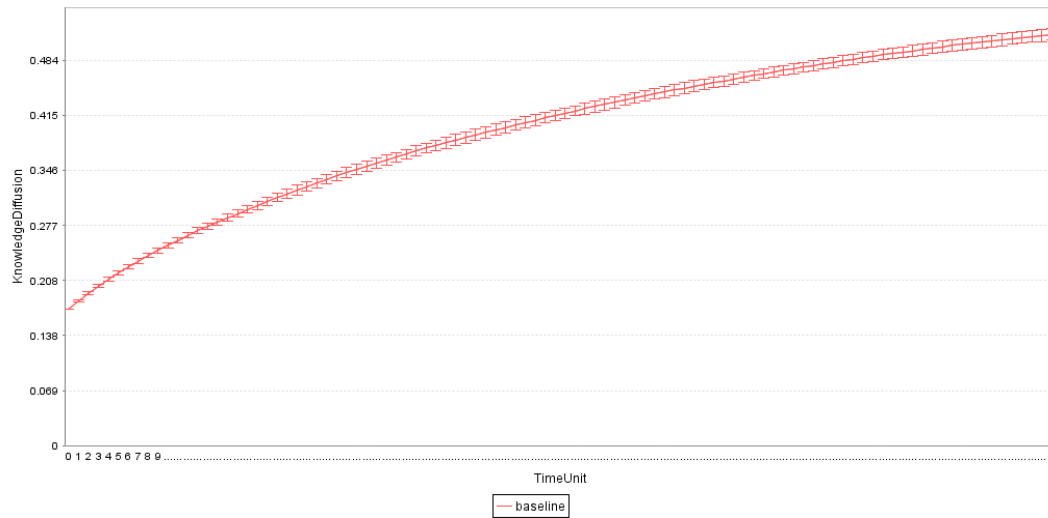


Figure 5.11. University knowledge diffusion in policy discussion network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Next, I remove the top three enabling leaders identified earlier at time period 2. These are Agents 8 (Closeness Centrality), 34 (Degree and Betweenness Centrality) and 82 (Cognitive Demand). The resulting deviation from the baseline is shown in Figure 5.14; diffusion potential declined by 3.5%. This seems a significantly higher measure than any I have obtained so far. Divergence from the baseline continues to grow through 100 time periods, implying continued loss of diffusion capacity.

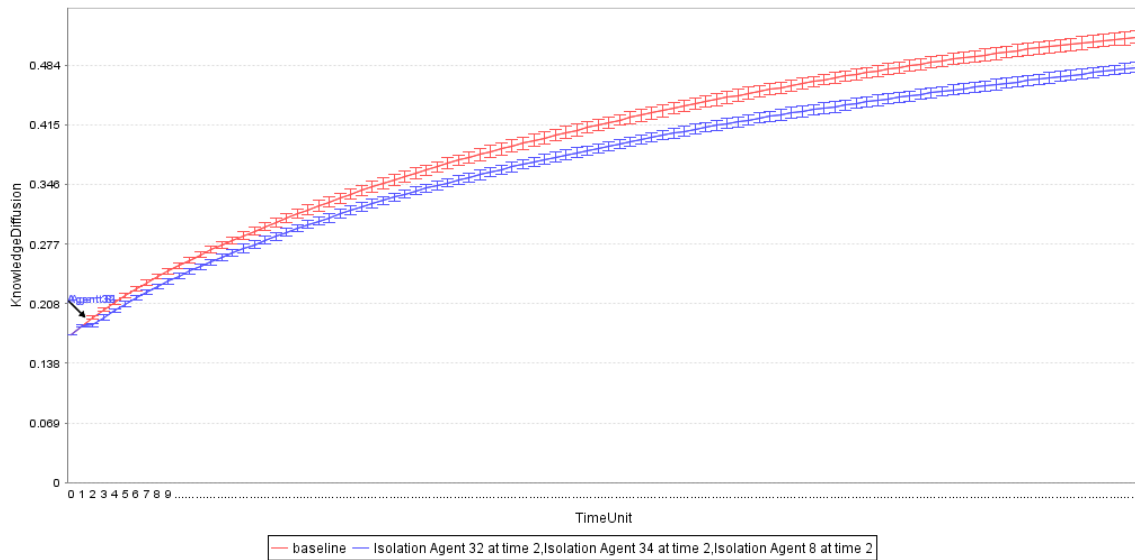


Figure 5.12. Removal of enabling leaders at time period 2, university knowledge diffusion in policy discussion network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

I now will conduct a run on the confide network. Figure 5.13 displays a starting point of ethics knowledge diffusion at approximately 17% of capacity, which evolves to only 39% over 100 time periods.

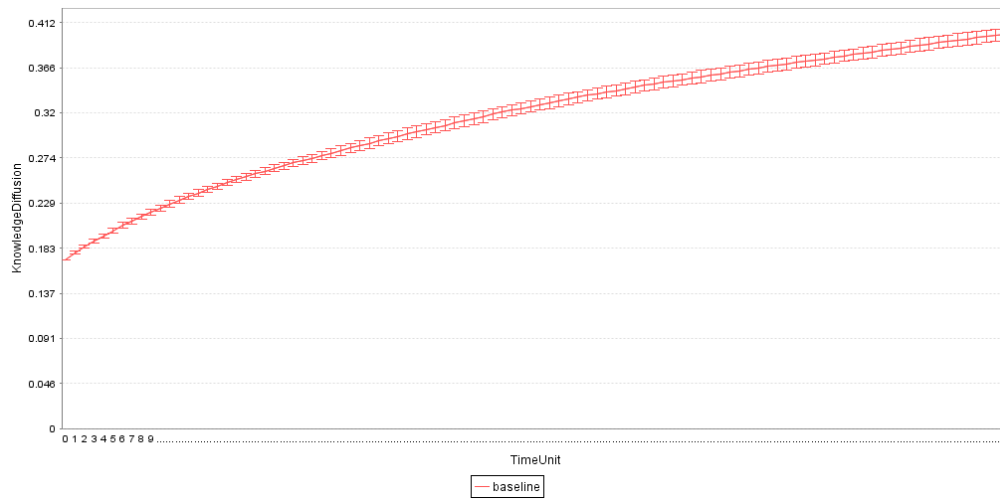


Figure 5.13. University knowledge diffusion in confide network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Next, I remove the top three enabling leaders identified earlier at period 2 so I can see their effect on diffusion of ethics knowledge in the confide network. These are Agents 17 (Closeness Centrality), 32 (Degree and Betweenness Centrality) and 87 (Cognitive Demand). Figure 5.14 reveals a loss of capacity by 2.5%.

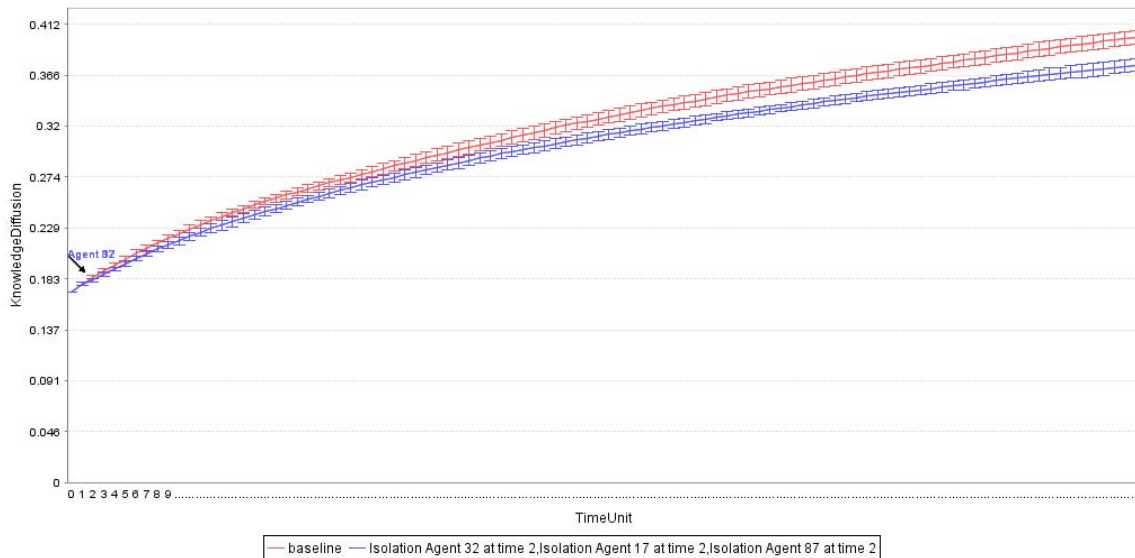


Figure 5.14. Removal of enabling leaders at time period 2, university knowledge diffusion in confide network over time; set within a 95% CI, at 25 replications, each at 100 time periods.

Ethics Knowledge Diffusion Summary

Changes to ethics knowledge diffusion trajectories reveal many of the general findings I discovered in beliefs diffusion. First, loss of agents results in a deviation of capacity that continues to both widen in difference, but also continues to climb over 100 time periods. Next, again, while two of the networks display similar baseline diffusion capacities (start and finish), all show variations in capacity not directly correlated with the number of agents lost, nor with general removal of top-ranked enabling leaders. A summary of findings are presented in Table 5.3.

Table 5.3.

Knowledge Diffusion Differences between Networks.

Network	Baseline Diffusion over 100 Periods	Number of Agents Removed	Capacity Loss in 100 Periods	% Deflection (%loss ÷ % growth)
Interaction	17-38%	2	1.57%	7.48%
Policy Discussion	16-50%	3	3.53%	10.38%
Confide	17-39 %	3	2.50%	11.36%

Ethics Logic Belief and Knowledge Findings

Comparing the findings from both belief and knowledge diffusion leads us to some generalizations important to this study on ethics logic dynamics and evolution. The most significant difference between belief and knowledge networks, is the greatest raw capacity loss in diffusion for beliefs was the confide network, while for knowledge it was the policy discussion network. This is perplexing, as the only change between the like-network runs was content. Table 5.4 helps us make sense of this discrepancy.

Table 5.4.

Integrated Belief and Knowledge Diffusion Differences within Networks.

University Network	Baseline Diffusion over 100 Periods		Loss in Capacity over 100 Periods		% Deflection (%loss ÷ % growth)	
	Beliefs	Knowledge	Beliefs	Knowledge	Beliefs	Knowledge
Interaction	20-42%	17-38%	2.39%	1.57%	10.86%	7.48%
Policy Discussion	20-53%	16-50%	2.07%	3.53%	6.37%	10.38%
Confide	20-40%	17-39 %	2.65%	2.50%	13.25%	11.36%

When I examine the trajectory deflection of both entities, each representing a percent of the total change in capacity, I find that both deflection figures reveal the

greatest impact within the confide network; this is further evidence that the confide network is the least robust and minor change can contribute to wide swings in information diffusion. Yet, now, in comparing the other network trajectory deflections, I see inconsistency in the remaining two networks; the least impact to trajectory with beliefs lies with the policy network, while for knowledge it rests with the interaction network. So now the question is, “Why is there a difference between diffusion trajectory deflections of beliefs and knowledge entities in different networks, when between them, the same network structures were used, and the same agents were dropped?” This certainly points to content difference; beliefs and knowledge each possess a different number of nodes and has a different arrangement and number of ties to the collective set of faculty. This could have implications for the earlier discussion on clusters of agents driven by nodal attractors. Whatever the reason, this must be placed in the category for future research.

In this study I recognized literature infusing ethical implications for all interactions. Diffusion of information, knowledge, beliefs, and other constructs is how organizations and groups adapt and it plays a key role in ethics reform. Schreiber (2006) describes how diffusion effects learning and adaptation:

Interdependent interactions between agents lead to the diffusion and combination of knowledge and results in learning and adaptability. As agent interactions evolve in an organizational system, changes to both ‘what’ an agent knows and ‘who’ an agent interacts with will occur (Carley et al., 2001a). (p. 110)

Diffusion then, represents a dynamic process of evolution—that is learning and adaptation; when considering the repercussions for diffusion of ethics constructs, it implies that content based learning will occur. I put forth the following proposition parallel to this line of thought:

Proposition 5.3: Agentic ethical behavior and interaction is positively correlated with increases in ethics knowledge diffusion. In other words, the higher the level of ethics knowledge diffusion, the more that is learned and the higher the degree of ethical behavior.

The ethics logic entities in this study were derived from participant realities—representing in some part, the institution itself. Simon (1957) plainly understood that organizations are represented by the people that compose them. Members are influenced by both the culture which surrounds them (artifacts and structures) as well as each other. All of the entities in this study are representative of constructs of university culture. Bryman (1996) notes that culture acts as “the ‘glue’ which binds people together” (p. 284). This ‘glue’ does not always hold healthy connotations—having the potential to foster unethical behavior (Henle, 2006). Culture provides agents with organizational identity and sense making (Weick & Westley, 1996). Culture and agentic interaction represent organizational network structure, where various construct meanings are diffused. Macy and Willer (2002) note that not only do agents influence other agents directly, but also agents in second and third order interactions; in other words, a more dynamic series of higher-order processes capturing a continuous, cascading series of interactions.

Agentic interaction and the role leaders play in it (such as fostering conditions) answers the fifth supporting question: “What influences the diffusion of agent knowledge, and beliefs among members?”

Summary

This chapter answered the remaining two supporting research questions, both holding implications for ethics logic reform. The fourth supporting question asked, “How are institutional dynamics related to ethics logic evolution?” Ethics logic is a dynamical structure; administrative leaders sway ethics logic structure when they remove and add links (relationships) or ethics nodes; however, this represents control and carries comprehensive risk to member well-being (Marion, 2001; Simon, 1957; Uhl-Bien et al., 2007). Enabling leaders can facilitate both the removal of attractors suppressing ethical behavior and the emergence of those tags catalyzing agentic correlation. While conceptually, both of these leaders “intervene” to bring about dynamical outcomes, this question opens the door to understanding that different complexity leadership roles have different ethics logic functions—each serving a specific set of purposes for ethics logic that enables institutional legitimacy and agentic well-being.

The fifth supporting question asked, what influences the diffusion of agent knowledge and beliefs among members? This question pointed to two complexity network constructs critical to ethics logic. One is that network structure—that is, the pattern of interaction based upon member relationships—influences both the speed and capacity for ethics logic diffusion; the greater the pattern of interaction (ethically based upon respect, cooperation, trust, etc.), the greater the diffusion capacity. The other

construct influencing diffusion loops, in part, back to question four. The roles intervening leaders play in the network (facilitating the emergence or removal of agents and links, as well as network tags) has varying impacts on diffusion. The next chapter will present a model of dynamical processes within ethics logic evolution, as well as the theoretical, methodological and higher education implications of this study. Chapter Six will also present recommendations for future research.

Trustworthiness of data was maintained through triangulation of collection and analysis methods. For collection methods, data trustworthiness was provided by conducting interviews and a follow-on survey, as well as through observation and collection of artifacts; later research question and proposition construction was aided by modeling participant realities. For analysis methods, trustworthiness was provided using the rigor of traditional grounded theory method—to include thick rich descriptions (supplemented with visualization and quantitative representation), two member checks, maintaining transparency with coding and field notes, and relating literature to findings.

CHAPTER SIX

DISCUSSION OF FINDINGS

The major purpose of this study is to *explore* how an institution's ethics logic evolves over time, based upon internal structures and dynamics rather than environmental forces; it sought a window in which to acquire a better understanding of a university's ethics logic and interrelated dynamics using a complexity leader and network framework. In essence, this work focused on the potential for ethics reform in higher education institutions—adaptation seeking ethical legitimacy.

Chapter Four presented the university ethics logic based upon faculty realities at the time the data was collected; it presented both the constructs that form the ethics logic, and some of the network contexts in which it rests. Chapter Five presented a few of the dynamic considerations for ethics logic—those consequences of adding or removing ethics logic elements (nodes) within a set of interdependent networks of various entities.

This chapter presents an ethics logic evolution propositional model of dynamical processes within a complexity framework, and addresses the theoretical, methodological, and higher education implications; it will conclude with reviewing the limitations of the study, recommendations for further research, and a summary.

Propositional Model

This section begins by examining the collective findings of the supporting research questions by condensing the findings of Chapters Four and Five. Next, it

presents an integrative story line and model for ethics logic evolution of dynamical processes at a university. It concludes with a short model summary.

The following question directed the study: How does the interaction of agent work-related ethical beliefs and knowledge, perceived pressures and institutional agents or entities, influence the evolution of institutional ethics logic over time?

Findings Originating From Supporting Questions

Participant interviews established answers to the first supporting research question, by establishing collective ethics logic entities (13) and their corresponding node sets (222, plus 88 faculty members). Answers to the second question emerged from questionnaire data, where the university faculty population expressed their relationship between each other and ethics logic constructs. Using a network analysis package, I determined the properties and dimensions of faculty relationships within an ethics logic meta-network and its subsequent set of networks. In the third question, participant realities were examined through analysis of ethics logic behavioral patterns; I established both a faculty ethics logic model, as well as enabling leadership patterns within a given context (weekly interaction, discussion of ethics policy opinion and needs, and confidentiality). The fourth question linked ethics logic network change to both agentic interaction and complexity leadership behavior, influencing network structure and dynamics; I presented one example of faculty ethics resource emergence and another posited on leadership behavior found in traditional bureaucratic organizations, characterized by hierarchy and control. The fifth supporting research question, provided stochastic evolutionary trajectories of belief and knowledge diffusion tied to network

structure and context, and demonstrated interventional trajectories where select agents were removed and diffusion speed and capacity diminished. These supporting research questions, provide answers to the original research question, and help operationalize a propositional model of processes for future elaboration. Figure 6.1 provides the contributions of each research question.

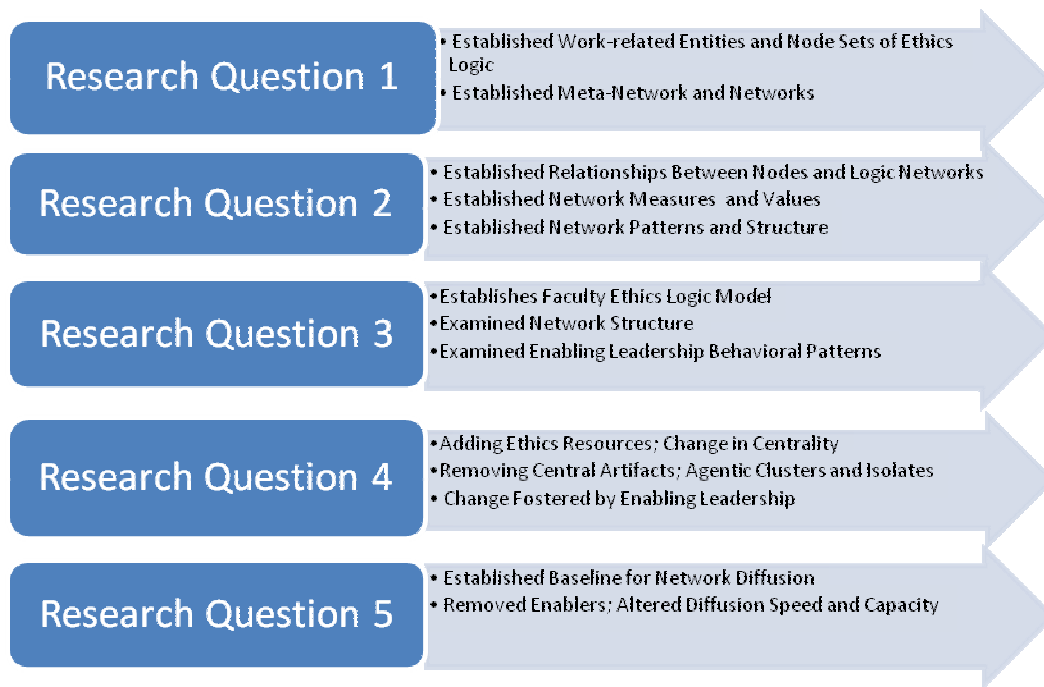


Figure 6.1. Research supporting question connectivity to the primary research question.

Model Logic

A model of the processes of ethics logic evolution is presented in Figure 6.2. Elaborations on the details of the model are linked to the related story line. I will first present the story line summary, followed by a more detailed description of model

categories: conditions and context, intervening factors, action and interaction, the phenomena, and consequences.

Dynamical Processes of University Ethics Logic Evolution

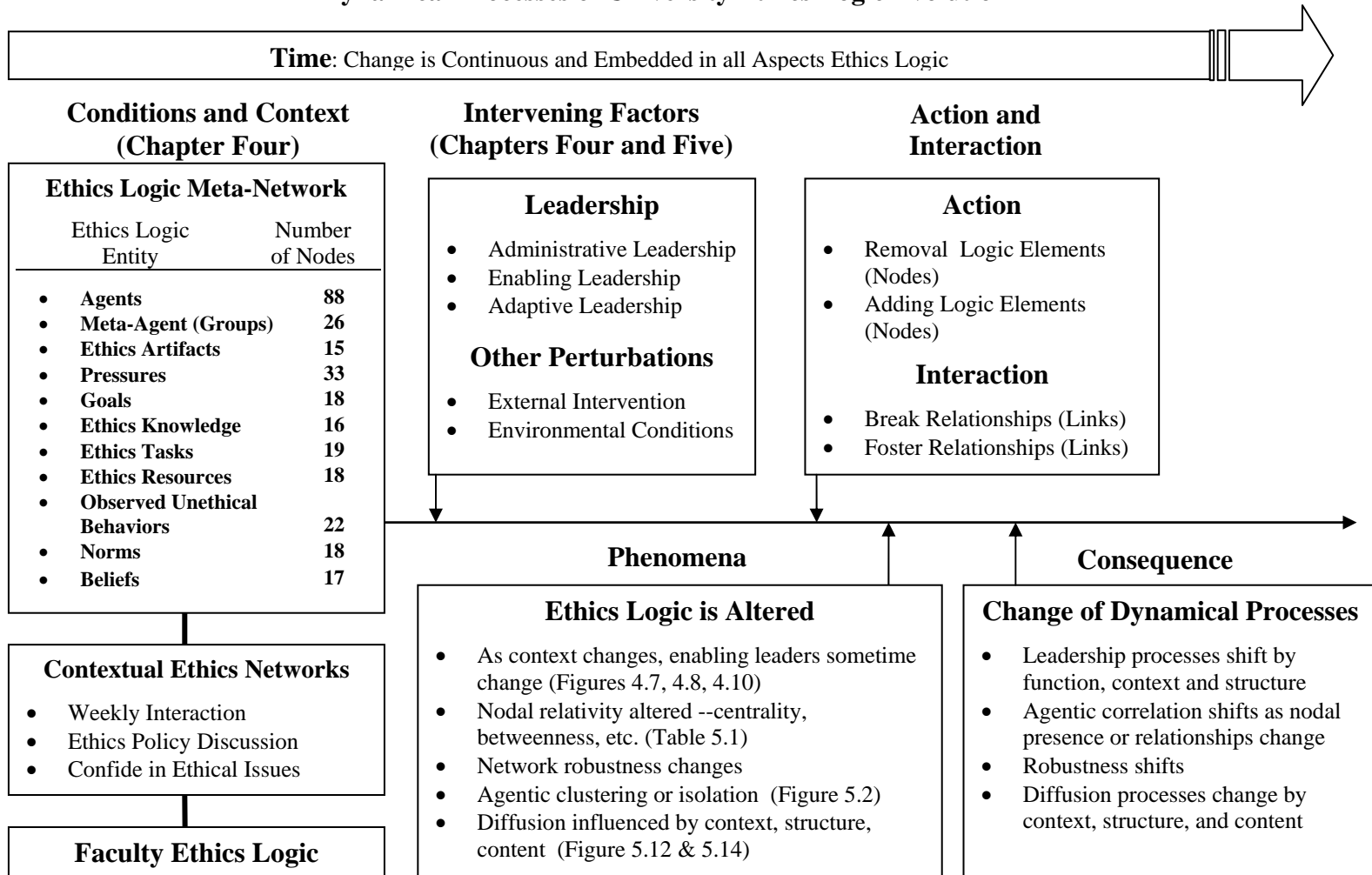


Figure 6.2. A model of dynamical processes of university ethics logic evolution.

Story Line.

The *conditions and context* of institutional ethics logic are dynamical and embedded in all aspects of organizational daily life. Faculty members are intertwined with institutional ethics logic; they are a part of it and it is a part of them. Earlier I noted how various clusters of faculty interact and share both physical and cognitive aspects of ethics logic—resources, artifacts, knowledge and tasks, as well as possess sets of institutional beliefs, observed behaviors, and institutional norms. As members of a small, religiously affiliated university, faculty members face unique conditions. Within this environment faculty interact in innumerable contexts, where in many cases, leadership roles change. Complexity leaders act as *intervening factors* that encourage or discourage agentic behavior directly or indirectly. Ethics logic network structure (i.e., who is linked to whom and what) and leaders can constrain or enable adaptive behavior, a necessary ingredient to achieving and maintaining institutional legitimacy. Enabling leaders intervene to promote agentic interaction and advance the conditions in which adaptive leadership thrives; they further understanding by administrative leaders to minimize hindrance of adaptive functions. Chapter Two pointed out that internal perturbations such as unethical leadership and faculty actions force universities to change behavior in order to maintain legitimacy; seeking legitimacy creates the institutional need for ethics logic evolution—purposeful change over time; because the university and its environment are subject to change every day, it must be influenced toward some degree of ethics reform—highlighting Darwin’s central theme of adaptation to survive. Adaptation to survive implies university requisite variety of action to meet that need. Within ethics logic, *action*

includes the removal or injection of ethics logic nodes or links; changing people or things changes network structure. The resulting *phenomena* of how leader action and agentic interaction alter ethics logic, hence evolution, includes a range of possibilities explored in this research: Changes in leadership by context, altered centrality of ethics logic elements, breaking faculty aggregates into clusters, alienating faculty into isolates within a particular context, and reducing or slowing the capacity of ethics logic diffusion. *Consequences* of intervention through action resulting in the above phenomena, hold significant implications for changes in dynamical processes—such processes such as leadership, agentic correlation (emergence or fading of elements, nodal centrality, agent clustering and isolation), diffusion (impact by leader removal, or spread of different content) and include cascading changes in network relationships and behavioral patterns due to changed processes—a constantly evolving ethics logic.

Conditions and Context.

Early in this study, I noted the setting for the study as a small, religiously affiliated university in the southeastern United States. Within this setting, participants defined their realities of institutional ethics logic. From an institutional ethics logic perspective, organizations embody a set of shared values, beliefs, norms and other entities that shape members (Schein, 1992; W. R. Scott, 2001); ethics logic also incorporates “social and material expression in concrete practices...” (Biggart & Guillen, 1999, p. 725). Ingrained in organizational understanding and culture, these elements may vary by group and context—shaping actor roles (Biggart & Guillen, 1999). But, the institution is not an inanimate structure—Simon (1957) assures us that in actuality, it is

the organizational members themselves that are the “institution”. Institutions can be viewed as one large network, or a meta-network composed of many different networks representing various contexts. Each network, however viewed, is composed of interactive and interdependent agents—each vying for a set of socially constructed beliefs and norms, consequently resulting in conflicts of varying proportion with fellow agents (Marion & Uhl-Bien, 2001).

In Chapter Four I defined all entities that make up the university ethics logic and set them within a meta-network; these entities and the number of corresponding elements (nodes) can be found in the model outlined in Figure 6.2 and throughout the study; for an example of tables displaying specific nonhuman nodes, as well as nodal centrality values, look in Appendix I. Network interaction, or relationships, within university ethics logic is defined by a particular ethics logic entity and faculty. Faculty members are entangled with various ethics logic constructs; specific elements (nodes) have various degrees of pull for different individuals and clusters. Also, upon reflection, I can see that many ethics logic elements are cognitive—something difficult for leaders to change or exclude from faculty interaction. Clusters of faculty are bonded through interaction within and around these nodes—conceptual or concrete. Network interaction over time sets the background for the rise of the phenomena of ethics logic evolution.

Each contextual network of faculty interaction incorporates complexity leadership roles of administrative, enabling and adaptive—where faculty members can act in all three roles. In the examination of each of the three contextual faculty networks in the latter half of Chapter Four, I pointed out the most influential enabling leaders—some of

which also held administrative roles (Figures 4.7, 4.8, and 4.10). I also noted that the organizational network context is dynamical, set within constant change of structures and processes, and evolving conditions (Schreiber & Carley, 2008); three of the social networks I examined were contextually based—those of weekly interaction, discussion of ethics policy, and confidentiality. Contextual change set conditions for leadership roles to change (Schreiber & Carley, 2008); in Chapter Four I also observed this occurrence among enabling leaders as I moved through the three agentic networks. I saw evidence of leader change through various measures, but also noticed some who seem to consistently appear as enablers throughout. Exact reasons are unknown, however implications carry consideration to the role of positional authority; if a leader can play multiple roles within complexity functions, then how do I know if their informal influence is due to the authority they possess in other roles--or some other factor? Yet, it is also important to consider that moral characteristics have a track record of empowering leader efficacy; I noted in Chapter Two that all agentic interaction holds ethical implications, and ethical practices set the conditions for the type and duration of relationships (trust, collaboration, affection, etc.). I posit that ethical leaders—whatever their role, retain leadership efficacy.

Intervening Factors.

External intervention by legal, accreditation and other outside organizations were identified in Chapter Two; societal and other external perturbations were also discussed. While researching these forces are important to ethics reform, this study focuses on some of the internal aspects of university intervening conditions.

A central aspect for this study was the various leadership roles found within complexity leadership theory. Set within a complexity leadership framework, leadership roles and functions are embedded throughout the faculty body—some holding formal administrative roles and others acting as enablers, and still others performing a more bottom-up, adaptive capacity. Schreiber and Carley (2008) note leadership is leading change of context and processes, stressing the dynamical nature in which complexity leadership is embedded. In other words, leadership intervention within a network framework is focused on the direct or indirect creation or removal of relationships (links) and institutional “parts” (nodes) to achieve adaptive outcomes. Complexity leadership theory inferences are that leaders would hold varying roles and responsibilities in institutional ethics logic. For example, in observations and interviews, I was led to artifacts such as student and faculty handbooks laced with ethics related material, by their administrative creators. I also uncovered some agentic tension between faculty and administrative views and behavior. General understanding also suggests that administrative leaders support ethics logic change as a needed for institutional legitimacy. Complexity leadership theory would also suggest that holistically, it would hold a more powerful efficacy if much of it originated from adaptive leadership by the facilitation of enabling leaders. If conceptually followed, administrative leadership restrains excessive control (prolific policies and regulations) and intervention that hinders adaptive emergence. In Chapter Five, I asked if lack of new resource emergence was a result of hindered enabling or adaptive functions.

Also, from an ethics perspective, in fostering the conditions for member interaction, enabling leadership roles infer promotion of greater ethical behavior among agents, which in turn facilitates greater interaction based upon respect, trust and cooperation. Ethical behavior promotes cooperation, collaboration and interaction between agents—needed for adaptive outcomes to occur. This will allow a healthy work environment, agentic civil behavior, and other adaptive outcomes of agentic well-being and institutional legitimacy. Chapter Two reminds us that unethical leader behavior, results in lost respect, trust, credibility and effectiveness (Tyler, 2005b; Yukl, 2006).

In Chapter Four I identified both enabling and administrative leaders; in Chapter Five I modeled the injection and removal of ethics logic elements couched within complexity leadership roles. Specific details are included in the next subsection, action and interaction. Leaders then, are a primary intervening factor within ethics logic.

Action and Interaction.

Schreiber and Carley (2008) note that, “Network leaders use strategic interventions to foster productive collective action” (p. 300). In many cases, it is purposeful—oriented toward some goal. Yet, it can be passive, in that leader actions can have indirect repercussions. Actions can be irrational, as part of the human condition noted in Chapter Two; or from an organizational perspective, irrational behavior can be due to pressures by constituents, pulling the organization away from stated rational purposes.

In this study, network intervention resides in the following *actions*: the removal of nodes or links, the injection of nodes, and the breaking or fostering of member

interaction. These all hold implications for change of structure and dynamics—and the resultant consequences for ethics logic. I provided examples of these actions and consequences in Chapter Five. In these examples, I modeled the injection of new resources faculty stated they would use—from an adaptive and enabling leadership perspective (Table 5.1); while evidence did not strongly support the fact that this potential emergence could be brought to fruition by enabling and adaptive functions, I argue that the potential lies there nonetheless. Next I removed central artifacts from the faculty aggregate (Figure 5. 2). While there are many originating possibilities for the removal of ethics logic nodes within a network—to include naturalistic perturbation and external intervention, I posited intervention by administrative leaders. Later in the chapter, I also removed enabling leaders to detect impact on diffusion of ethics-related beliefs and knowledge.

While I primarily examined the removal of nodes (and consequently, their associated links), an enabling leader’s role is to foster member interaction. Encouraging interaction is the path to establishing *new links*. Powerful relationships are emergent. While it may be possible for authoritative leaders to attempt to “make” members have a relationship, it would seem to relegate them to those that are tied to such things as law, policy and formal rules. Complexity leadership theory explicates that while there is a role for a bureaucratic framework, collective efficacy, creativity and adaptation outcomes are more potent when emerging from interactive, interdependent agents (Uhl-Bien et al., 2007) . As a side note, while complexity leadership has little literature on the purposeful break of relationships, from an ethics perspective this would seem critically important. If

members are attracted to nodal representation promoting unethical behavior (say, due to a particular policy or norm), then I advocate that administrative and enabling leaders have a role in ethics logic to nurture a break in that particular “link”. In sum, the action of adding or removing ethics nodes and fostering or breaking relationships are the central role in ethics logic action and interaction.

Phenomena.

The primary research question directs attention to the phenomena of ethics logic evolution; the question asks how the interaction of ethics logic entities—that is the internal dynamics, influence the evolution of university ethics logic. The phenomena rests on a primary dimension of *purposeful* change over time to seek legitimacy. While *seeking* legitimacy, this does not mean that resultant change due to leadership intervention will necessary attain it.

The focus on internal dynamics pulls research away from any external forces or events, and limits concentration on internal institutional processes. To begin to answer the primary question, I have to ask how ethics logic was altered. How did the interaction of entities change ethics logic? Here I turn to the research findings in Chapter Four and Five—in Chapter Four I determined the university’s initial conditions, and in Chapter Five I examined what changed based upon leader intervention. Findings revealed some of the ways ethics logic was altered from a complexity leadership perspective.

I concluded that each of the ethics logic agent-by-agent networks held different contexts, and as context changed, in many cases enabling leaders shifted. I also established that changes to structure—that is, adding or removing nodes (people and

things) and links (relationships) creates immediate change of nodal values (such as centrality, betweenness, etc.). This could tighten network robustness, or fracture faculty from a single aggregate into multiple clusters and isolated members. I also discovered that diffusion of knowledge and beliefs changes with the removal of influential enabling leaders, creating drops in the speed and capacity with which beliefs and knowledge are shared among members. I also detected diffusion differences with changes to content (beliefs or knowledge). Change to ethics logic holds serious implications to the changes in ethics logic dynamical processes.

Consequences.

Intervention to change university meta-network structure, resulting in the phenomena I noted above, holds general internal consequences for the institution. Consequences include changes in dynamical processes—processes such as leadership, agentic correlation (agent clustering and isolation, agentic tags), network robustness (emergence or fading influence of elements, changes in relationships such as nodal centrality), and diffusion (impact by leader removal, different content). These are not inherently unrelated, as a change in one, holds ramification for the others. You will notice in the following discussion addressing each of these dynamical processes discussion of one cannot be disentangled from discussion of the others.

The leadership process shifts by leader function, context, or structure. CLT functions are different; I have already discussed varying roles of administrative, enabling, and adaptive leadership and posited examples based on actions in Chapter Five (bottom-up and top-down). Leaders also shift base on context; examining the networks in Chapter

Four revealed several enabling leaders—some also holding administrative roles. As I examined each network I noted a change in patterns of influence—some new leaders emerged, some remained, and some faded. And finally, leadership processes also change with network structure when breaking or establishing relationships—particularly when agents leave or join network.

The process of agentic correlation shifts as nodal presence or relationships change; in Chapter Five, I have seen examples of aggregates broken into agentic clusters and isolates. When unifying nodal tags that held the collective together were removed, clusters visually moved toward those remaining nodes with which they resonated. Isolates display no connection to remaining nodal elements. I have also addressed how enabling leadership is tied to correlation. In the previous chapter, I provided an example where enabling leaders could help the emergence of bottom-up resource ambitions.

The process of network robustness reflects holistic shifts in relationships with the addition or removal of nodes and links, and represents different or new patterns of behavior. In Chapter Five I observed changes to nodal centrality by adding and removing other nodes. When resources were added I noticed a tighter network, and when artifact nodes were removed I saw a much “looser” structure. Results were largely based on the number of links among human and nonhuman nodes—the tighter the network, the more interdependent. Robustness, or the redundancy of links among agents, determines the ability of the network to adapt to various perturbations. Healthy network robustness of ethics infrastructure can guide, support, or assist, agents in raising the institution’s ethical fitness level. However, there comes a time when networks can become too bound by

interdependence. I did not discuss coupling or interdependence in this study. Suffice it to say that Marion (2002) notes that agents are “either enabled or constrained by network characteristics” (p. 320), and that too many links to everyone or everything else may bind organization and agent response. Moderation of the degree of agentic interdependence is important to adaptive outcomes.

The process of diffusion shifts as network context, structure, or content changes. In Chapter Five, I noted differences in: 1) each network context (weekly interaction, policy discussion, confide), 2) different structures (organizational members were removed, resources added, etc.), and 3) movement of different content (beliefs vs. knowledge). Each of these was directly tied to changes in collective diffusion capacity and rate.

Alteration of any of these processes includes cascading changes in network relationships and behavioral patterns. Thus, emerging behavioral patterns can move toward institutional ethics reform, away from reform, or appear comparatively unchanged; the same can be said about movement toward institutional legitimacy. Our model is not predictive, rather propositional.

Model Summary

Evolution is defined as “a process of change in a certain direction ... a progression of interrelated phenomena” (“Evolution,” 2009). From a complexity leadership perspective, higher education institutions are complex adaptive systems—meaning agents are interactive and outcomes are unpredictable (Marion, 2008; Uhl-Bien & Marion, in press). Outcomes or patterns of behavior are characterized as emergent and

self-ordered, influenced in part, by institutional history. History establishes a trajectory framework guiding the direction of organizational evolution—in this study it implies the essence of how and why the ethics logic exists as it does. On the one hand, bits and pieces change as defined by intervention, interaction and time. On the other, some will remain for an indeterminate period—influences brought about by all the cognitive entities residing in the minds of faculty, as well as all the physical entities representing a part of the institution. Institutional history incorporates external and internal cultural influences, to include ethics logic constructs. While some constructs, such as law and policy, are imposed or enforced through functions of administrative leadership representing the institution, other ethics constructs emerge as norms and collective beliefs—arising from agentic interaction and adaptive leadership functions. It is difficult to imagine any organization in which centralized control establishes all beliefs, knowledge, norms, artifacts, and other aspects of the institution’s members. This thought runs counter to Simon’s (1957) findings that organizations without informal structure will not function successfully, and the belief that people are the organization.

This work extended beyond a grounded faculty ethic logic model as presented in Chapter Four, and incorporated, in essence, the very heart of complexity leadership to answer the primary research question; that is, much of what creates ethics logic and change is centered on leadership and member interaction. Ethics logic evolution is dynamical, much originating from agentic interaction and leadership behavior. Attempting to “stabilize” ethics logic is both unrealistic and harmful to the adaptation needed to achieve and maintain institutional legitimacy.

Universities, such as the complex organizations described in literature, consist of a set of inter-related parts, where the efficacy is greater than the sum of parts. I propose the same can be said of a mere subset of parts found within institutional ethics logic. These parts require conscious leadership maintenance and bottom-up emergence—reform does not just “happen”. I noted change in important processes as a consequence of action; how much of all “actions” are coordinated to achieve an outcome? What happens when leaders do not consider distal repercussions to changing university structures? I examined the repercussions of removing artifacts included breaking collective aggregates of faculty into clusters, or isolating faculty from the context under manipulation. I saw an example of combining resources, which displayed nonlinear changes in ethic resource centrality to the faculty body. Then I saw how removal of key persons, created limitations to the organizational capacity for diffusion of cognitive ethics logic constructs.

To maintain legitimacy organizations must reflect ethicality. Ethical frameworks are incorporated into organizational structure and culture; agentic differences are part of asymmetry “related to preference” (Uhl-Bien et al., 2007, p. 306). To ensure institutional ethical adaptation response to environmental expectations and demands, organizations may need to strengthen ethical frameworks around ethical tags—where agent correlation overwhelms destructive individual or cluster “preferences”. Ethics logic failure implies the precipitation of a nonlinear, catastrophic unethical event that will damage institutional credibility.

Marion (2002, 2008) notes the centrality of network dynamics in complexity leadership, a perspective that stresses the importance of member responsibilities within

that network. He places emphasis on a structure that is distributed rather than one that is tightly controlled. Complexity leadership does not focus so much on the person as it does on organizational structure and processes—networks of relationships formed by patterns of agentic interaction, context, and the multiple roles of organizational members that lead to adaptation. CLT leaders have the ability to influence institutional dynamics, improving faculty ethical behavior. For example, within a network dynamic, *adaptive, enabling, and administrative leadership* may have roles to play in creating all the system “parts” that encourage ethical behavior or in removing those that may stimulate unethical behavior.

Theoretical Implications

This study holds a number of theoretical implications. First, it offers a theoretical representation of faculty ethics logic set within a network framework, representing a major part of institutional ethics logic; I offer a Faculty Ethics Logic Model generated by faculty realities, rather than one derived strictly on formal institutional structures and policy. I explicate a holistic connectivity between ethics logic elements, where adding or removing elements has repercussions to the centrality of other processes within the university.

Secondly, the study supports complexity leadership theory, and offers an “ethics” elaboration”. This is important for two reasons. One is simply that ethics is a critical aspect of leadership—formal or informal. While vaguely mentioned in the context of beliefs and values in complexity literature, ethics plays such a critical role in leadership and leader functions that many scholars, have devoted much of their work to address it. They have highlighted its importance to trust, credibility, and agentic well-being, as well

as institutional survival and adaptation in movement toward legitimacy. Ethics logic plays a central role in complexity leadership as it shapes both the existence and nature of agentic interaction, a central theme of resulting creativity, innovation, problem solving, and adaptation; healthy and productive human interaction rests in large part on ethical behavior and resulting agent well-being.

Another reason an ethics emphasis is important to complexity leadership theory, is to begin dialogue regarding ethics logic functions. The complexity leadership model proposed by Uhl-Bien, Marion, and McKelvey (2007) expands the concept of leadership beyond that of authority and position, or solely as responsibilities incorporated in a management role (Marion & Uhl-Bien, 2007). In complexity leadership theory, leaders are those that serve the three leadership functions noted earlier—and I believe those functions contain ethics logic opportunities and responsibilities. Leaders act in multiple leadership roles and are titled more by the process they serve in a given context. Earlier in the study I noted that some administrative leaders playing an enabling role seemed extremely influential in this informal position. While I am not sure of the reason, the efficacy of informal moral leadership cannot be ruled out; by any name given, leaders hold ethical responsibilities and relationships with their group—influencing collective, affective states.

Thirdly, theoretical implications also rest with the concept of bottom-up ethics logic reform. In this study I have shown the possible emergence of faculty ethics based “tags” such as professional higher education goals, ethics knowledge, and ethics resources. I posit that these emergent elements (nodes) do not necessarily have to conflict

with institutional goals; as a matter-of-fact, many in this study seem to represent higher education's most idealistic faculty goals (maintaining professional competence, improving teaching quality and continue learning). A question for administrative leaders is "If this is what faculty use or need to teach or resolve ethics issues, how can I support them?" In other words, implications for ethics reform and ethics logic are that both may actually be strengthened less by policy and top-down intervention, than by leadership focus on supporting emergent, collective ethics logic elements and structures.

Methodological Implications

In this work, I sought participant realities of the ethics logic and its dynamics within a university setting, integrating qualitative, quantitative and modeling techniques within a grounded theory approach. This study offers multiple methodological implications.

First, this method offers expansion of traditional qualitative research representations. A major pillar of qualitative research rests with thick, rich descriptions of textual representations; while artifacts are sometimes integrated into qualitative research—and on occasion this will take the form of photographs or pictures, most rely almost exclusively on text, qualitative tables, and often box models. Network based research offers another form of using qualitative data in both quantitative terms and striking visualizations. Network visualizations mixed with descriptive tables of quantitative measures for qualitative conceptual labels, supplement textual and other qualitative descriptions of institutional ethics logic—offering a different form of thick, rich description of data within grounded theory methods.

Secondly, while many researchers are assisted in the qualitative coding and analysis by software programs such as NVivo, Nudist and the like, network and modeling software can also provide a different venue for these research steps. In this study, ORA aided the selective coding process by identifying aggregated relationships among entities (categories) and their nodes (subcategories); during data analysis, it provided various measures and their resulting values, representing *properties and dimensions* to determine degrees of significance within institutional logic. ORA also aided the detection and investigation of patterns of behavior in unique ways. For example, ORA allowed the integration of demographics into network representations; I used positional leadership and unit information to highlight faculty networks of interaction in this study. While not part of this study, other options allowed examination of agents by faculty rank, gender and ethnicity. (From an ethical leadership perspective, I found emerging patterns within this unaddressed data that raised ethical questions for future study.)

Thirdly, this study provides one example of the flexibility of grounded theory techniques and a framework for good research using a qualitative rigor as originally established by Glaser and Strauss (1967) and refined by Strauss and Corbin (1990; 1998). In this study, derived quantitative values for qualitative data did not change data representativeness, but placed a value on conceptual labels representing holistic measures such as centrality to all other qualitative “parts”. This in no way limits its application to qualitative data trustworthiness techniques such as triangulation, member checks, etc. It simply offers considerations for researchers when attempting to determine importance

and centrality of categories during selective coding, as well as offer additional perspectives in which to examine data patterns.

Lastly, this study also provides an example in which grounded theory can be applied toward questions of collective “behavior”, “organizational functioning”, and “interactional relationships”, as well as construct a theoretical interpretation of reality (Strauss & Corbin, 1990, p. 17). Network graphs represent dynamical entities—each possessing behavioral rules (Newman, Barabasi, & Watts, 2006), and processes changing over time (Newman et al., 2006). This work shows how it can include interaction beyond solely human interaction, but also that between people and events as well as other theoretic entities (Kerlinger & Lee, 2000).

Implications for Higher Education

Like many other organizations around the nation, higher education has undergone calls for ethics reform. Not only were there calls for student ethics reform, but recent trespasses by institutional leaders and faculty have sometimes challenged the legitimacy of universities and colleges. This is supported by various studies—such as those examining institutional member behavior, a lack of institutional infrastructure, and a lack of faculty agreement or understanding of ethics and values. This work emerged from the concern that attempting to “reform” ethics piecemeal, as much of literature implied, would not fix systemic causes involving structure and processes. I decided to begin to understand a piece of this issue by understanding first what it was that was “evolving”—grounded in a faculty perspective; I wanted this set within a complexity network framework, because complexity captured the dynamics of change and leadership more as

a collective process than one primarily driven by administrative, hierarchal leaders.

Directly tied to this reason, was the thought that ethics logic reform across an institution would need the involvement of all members, each playing various roles. There are many implications to higher education institutional ethics reform in this study.

A primary implication is that ethics reform involves the entire host of members and institutional structures. Uhl-Bien et al. (2007) note that adaptive agents adjust their views to consider others and engage “in some measure of cooperative behavior” (p. 303). Much of current ethics reform effort is directed toward students, but that cannot be effectively accomplished without addressing both the ethics logic needs and the behavior of institutional members. Teachers are considered leaders and agents of change (Chapman, 2006; Garcia Barbosa, 2000), and must be considered as primary change agents in ethics reform.

Another implication involves the many ethical challenges in higher education, as well as to leadership in general. To prevent external intervention, institutional agents must self-organize around ethic logic elements, and formal leaders must use less control and more “enabling” for these elements to emerge. For faculty this means, in part, that they must help create, know and enforce ethical principles of the institution; for administrative leaders, this means that many of these institutional principles should originate from faculty (adaptive leadership); principles can be fostered among each other (as professionals) and among students.

A third implication is that the existing diversity between higher education institutions should not be allowed to dismiss generalized findings originating from a

single institution as lacking relevance to all institutions (private/public, research/liberal arts, small/large). It is true that some conditions and context differ. Yet this study found that the bulk of ethical issues noted in literature, also existed at this small, religiously affiliated university. This phenomena is not uncommon among various organizational cultures (Schein, 1992). This represents one of the powers of the qualitative generalizability for theoretical development (Parry, 2003; Strauss & Corbin, 1990).

Limitations

As with any research, this study holds a number of limitations. First, networks are ‘partial’, that is they do not represent all possible relationships (J. Scott, 1991). Burt (1983) estimated that the amount of relational data lost through sampling is $100-k$, whereas k is the percent of the sample representing the population (as cited by J. Scott, 1991, p. 62). In this respect, one could plainly recognize that 28% of the faculty population is not represented in this study. Yet much of this may be mitigated when considering grounded theory is focused more on data saturation than the actual number of participants.

Another limitation of this study is that it does not examine the perspective of part-time faculty, nor other institutional members. These groups may hold unique perspectives important for ethical leadership to consider, and reshape institutional ethics logic as described in this study.

An additional limitation is that the study does not take into account its environment. In many respects, the university is an “open system”, that is, universities interact with their environment. An institution of higher education has constituents

outside the institution that play an important role in establishing constraints—things such as federal and state laws, funding and alumni support are but a few examples. While the primary focus lay with internal influences and behavior, it is to some degree unrealistic to believe that a university’s external environment would have little to no impact on its ethics logic. Much of what drives an institution is its quest for legitimacy, as I have discussed throughout this paper.

Finally, and perhaps one of the most important limitations, is that this study does not take the traditional grounded theory form of an in-depth narrative, using strings of interview quotes to lay meaningful foundations. Integrating another method, such as dynamic network analysis, takes time and space to both explain and present. Constraints of time and space forced me to make decisions on methods and techniques of data representation. However, this did not distract the application of the standards and rigor of grounded theory research. As Strauss and Corbin (1990) said, “Process is a matter of degree”, but should be “sufficient to give the reader a sense of flow...” (p.147).

Future Research

Several propositions and questions have been presented in Chapter Four and Five. They open doors to further research in ethics logic, networks, and leadership. Also, finding out more about the interrelationship of ethics within a complexity leadership framework would expand a holistic leadership approach to ethics reform. Complexity leadership theory is one of the few to move away from a leader-centric approach and incorporate all levels of agentic interaction. This not only holds implications down to the

dyadic level between a leader and a follower, but to a context where two agents engage in the creation of institutional ethics entities or elements—from ideas to concrete constructs.

Summary

This study sought to explore how the ethics logic of a higher education institution evolved within a complexity leadership lens. Using a CLT framework focused an understanding of an institution as composed of networks of interactive, interdependent agents, facilitated by three distinct leadership functions—those of administrative leadership, enabling leadership and adaptive leadership.

This study, first and foremost, was grounded in participant realities. It used both qualitative methods to gather data and interpret data from faculty at a small, private university. I took advantage of flexible nature of qualitative methods—later expanding sampling to the population under study, asking new questions, clarifying concepts, viewing data in the traditional grounded theory method of coding, then transforming data into graph and network measures to expand perspectives—particularly from a complexity network venue. Chapter Four represents the institution’s initial conditions—realities at the time data were collected. While research utilized various qualitative, quantitative, and modeling techniques, it was an iterative process of data collection and analysis—all set within an emerging theoretical perspective.

Organizations evolve dependent upon network history (Newman et al., 2006; W. R. Scott, 2001). I used participant data for modeling what-if scenarios to better understand ethics logic dynamics and develop questions, propositions and construct both a theoretical and propositional model (Chapter Four and Chapter Six, respectively). The

purpose was not to generate causal knowledge or predictive formulas, but create ideas for future research. Examination of ethics logic as a meta- network of ethics constructs and university members can provide new thoughts and understanding for leadership ethics reform at the meso level—that is, across organizational and group levels (Uhl-Bien & Marion, 2007).

I would like to conclude this study with the reflection of moral purpose for all institutions of higher education. The consideration of ethics today is as relevant as it has always been, and always will be. Kelley et al. (2006) remind us of a strong tie between higher education and ethics by citing McKerrow (1997):

As McKerrow (1997) states, education is a fundamentally moral enterprise, thus universities need to change in order to reflect ethics at their core, not at their periphery. Society expects universities to train the next generation. With the rapid advancement in technology and increasing complexities of our society, improving ethical conduct may never have been more important to our future (Lampe, 1997). I are charged with ensuring the next generations are knowledgeable, principled and responsible citizens. To accomplish these objectives, our universities must operate with allegiance to core ethical values. (p. 223)

APPENDICES

Appendix A, Institutional Letter Granting Permission to Study

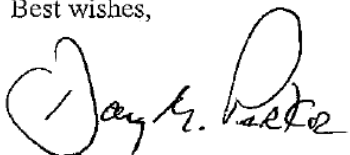
November 5, 2008

William Hanson
112 South Oak Pointe Dr.
Seneca, SC 29672

Dear Bill,

You are granted permission to conduct research at Anderson University, titled "Ethical Leadership In Higher Education: Evolution Of Institutional Ethics Logic" as you earlier described in our meeting. We understand that you will comply with research ethic standards and proceedings guided by Clemson's Institutional Review Board.

Best wishes,

A handwritten signature in black ink that reads "Danny M. Parker". The signature is written in a cursive style with a large initial "D".

Dr. Danny M. Parker
Senior Vice President for Academic Affairs



Appendix B, IRB Notice of Approval

FW: Your IRB protocol # IRB2008-369, entitled "Ethical Leadership in Higher Education: Evolution of Institutional Ethics Logic"

On 11/20/08 9:35 AM, "Rebecca Alley" RALLEY@exchange.clemson.edu wrote:

Dear Dr. Marion:

The Chair of the Clemson University Institutional Review Board (IRB) validated the protocol identified above using Exempt review procedures and a determination was made on November 20, 2008, that the proposed activities involving human participants qualify as Exempt from continuing review under Category B2, based on the Federal Regulations (45 CFR 46) for all research sites with support letters on file with the IRB. Because my office currently has no research site letters on file, you may not yet begin this study. Once we receive the signed research site letter from [REDACTED] University, however, you may begin collecting data there.

Please remember that no change in this research protocol can be initiated without prior review by the IRB. This includes any changes to your survey instrument. Once the survey is finalized, please remember to submit it as an amendment to this protocol. Any unanticipated problems involving risks to subjects, complications, and/or any adverse events must be reported to the Office of Research Compliance (ORC) immediately. You are requested to notify the ORC when your study is completed or terminated.

Attached are documents developed by Clemson University regarding the responsibilities of Principal Investigators and Research Team Members. Please be sure these are distributed to all appropriate parties.

Good luck with your study and please feel free to contact us if you have any questions. Please use the IRB number and title in all communications regarding this study.

Sincerely,

Becca

Rebecca L. Alley, J.D.
IRB Coordinator
Office of Research Compliance
Clemson University
223 Brackett Hall
Clemson, SC 29634-5704

Appendix C, Interview Letter of Consent

Information Concerning Participation in a Research Study Clemson University

Ethical Leadership in Higher Education: Evolution of Institutional Ethics Logic

Description of the research and your participation

You are invited to participate in a dissertation research study conducted by Bill Hanson (Dr. Russ Marion, PI). The purpose of this research is to explore the institution's ethics logic (structure and processes) and the interactive dynamics of these logics in a university setting. The analysis will help us understand the nature of the current network structure and to simulate evolution of institutional dynamics. That is, we are focused on collective dynamics and holistic processes rather than individual beliefs or behavior.

Your participation will involve voluntary completion of the attached survey. The amount of time required for your participation should take no more than 20 minutes.

Risks and discomforts

There are no known risks associated with this research. Names will be coded for this study and will not be released to anyone other than the researchers.

Potential benefits

This research will help us understand the interactive nature of work-related ethics knowledge, normative beliefs, resources and other structures in found in universities, and contributes knowledge to the study of interactive dynamics within complex adaptive systems.

Protection of confidentiality

We will do everything we can to protect your privacy. Raw survey data will only be accessible to Dr. Russ Marion and Bill Hanson; names will be coded and remain confidential. Once research is complete, surveys will be destroyed. Your identity will not be revealed in any publication, presentation, or discussion that might result from this study.

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Dr. Russ Marion at Clemson University at 864-656-5105. If you have any questions or concerns about your rights as a research participant, please contact the Clemson University Office of Research Compliance at 864-656-6460.

Appendix D, Interview Instrument

Structured Interview I: Elements of Institutional Ethics Logic

Respondent's Name: _____ (for follow-up clarification if needed)

Department, College, or Office in which you work: _____

This questionnaire is part of a dissertation study examining the network dynamics of _____ University's ethics logic, or system; that is, in this questionnaire, we are trying to *identify* key university ethics structures and elements (such as *agents, pressures, beliefs, tasks, and resources*) that characterize this campus. We are interested in general institutional patterns and not specific information about any one member. (Write no names in the answers, please.) Your participation is very important if we are to gain an understanding of this dynamic, so we hope you will take 20 minutes (estimated) to complete this survey.

This information will help us develop a more accurate and comprehensive survey which will be administered to all faculty at _____ University—less than three weeks from today. Please focus your thinking on this particular campus—what you have observed and experienced regarding ethics and ethical issues in higher education where you work now. Please be as specific as is possible, but clarify as needed.

A. What are the top-five *values* at your university that influence the ethical behavior of faculty?

1. _____
2. _____
3. _____
4. _____
5. _____

B. What are the top-five **agencies or groups** that influence the ethical behavior of faculty (peers, deans, administrators, compliance office, human resource department, committees, committee chairs, SBC, etc.)?

1. _____
2. _____
3. _____
4. _____
5. _____

C. What are the top-five **things (artifacts)** that influence faculty ethical behavior at _____ University (posted organizational values, policies, handbook, Bible, statue, code of ethics chapel)?

1. _____
2. _____
3. _____
4. _____
5. _____

D. What top-five work-related **pressures** do you and your colleagues face on campus (publish, service, teach, raise funds, conduct research, student retention, budget.)?

1. _____
2. _____
3. _____
4. _____
5. _____

E. As related to higher education in general, what top-five **personal goals** or accomplishments do you want to achieve in higher education (service, publish, teach, research, recognition, financial)?

1. _____
2. _____

3. _____
4. _____
5. _____

F. What are the top-five kinds of ethics **knowledge** or expertise held by you or your colleagues that assist in ethics teaching, decision-making or resolving ethical issues? (Professional ethics code, Biblical principles, specific ethical or moral theory, philosophy of Augustine, Aquinas, Luther, Aristotle, Socrates, Rawls, etc.)?

1. _____
2. _____
3. _____
4. _____
5. _____

G. What are the top-five work-related **tasks** you or your colleagues do that is related to ethics (teaching ethics, developing department ethics statements, resolving ethical issues, research, etc.)?

1. _____
2. _____
3. _____
4. _____
5. _____

H. What are the top-five **resources** you and your peers use to reinforce ethical understanding or resolve ethical issues (personnel handbook, specific policies, teaching, guest speakers, student learning outcomes)?

1. _____
2. _____
3. _____
4. _____
5. _____

I. What are the top-five **resources** that you or your peers would like to ***add*** to university structure, which would allow greater reinforcement of ethical understanding or resolve ethical issues (reporting hotline, faculty code of conduct, etc.)?

1. _____
2. _____
3. _____
4. _____
5. _____

J. List faculty unethical behaviors that you have seen or learned about while at this institution. Limit to the last four or so years (faculty cheating, falsifying CV, lack of collegiality, sexual harassment, etc.)?

1. _____
2. _____
3. _____
4. _____
5. _____

K. What are your top-five **beliefs/concerns** regarding ethics and ethical behavior at your university? For example: I believe the institution is fair when dealing with _____; I feel faculty ____ (teaching, research, inter-personal) conduct is good (or not good); I believe we resolve (or do not resolve) ethical issues; etc.

1. _____
2. _____
3. _____
4. _____
5. _____

Appendix E, Online Survey Letter of Consent

Information Concerning Participation in a Research Study

Clemson University

Ethical Leadership in Higher Education: Evolution of Institutional Ethics Logic

Online Questionnaire

Description of the research and your participation

You are invited to participate in a dissertation research study conducted by Bill Hanson (Dr. Russ Marion, PI). The purpose of this research is to explore the institution's ethics logic (structure and processes) and the interactive dynamics of these logics in a university setting. The analysis will help us understand the nature of the current network structure and to simulate evolution of institutional dynamics. That is, we are focused on collective dynamics and holistic processes rather than individual beliefs or behavior. The amount of time required for your participation should take no more than 20 minutes.

Your participation will involve voluntary completion of the online survey. At least four gift certificates worth approximately \$40 will be awarded at random to those who complete the survey.

Risks and discomforts

There are no known risks associated with this research. Names will be coded for this study and will not be released to anyone other than the researchers.

Potential benefits

This research will help us understand the interactive nature of work-related ethics knowledge, normative beliefs, resources and other structures in found in universities, and contributes knowledge to the study of interactive dynamics within complex adaptive systems.

Protection of confidentiality

We will do everything we can to protect your privacy. Raw survey data will only be accessible to Dr. Russ Marion and Bill Hanson; names will be coded and remain confidential. Once research is complete, raw, online survey data will be destroyed. Your identity will not be revealed in any publication, presentation, or discussion that might result from this study.

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Dr. Russ Marion at Clemson University at 864-656-5105. If you have any questions or concerns about your rights as a research participant, please contact the Clemson University Office of Research Compliance at 864-656-6460.

Appendix F, Online Survey Instrument

Institutional Ethics Logic Questionnaire

This questionnaire is part of a dissertation study examining the network dynamics of an institution's ethics system; this knowledge will help us examine the interactive dynamics of various ethical constructs found at a university. The intent of this study is to examine collective structures and processes relevant to a university setting, and not to scrutinize individual ethics behavior or philosophy. The researcher will have access to your identity, however names will be coded and no identifying data will be reported to the institution or used in publication.

Your participation is very important if we are to gain an understanding of these dynamics, so we hope you will take 15 minutes (estimated) to complete this survey. Thank you for your help in this important project.

1. Please select the most appropriate answer for each of the following:

- a. Faculty Rank
 - Professor
 - Associate Professor
 - Assistant Professor
 - Instructor

- b. Employment
 - Full Time
 - Part Time

- c. Gender
 - Male
 - Female

- d. Tenure
 - Tenure
 - Tenure track
 - Not tenure track

- e. Ethnic Group
 - Black
 - American Indian/Alaska Native
 - Asian/Pacific Islander
 - Hispanic
 - White, non-Hispanic
 - Other

- f. Unit (select the unit in which you are predominately assigned)
 - College of Arts & Sciences
 - College of Business
 - College of Education

- School of Interior Design
- College of Visual & Performing Arts
- Other College or Administrative Unit

2. **With whom do you interact on a weekly basis? Choose all that apply.**

[All faculty names listed here.]

3. **What units, excluding the one to which you are predominantly assigned, do you frequently interact with to accomplish job-related tasks? Choose all that apply.**

- College of Arts & Sciences
- College of Business
- College of Education
- School of Interior Design
- College of Visual & Performing Arts
- Other College or Administrative Unit

4. **With whom are you most likely to *discuss* your opinions about University ethic-related policies or policy-needs? Choose all that apply.**

[All faculty names listed here.]

5. **With whom are you most likely to *confide* on job-related ethical issues that may directly affect you or your associates? Choose all that apply.**

[All faculty names listed here.]

6. **What agencies or groups most influence your ethical behavior? Choose all that apply.**

- Faculty Meetings
- College Meetings
- Administrators
- Deans
- Department Chairs
- Senior Leadership (Provost, President, Etc.)
- Peers
- Students
- South Carolina Baptist Convention
- Human Resources Department
- Student Development Staff
- Internal Planning Group
- Faculty Governance Coordination Team
- Academic Programs and Policies Committee
- Faculty Status Committee
- Faculty Development Committee
- Faculty Concerns Committee
- Faculty Advisory Council to the [REDACTED] University Abroad Committee
- Excellence in Teaching Committee

Teacher Education Committee
Human Subjects Committee
Animal Care and Use Committee
Athletic Oversight Committee
Retention and Advising Committee
Southern Association of Colleges and Universities (SAC)
Christian Community/Family

**7. What artifacts most strongly influence your ethical behavior at [REDACTED] University?
Choose all that apply.**

Bible
Faculty Hand Book
Christian Institution/Environment
Course Material
Laws
University Policies
Unwritten Norms
Ethics Code
University Mission
University Values
Professional Values
Departmental Values
Scholarly Writings
Scholarly Discourse
Senior Faculty

8. Select the primary source(s) of pressure you feel in the context of university life. Choose all that apply.

Writing Grants
Meeting Organizational Goals
Accreditation
Required Certifications
Seeking Tenure
Motivating Students
Community Service
Institutional Service
Fund Raising
Scholarship
Receiving Job Evaluations
Student Course Evaluations
Tenure Requirements
Promotion Requirements
Post-Tenure Review
Budget Constraints
Lack of Resources for Academic Program Goals
Teaching Excellence/Instructional Expectations
Adding New Programs
Institutional Growth

- Peer Expectations
- Administrative Expectations
- Student Retention
- Student Recruitment
- Student Advising
- Preparing Reports
- State Mandates
- Balancing Work and Family
- Acclimating to Religious-Private vs. Public Institution
- Work Load
- Committee Work
- Professional Development
- Achieve Terminal Degree

9. What personal *goals or accomplishments* do you want to achieve in higher education?

Choose all that apply.

- Maintain Professional Competence
- Achieve/Maintain Technical Competence
- Achieve Administrative Position
- Achieve Terminal Degree
- Achieve Higher Academic Rank
- Student Service
- Develop Reputable Program
- Improve Teaching Quality
- Community Service
- Institutional Service
- Conduct Research
- Publish
- Achieve Financial Security
- Continue Learning
- Be an Effective Leader
- Reduce Unit Bureaucracy
- Tenure
- Recognition

10. What type of ethics *knowledge* assists you in with such things as ethics teaching, decision-making or resolving ethical issues? Choose all that apply.

- Biblical Principles
- Sound Philosophical Justifications
- Academic Ethic Theories
- Student Developmental Theories
- Professional Experience
- Professional Association Ethics Code
- Discipline Ethics Code
- South Carolina Code of Ethics for Teachers
- Student developed Course/Club Written Ethics Code
- Higher Education's Value of Truth
- Altruistic Motivation

College Committee Knowledge
Wisdom of Colleagues
Wisdom of Administrators
Research Results
Course Materials

11. In the list below, which best describes the ethics *tasks* you perform in your work?

Choose all that apply.

Teach Ethics to Faculty and/or Staff (Seminar or Class)
Enforce Institutional Ethics Policy
Review Documents for Ethical Content (Research Proposals, Expenditures, Etc.)
Review Student Work for Plagiarism/Cheating
Resolve Student Ethical Issues
Resolve Faculty Ethical Issues
Teaching an Ethics Course
Integrating Ethics within a Course
Teaching Ethics Applications in Field
Facilitating Ethical Scenarios
Developing Unit Ethics Statements
Developing Unit Mission and Values
Developing a Code of Ethics
Developing Ethical Policy
Knowledge of Academic Policies
Observance of Academic Policies
Modeling Ethical Behaviors
Integrating Ethics within Scholarship
Application of Biblical Principles

12. The following resources are available at [REDACTED] University. Which would you likely use to resolve ethical issues? Choose all that apply.

Committees
Sources outside the Institution
Training
Teaching
Bible
Chapel
Employee Handbook
University Values
Laws or Policies (various personnel policies, etc.)
Textbooks
Guest Speakers
Academic Leaders
Professional Associations
Meetings
Student Learning Outcomes
Peers Working on Common Tasks/projects
Course Syllabi
Student Development Guide

13. The following resources are not available at [REDACTED] University. Which would you likely use, if provided, to resolve ethical issues? Choose all that apply.

- Code of Ethics
- Code of Biblical principles
- Added emphasis on Faith & Learning
- Ethics violation reporting hotline
- Informal discussions with peers
- Code of conduct for faculty
- Ethics resources provided by faculty learning center
- Ethics resources provided by faculty development committee
- Faculty conflict resolution advocate
- Faculty ethics workshops/seminars
- Mandatory ethics course for all students
- Appeals process for academic honor code violations, including peer review
- Ethics Speakers
- Review of conduct standards

14. In the list below, select the *faculty* behaviors you have seen or learned about at [REDACTED] University over the last four years? Choose all that apply.

- Misappropriation of funds
- Uncomfortable or harsh learning environment for students
- Inappropriate ties to business
- Lying
- Plagiarism or copyright infringement
- Racial discrimination
- Academic Theft (research ideas, data, etc.)
- Sexual Harassment
- Harassment other than sexual
- Inappropriate relationships with student
- Granting credit to students not attending a course
- Inappropriately creating/using a course for self-interest (money, enrollment, etc.)
- Falsifying documents
- Bullying
- Withholding information from investigation to protect peers
- Lack of response to student unethical behavior
- Lack of collegiality
- Violation of university policy
- Inappropriate language
- Slander against colleagues
- Unrealistic or unfair faculty work load
- None

15. Which of the following best represent norms practiced at [REDACTED] University? Choose all that apply.

- Respect for others
- Respect for authority
- Respect for property

Institutional Loyalty
Integrity
Fairness
Kindness
Responsibility
Promotion of Christian principles/values
Practicing family values
Practicing academic values
Good stewardship of resources
Furthering/teaching ethical understanding
Practicing moral behavior
Teaching Excellence
Leadership Excellence
Professional Excellence
Quality Improvement

16. With which of the following statements do you agree? Check Only Those You Agree With.

- a. Senior leadership models ethical behavior.
- b. Faculty members treat students with respect in the classroom.
- c. Faculty members are reluctant to confront those committing ethical violations.
- d. I rarely get the assistance I need to resolve work-related ethical issues.
- e. I believe faculty members are good ethical role models.
- f. I believe there is insufficient ethics training for faculty.
- g. I believe there is insufficient ethics teaching/training for students.
- h. I am hesitant to raise ethical issues that need to be addressed.
- i. ██████████ University aims for higher ethical practice than public institutions.
- j. My professional ethics code/values conflict with institutional codes/values.
- k. Racial discrimination is an issue at the university.
- l. The university deals effectively with charges of sexual harassment.
- m. The university is focused on developing policies and procedures that are consistent and fair.
- n. Administrators tend to ignore minor ethical situations.
- o. Administrators overstep roles that are faculty responsibilities.
- p. I believe that administrators at ██████████ University treat faculty fairly.
- q. Image and marketing sometimes overshadow academic content and rigor.

Appendix G, Sample Interview Coding Notes

These notes are broken down by question (which place meaning units into pre-defined categories); for example meaning units in the below were extracted from, “What top-five work-related **pressures** do you and your colleagues face on campus?” The right hand column represents meaning units extracted from participants interviews. The middle column represents breaking down meaning unit as appropriate—oftentimes it was unchanged due to its conciseness. The left hand column is not fully correlated with the individual participant, but represents a collection of like-concepts derived from participants throughout the interview data. You may notice an abstracted meta-theme header such as Budget Constraints or Teaching Excellence (used later as a survey response item).

Axial Coding (putting data back together)	Open Coding (grouping concepts into like properties and dimensions)	Meaning Units Extracted From Text
		Participant E
evaluations	evaluations	administration evaluations
tenure	tenure	tenure
IDEA student evaluations (What is IDEA?)	IDEA student evaluations	IDEA student evaluations
Budget constraints Developmental finances/budgets budget constraints Working within budget Budget resources for academic program goals	finances for faculty development	finances for faculty development
		Participant F
Teaching excellence (Same as Faculty evaluations?) Teaching excellence Teaching Effective teaching Teaching quality and quantity Managing teaching load instruction matches expectations	Teaching excellence	Teaching excellence
New programs (expansion) Changes from Growth (expansion?)	New programs Growth (expansion?)	New programs & growth
Peer expectations	Peer expectations	Other faculty and administration expectations

Another example of coding notes is from the question, “What are the top-five *values* at your university that influence the ethical behavior of faculty?”

Axial Coding	Open Coding	Meaning Units
		Agent G
Institutional Loyalty	Institutional Loyalty	Loyalty to university
Respect for authority Respect for administration decisions Respect for regulations	Respect for administration decisions Respect for regulations	Respect for administration decisions and regulations
Respect for others Respect for coworkers Respect for the individual Respect for the student Respect for the Christian community Value of the individual student Consider all stakeholders	Respect for coworkers	Respect for coworkers in department

		Agent H
Teaching Excellence Teaching High standards for achievement Student-centered instruction Student-centered advising Knowledge Value based instruction faith based instruction academic values	Professed Christian faith Role modeling Teaching Religious practice	Professed Christian faith of faculty members that is demonstrated in lifestyle, teaching, and church participation.
Leadership Excellence Role modeling service and servant leadership Greater cause than self Display of faith	Academic integrity High standards for achievement	Academic integrity that encompasses setting increasingly higher standards for achievement for both students and faculty
Service	service and servant leadership work towards a greater cause than self	Attitudes of service and servant leadership of faculty to work towards a greater cause than self.
	Student-centered instruction Student-centered advising	Student-centered instruction and advising that transcends norms of collegiate pedagogy

Appendix H, Sample Research Field Notes

Initial Impressions	Location: ████████ U.	18 September 2008 1330
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Went to AU with Dr. Russ Marion (Chair), and talked with Dr. ██████████ (gate keeper); he discussed the dramatic changes occurring within the University.

- The institution went from a college level status to that of a level three university in 2006. This introduced strong accreditation pressures. This also spurred pursuit of:
 - a. Seeking professors with terminal degrees; many of the old guard holding master’s degrees reminiscent of earlier days as a teaching college.
 - b. Seeking expansion of course offerings and course locations
 - c. Seeking expansion of online course offerings
 - d. Recruiting older student populations
 - e. Seeking high student retention rates
 - f. Developing a Graduate Program
 - g. Raised expectation for research and publication by faculty
- Additional pressures include service emphasis, general increase in teaching loads
- Other changes included hiring professionals to head IT, HR, and marketing, as well as created VP for Christian Life; also division heads became college deans

Next, met with the University Provost, Dr. ████████ and presented the proposed study; he was very supportive and asked if data would be shared with him; we agreed to present it to him once we conducted an analysis. He gave verbal (then later written) permission to conduct the research.

Field Test of Structured Interview	Location: ████████ U.	12 November 2008 1430
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The meeting yesterday was helpful, but I was not fully prepared. I probably controlled 50% of the discussion. (But that had its own payoffs and was not necessarily a bad thing.) It took three forms:

1. I was asked about the study and purpose
 - One question was how will this benefit the University? [I need to defer this to university officials.]
 - I was asked about methods, etc. One recommended the use of SPSS for correlations. [I responded that while that would be good, the method I was using could do more, that and other measures as well as modeling]
 - There was a question of how this will show dynamics? Relationships between what?

2. I received some good feedback about various questions/population. Examples:
 - The first question A--delete the term ethical from "ethical values".
 - Next question, B--since the population is small, people will know who singular positions are. Recommendation was replace "people" with "groups" or "roles"... (Deans, committee chairs, etc. I have to think on this one as it makes it very similar to C. I may throw it out altogether.
 - Include adjuncts in population?
 - Consider priorities for list of values [weights do not need to used; aggregate selections will show patterns of topic--] frame to examine data
3. There was discussion among participants on ethics, concerns at the university, and recognition that there were differences of understanding amongst members.

It will result in some minor revisions unless I gain more feedback through email...I will send one out to the group for any thoughts. Also I think it has prepared me for the follow-on sample of faculty. I think I would like to walk around campus and talk to each of the four one-on-one to tap into their personal thoughts.

1. Attribution data vs. relational data.
2. Inquire indirectly about frustration with institutional ethics?
3. What are the challenges you see moving from the old faculty to the new?
4. Layout (resistant to it); warm, fuzzy, demographics at end.

Structured Interview	Location: Online	1 December 2008 All Day
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The structured paper interview was released this morning. This phase of research included 30 institutional members meeting the research criteria established earlier.

I received a few requests for clarification and recommendations throughout the day. Remarks included:

- Concerns on time (The instructions stated 20 minutes; feedback from one member said it took 10-15 minutes); I will follow up once it is complete and inquire the length of time it took participants.
- Concerns that one person felt he could not provide five answers for each question
- One expressed concern about confidentiality; they did not explain, but I sent a reassuring message.
- One expressed concern that the questions held bias; this was acknowledged and participant was asked to answer questions based upon experiences, and to elaborate.
- One asked for clarification on first question: What are the top-five *values* at your university that influence the ethical behavior of faculty? (Officially posted values,

or generally assumed values by members that relate to the institution as a whole-- those values members believe represent the institution.)

- One sent recommendations for wording of the consent letter

Meeting w/Associate Dean, Business	Location: [REDACTED] U.	3 December 2008 1330
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Went to AU talked with Dr. [REDACTED] (gate keeper); we discussed:

- Theoretical sample for first survey included:
 - 3 Associate Deans (positional leaders)
 - VP and Associate VP for student development (handles issues of harassment, academic integrity, and social justice)
 - Director of HR (responsible for policies)
 - Faculty representing all ranks (instructor, assistant professor, associate professor, and full professor)
- Noted that I could announce survey, pass out consent forms with handout on what the survey was: address privacy and coding of names, the nature of collective patterns, and what the benefits of the study might be.
- Online survey will include faculty and working timeline:
 - 10 Dec Close paper interviews
 - 11-15 Dec Code data (this is ongoing--I'll start this week)
 - 16 Dec Speak to AU faculty about upcoming online survey (10 AM)
 - 17-18 Dec Build final draft survey; put online
 - 19-20 Dec Test draft survey; work out bugs if needed
 - 22 Dec Send final survey to IRB for approval (should be fairly quick, as they saw a rough draft already)
 - 10 Jan Send survey link to participants, along with their identity code

Web Search for Artifacts	Location: Online: Mission, Vision, and Values http://www.xxxxuniversity.edu/main/default.aspx?headerid=2534&menuid=44&pageid=3526	19 December 2008 All Day
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Appendix I, Sample of Qualitative Data and Quantitative

Values of Centrality

<i>Beliefs-level Measures</i>	Centrality
AU aims for higher eth practice than public instit	0.3750
AU deals effectively with sexual harassment	0.2955
AU develops fair pol	0.3182
Admin ignores minor eth situations	0.0341
Admin overstep Fac roles	0.1023
Admin treat Fac fairly	0.3068
Fac good eth role models	0.4432
Fac rarely get assist to resolve issues	0.0568
Fac reluctant to confront violators	0.1477
Fac respect Stu in class	0.5227*
Hesitant to raise eth issues	0.0795
Image/Marketing sometimes overshadow academic content/rigor	0.2045
Insufficient eth training for Fac	0.1023
Insufficient eth training for Stu	0.1705
My prof eth code conflicts with AU code	0.0341
Racial discrimination is an issue	0.0455
Sr Ldrs model eth	0.3409
MIN	0.0341
MAX	0.5227
AVG	0.2106
STDDEV	0.1501
GINI-COEFFICIENT	0.4004
HERFINDAHL-INDEX	0.0318

<i>Resources-level Measures</i>	Centrality
Acad Ldrs	0.2841
Bible	0.4432
Chapel	0.0341
Committees	0.1477
Handbook	0.4545*
Law or Pol	0.2841
Meetings	0.0568
Outside Instit	0.1477
Peers Grp Tasks	0.4091
Prof Assoc	0.1136
Speakers	0.0114
Stu Devl Guide	0.0568
Stu Learning Outcomes	0.0909
Syllabi	0.2273
Teaching	0.1250
Texts	0.0000
Training	0.0909
University Values	0.3409
MIN	0.0000
MAX	0.4545
AVG	0.1843
STDDEV	0.1461
GINI-COEFFICIENT	0.4422
HERFINDAHL-INDEX	0.0370

<i>Artifact-level Measures</i>	Centrality
Bible	0.4318*
Christian Envir	0.2955
Crs Material	0.0682
Dpt Values	0.1818
Ethics Code	0.1477
Handbook	0.1250
Laws	0.1591
Profess Values	0.4091
Scholar Discourse	0.0909
Scholar Writings	0.0455
Sr Faculty	0.0341
U Mission	0.1250
U Policies	0.2273
U Values	0.2727
Unwritten Norms	0.1932
MIN	0.0341
MAX	0.4318
AVG	0.1871
STDDEV	0.1174
GINI-COEFFICIENT	0.3471
HERFINDAHL-INDEX	0.0281

<i>Goals-level Measures</i>	Centrality
Admin Position	0.0227
Community Ser	0.1250
Continue Learning	0.4545
Dev Reputable Prog	0.3977
Fin Security	0.2386
Inst Ser	0.1023
Ldr Effectiveness	0.2955
Prof Competence	0.5455*
Publish	0.2614
Rank	0.1818
Recognition	0.0227
Reduce Bureaucracy	0.0568
Research	0.1591
Stu Service	0.1250
Teaching Qual	0.5455*
Tech Competence	0.1705
Tenure	0.1705
Term Degree	0.0682
MIN	0.0227
MAX	0.5455
AVG	0.2191
STDDEV	0.1626
GINI-COEFFICIENT	0.4065
HERFINDAHL-INDEX	0.0324

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