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SEE-READ-ACT:

EXPLORING A CONCEPTUAL FRAMEWORK FOR UNDERSTANDING
EXECUTIVE PROBLEM RECOGNITION

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by

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This dissertation is dedicated in loving memory to

Oscar G. Mink

(1930 – 2004)

my teacher, my advisor, but mostly my friend.

And to my family.

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The purpose of this study was to explore the conceptual framework – See, Read, Act – as a process for explaining the problem-recognition process used by leaders of organizations. There is considerable research concerning leadership, leadership development, and problem solving – especially problem solving within the context of a formal organization. However, there is little research on whether organizational leaders solve problems using the same processes learned as they move up through the organization, and there is strong evidence suggesting that traditional problem solving processes do not align well with executive roles. Additionally, there

is little research on how problems are recognized, especially those problems that emerge at the edge of the organization, or complex social problems.

This research used a case-study/phenomenological approach to explore how the leaders of one large property development company recognized, understood, and acted on (See, Read, Act) problems affecting their organization. The study approach was grounded in Systems Theory and used the four major foci of systems theory – context, valid information, relationships, and shared meaning – to shape the description of the case organization, and the analysis of the data. Data was collected from the case organization through interviews, public and private documents, and observation.

The author's intent is that this study adds value to the leadership development body of knowledge and contributes to a better understanding of leadership and how leaders recognize problems. To that end the research focused on three research questions:

1. What strategies do the CEO, the executive staff, and other stakeholders of the organization employ in recognizing potential problems (threats, opportunities, or influencers) to their organization?
2. Are there distinct patterns or hierarchies of problem-recognition strategies based on situations used by the organization's executive staff?
3. What type of decision making do the CEO, the executive staff, and other stakeholders use when recognizing and solving complex social problems?

The results of the data analysis of the first question produced a matrix for identifying specific strategies used by the study participants for identifying potential problems. The matrix utilized the four main foci of systems theory – context, valid information, relationships, and shared meaning – and the first two aspects of the See-Read-Act model. The problem-recognition matrix provides an explanation for each specific combination of systems theory focus and either See or Read.

The analysis of the data also provided a better understanding of each of the systems theory foci. The four foci are closely related to each other, and changes in focus affected the other foci. Context is more completely defined by understanding that individual agents can influence the context through challenging or questioning the existing context. Agent challenges can come from comparing current context to previous experiences in other context, or comparing current context to past context within the same organization. For information to be valid, it must be shared with agents who are able to apply the information to the current context of the organization. Information that is compartmentalized (i.e., not shared) is not validated and is also not used in problem recognition or for problem solution. The challenge of compartmentalization is also problematic for relationships. When relationships are constrained through an organization's hierarchy, information flow/sharing is also constrained and problem recognition is limited to intact work groups.

The See-Read-Act model was also defined better through the analysis process. The data indicates that part of the process for recognizing problems is based on being able to first identify or See a potential problem, understand or Read the problem, have

the opportunity to See the problem again from a different perspective, Read the problem again from the new perspective, and then continue moving back and forth through See-Read until a shared dissonance is achieved.

The second research question asked whether there are distinct patterns or hierarchies of problem-recognition strategies based on situations used by the organization's executive staff. The analysis of the data suggests that there is not a specific hierarchy, but there do seem to be preferred strategies for recognizing problems. An examination of participants' descriptions of when they recognized a problem suggested that they have a preferred systems theory focus that they use for identifying problems. Those participants who used multiple foci for recognizing problems were clearer in their description of the potential problem.

The third research question asked what type of decision making the CEO, the executive staff, and other stakeholders use when recognizing and solving complex social problems, and when they engage in decision making. An analysis of the data did not find a clear answer to this question. The participants for this study did not discuss any problems as being social problems. From their perspective the problems they were dealing with were all "obviously" organizational problems and a part of the organization. When an organization is examined through a systems theory perspective, any problem faced by the organization is in some way directly linked to the organization. From a systems theory perspective, the edge of the system is always fuzzy and moving. A problem that initially appears outside of the organization but is

seen by the organization will soon become a part of the organization, when the organization elects to address it.

This study produced several important results; however, the most important is the concept of dissonance and the relationship of systems theory and strange attractors to problem recognition. The idea that agent dissonance provides the initial energy for a potential problem becoming defined as an opportunity or a threat to the organization, and the idea that that same dissonance can become the catalyst for generating strange attractors, are new concepts in systems theory.

The results of this experimental study are preliminary; however, they lay the groundwork for more detailed studies of problem recognition, leader decision-making, and systems theory. These results are also important in helping to point out the lack of substantial research available on the executive behavior of problem recognition, especially as seen through the lenses of systems theory.

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INTRODUCTION

Development of leaders within formal organization could be the most researched and least understood aspect of organizational dynamics (Mink, 1994). This study examines one aspect of leaders and leadership called problem recognition. The author's intent is that this study adds value to the leadership development body of knowledge and contributes to a better understanding of leadership and how leaders recognize problems.

Identifying and developing high-level leaders in organizations may be the most important issue facing organizations in the new millennium. One of the more popular methods for identifying leaders and determining what types of development those leaders require is competency instruments (Yukl, 2001). There seem to be as many competency instruments as there are management consultants, each of which has copious research support, a book, and a custom-designed leadership development program. The general understanding of competency instruments is that all leaders have similar qualities regardless of the leader's specific circumstances. One facet that many competency instruments have in common is a focus on problem solving either as a skill or a collection of skills. Without exception, experts on leadership identify problem solving as one of the primary abilities that sets an individual apart from one's peers and helps one move upward within the organization (Yukl, 2001).

As individuals move upward within organizations, the types of problems they are called upon to solve change. These changes reflect changes within the organization, changes in the experiences of the individuals, and changes in the environment surrounding the organization. When individuals finally reach the executive level of an

organization, they tend to find themselves addressing problems that are external to the organization; however, as they have climbed through the organization or organizations, they have built their problem-solving skills (and reputations) by solving problems that were more internal to the organization, and have used problem-solving strategies that are team based (Munford, Zaccaro, Harding, Jacobs, & Fleishman, 2000). The implications of this are that many executives find themselves ill equipped to meet the problem-recognition and problem-solving challenges of their new positions.

Though there is considerable research on group leadership and problem solving (Yukl, 2001), there is little research on how executives solve problems (Munford, et al., 2000; Zaccaro, Munford, Connelly, Marks, & Gilbert, 2000) and almost no literature on leadership and problem recognition. The processes most often used to solve problems in organizations are fairly well documented, and there is an assumption that executives use the same processes for addressing the problems they face; however, there is some evidence to suggest that this is not the case (Mink, 2000) and that the types of problems faced by executives are dramatically different than those faced at lower levels of their organizations (Rumig, 2001). There are also cases that suggest that the perspective executives apply to external problems is different than the perspective used to view internal problems (Rumig, 2001). In addition, being able to identify potential problems or threats to the organization changes dramatically when an executive is faced with a myriad of opportunities or threats (Mitroff & Linstone, 1993).

The environment in which executive leaders operate can be compared to a sports arena where the events they encounter and work through are similar to the balls used for

various sports. In essence, you must first “See” the event/object/ball, then you must “Read” the nature of the ball (is it round, oval, big, small, heavy, light; will it bounce?), and finally you must “Act” on the ball – either catch, avoid or let your team (staff) field it (Mink, 2000).

Unlike the world of professional sports where the players usually know the general direction the ball is traveling, as well as the how the ball will behave and feel, executives are faced with the dilemma of having to be alert for balls coming from any direction, sometimes with little or no clue as to their composition, and with very few “rules” for how the ball can or should be fielded. In addition, there is seldom only one ball to deal with at any given time.

The above analogy can be summed up in three words – See, Read, Act. The three components – see-read-act – are mirrored by Mumford (Mumford, et al., 2000) in the following:

[Leaders] must circumvent or resolve issues impeding progress towards accomplishing organizational goals. Selection and implementation of actions to bring about goal attainment represents a form of problem solving making the generation, evaluation and implementation of proactive solutions key to leadership effectiveness. (p. 14)

Mumford goes on to say that organizational/executive leadership is equivalent to a complex form of problem solving that takes place across the permeable boundary of the organization and the rest of society. The idea of the organizational leader being alert to social problems that can effect his or her organization is not new; however, what has

changed is the speed with which problems can arise and the frequency or amount of social problems a leader must address (Mumford et. al., 2000, Wheatley & Kellner-Rodgers, 1998).

The literature concerning leadership and problem solving supports Mumford's assertion of a strong relationship between these two concepts. Leaders must have a well-developed sense of what a problem is and a sense of how best to address or solve problems to be successful.

In a recent interview in *Business Week* (2001), Christopher Galvin, CEO of Motorola, Inc. further illustrates the problem:

Most people don't know the complexity of the issues that get dealt with at the level of the CEO. When people look at another person's world from far away, it looks much simpler to them. When you're just involved with the law, you look at it from the legal standpoint. If you're just involved in finance, you look at it from a finance standpoint. When the buck stops here – when you're responsible for the ultimate shareholder value – you've got to take 10 or 30 or 100 variables into consideration. And those have to be thought through. (p. 76)

Understanding the context surrounding both recognizing and solving complex problems is, in and of itself, complex, but as Galvin suggests, this is often even more difficult from the executive perspective.

In addition to the above discussion, the most recent thought in organizational dynamics is that all aspects of the organization are interconnected and function systemically. This process is often referred to as systems theory (Capra, 2002). Systems

theory suggests that organizations function similarly to living systems. They have multiple events occurring simultaneously, have agents interacting to accomplish specific goals, and are focused on some form of growth.

Several authors (Capra, 2002; Dietz & Mink, in press; Wheatley, 2001) have suggested that organizations can be viewed systemically by describing various foci – valid information, context, relationships, and shared meaning – and the activities of agents and resources within those foci. Systems theory provides an ideal perspective for looking at leadership and problem recognition as it allows the researcher to view the organization more holistically.

Research Questions

The purpose of this dissertation is to discuss the development of a theoretical framework for explaining the context assumed by executives first to recognize complex social problems, and second to move toward solving those problems, and once developed, to explore this framework. This framework is called the “See-Read-Act Model.” The framework was examined through or within a systems theory perspective.

The methodology chosen for this study is a case study of a private sector multi-national corporation. Individuals within the corporation were interviewed using a phenomenological process. The responses to the interviews were examined in terms of the See-Read-Act framework and systems theory perspective.

The specific research questions addressed through this process were the following:

1. What strategies do the CEO, the executive staff, and other stakeholders of the organization employ in recognizing potential problems (threats, opportunities, or influencers) to their organization?
2. Are there distinct patterns or hierarchies of problem-recognition strategies based on situations used by the organization's executive staff?
3. What type of decision making do the CEO, the executive staff and other stakeholders use when recognizing and solving complex social problems?

The above questions were selected because the literature on problem solving suggests that the way problem solvers discuss problems reveals much about the processes they use and how they think about problem solving.

Chapter Organization

The first section of this dissertation is a review of pertinent literature. This section addresses the theoretical under-pinning of leadership, and problem recognition and solving. The second section develops a theoretical model for exploring executive problem solving through systems theory. The third section of this paper offers a methodology for exploring and validating the conceptual framework of executive problem recognition and identifies specific questions that will need to be addressed in order to explore and validate the model. This section includes a rationale for the method(s) selected and the research expectations that can be met through this process. The fourth section reviews the results of exploration of the model and identifies any

challenges resulting from conducting the methodology in this fashion. The final section provides recommendations in terms of application, research, and theoretical contribution.

Definition of Terms

There are several terms that are used regularly throughout this text. To ensure that the reader and the author understand these terms in a similar way, the following definitions will apply.

Agent – An agent is an object with various attributes that interprets and interacts with its environment through rules (Dooley & Carman, in press). In a human system rules may be behavioral, and agents will have autonomy. In this study all agents are human.

Chief Executive Officer (CEO) – The CEO is often but not always also the president of a company. The CEO reports to the chairperson of the board and board members. The CEO is usually the most important spokesperson for the company, the person who is responsible for quarterly results, the best-paid member of the company, and the executive who is responsible for a company's operations. This role may also be titled chairperson of the board or executive director.

Complex adaptive systems – Complex adaptive systems are comprised of a large number of simple, mutually interacting parts, capable of exchanging stimuli between the parts and the environment, and capable also of adapting aspects of the internal structure as a consequence of such interaction. The system can also be described as a collection of agents, interconnections, and flow where aggregate system

behavior is determined from the complex interactions of agents (Dooley & Carman, in press).

Complex social problem – A complex social problem is a problem that manifests itself outside of the organization but can be perceived by the organization as a threat or opportunity that can affect the organization.

Complexity paradigm – The complexity paradigm uses systemic inquiry to build fuzzy, multi-level and multi-disciplinary representations of reality. Systems can be understood by looking for patterns within their complexity that describe potential evolutions of the system.

Context – Context is the social perspective of a group of humans that would include the organization's norms, values, and culture, as well as the norms, values, and cultures that make up the environment around the organization.

Dissonance – According to cognitive dissonance theory, there is a tendency for individuals to seek consistency among their cognitions (i.e., beliefs, opinions). When there is an inconsistency between attitudes or behaviors (dissonance), something must change to eliminate the dissonance. Dissonance theory applies to all situations involving attitude formation and change. It is especially relevant to decision making and problem solving (Fessinger, 1957).

Emergence – Emergence is the process of becoming evident or obvious. In systems theory, emergence is the determination of a discernable pattern of activity of the agents and resources of an organization around a strange attractor (Mink, 2004).

Leadership – Leadership is “...the process of influencing others to understand and agree about what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives” (Yukl, 2001, pg. 7).

Organizational culture – Organizational culture is “... a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Schein, 1992).

Problem – A problem is an opportunity for improvement or growth. It is the difference between the current state and the goal state. It can result from new knowledge or thinking. A problem results from the recognition of a present imperfect and the belief in the possibility of a better future (Harris, 1998).

Problem solving – Problem solving is a cognitive process directed at moving from the current state to a goal state when no solution method is obvious to the problem solver.

Problem recognition – Problem recognition is “...a process in which, interactively, we name the things to which we will attend and frame the context in which we will attend to them” (Weick, K., 1995).

Relationships – Relationships are the interaction between agents within, between, and outside of the organization over time, and shape availability of resources within the organization.

Resources – Resources are any tools that are available to agents. Resources are often shared between by agents and may be applied to more than one attractor.

Shared Meaning – Shared meaning is the collaborative interpretation and understanding of information between agents that is used to establish the guiding principles, goals, and mission of the organization. Sharing leads to an understanding of patterns, events, new attractors, and old attractors at any one moment in time within an organization.

Strange attractors – The concept of strange attractors serves the four foci of systems theory. In essence, strange attractors include anything that affects the patterns that are developed by agents within a system or anything that defines patterns that occur within the four foci of systems theory. Strange attractors are often defined by their expected outcome.

Strategic leadership – Strategic leadership can be defined as involving the organization's capacity to learn, capacity to change, and managerial wisdom (Boal, 2000). Studies in strategic leadership have explored discretion, constraints, attributes, succession, organizational change, political power, and tenure (Yukl, 2001).

Systems foci – There are at least four main foci in systems theory that are used to help define an organization. They are context, valid information, relationships, and shared meaning. It is also hypothesized that the concept of emergence is also a system foci.

Valid information – Valid information is used by an organization to understand processes and is a method for understanding the patterns that develop within the organization.

The problem is not that there are problems. The problem is expecting otherwise and thinking that having problems is a problem. – Theodore Rubin

The measure of success is not whether you have a tough problem to deal with, but whether it's the same problem you had last year. – John Foster Dulles

SECTION ONE: THEORETICAL UNDERPINNING

The theoretical underpinnings for this research will focus on leadership, strategic leadership, problem solving, problem recognition, and decision-making and leadership. This information will be used to inform the See-Read-Act framework.

Leadership

During the last fifty years, an enormous amount of research has been conducted on leadership and management, the majority of which seems to be concerned with the functional or behavioral aspects of leaders, or with innate or genetic leadership traits (Bachiochi, Rogelberg, O'Connor, & Elder, 2000). And, as would be expected, most of the pragmatic applications of leadership research fall into skills-based training, or instrumentation that identifies specific skill, knowledge, or ability gaps (Bales, 1993). For the purpose of this paper leadership will be defined as follows:

...the process of influencing others to understand and agree about what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives. (Yukl, 2001, p. 7)

The research on leadership can most easily be explained through two dimensions – the approach used by the researcher, and the level of conceptualization of the leader as

defined by the researchers themselves (Yukl, 2001). The four most prominent approaches to leadership research are functional behavioral, trait, social psychology (power-influence), and situational (Bachiochi, et. al., 2000). Yukl has proposed a fifth approach – integrative – that he describes as a combination of any of the original four approaches. Each of these approaches can be defined by the theories they represent. The first is the functional behavioral leadership research approach that discusses leadership in terms of the activities of leaders (i.e., behaviors or skills) or the function they serve in the organization. The major concepts to come from the functional/behavioral approach are the two factor initiating structure vs. consideration model (Fleishman, 1953); leader functions such as diagnostic, remedial, forecasting, and prevention (McGrathy, 1962); leader behavior descriptions (Stogdill, 1962); the managerial grid (Blake & Mouton, 1964); and the taxonomy of managerial (leader) behavior (Yukl, 2001).

The second approach to leadership research is the trait approach. The trait approach discusses leaders in terms of the special characteristics they uniquely possess that enable them to lead. The two avenues of trait leadership that researchers look at are transformational and charismatic leadership, which are looked at by some researchers as similar but separate constructs, and by other researchers as paired concepts. Yammarino (et al, 1997) suggest that “...transformational-charismatic leadership entails a unique connection between a leader and her or his followers that can account for extraordinary performance and accomplishments of individuals, work groups, units, and organizations” (pp. 205-206).

The third approach to leadership is the social psychological or the power-influence approach. This approach views leadership as a relationship or a social-influence process. This approach has been influenced greatly by work in areas such as social facilitation and loafing (Latane, Williams & Harkins, 1979); leader-member exchange (Dansereau, Graen, & Haga, 1975); and power and influence theories (French & Raven, 1959).

The final approach to leadership research is situational research. Researchers in this approach view leadership as strongly contingent upon the environment in which leadership is to occur. From a situational perspective, leadership is viewed as a complex interaction of leader, follower(s), and context. The primary theories underlying the situational approach are situational leadership theory (Hersey & Blanchard, 1969); path-goal theory (Evans, 1970; House, 1971); and contingency theory (Fiedler, 1967).

These four approaches to leadership understanding may represent a hierarchy for exploring the complexities of leadership with each level building on the last.

Functional/behavioral is by far the simplest approach to explaining leadership.

Researchers assume that every individual has the types of qualities that are looked for in this approach. The major question that is asked through this line of reasoning is the level of development for the quality in question. The functional/behavioral approach does not consider the degree of relatedness of leadership qualities or the environment/context where the qualities are being applied (Yukl, 2001).

The trait approach explains leadership as an aspect of personality. The underlying assumption is that personality traits can be viewed as being a stable part of an

individual's make-up, and not qualities that can be readily learned. As opposed to functional behavioral, trait research begins to take the environment as well as the "followers" into account in exploring the effectiveness of leadership.

The social psychological and the situational approaches take a more holistic process to examining leaders. The major difference between these is the weight applied to the leader's environment. The social psychological approach tends to be more interested in the relationship between leaders and followers, whereas the situational approach looks at the relationship between the leader and his or her followers, organization, and environment.

Some situational researchers even add the leader's history in terms of experience and expertise/knowledge to the list of situational constructs. They also define leadership through the decisions leaders make as they solve the problems with which they are faced (Mumford, et al., 2000). These studies seem to be providing a direction or focus that both moves academic understanding of leadership forward, as well as provides pragmatic tools for leaders.

Situational leadership, more than any other aspect of leadership research, relates closely to the focus of this paper. There seems to be no disagreement in the literature concerning the need for the understanding and development of skills within individuals for that individual to become a successful leader. However, regardless of the development of those skills or the inherent attributes of the individual, success (to some degree) is linked to the environment in which the leader is functioning and the experiences the leader has had. These arguments lead to another theoretical approach for

examining leaders and leadership. This new framework, strategic leadership, is based on the amount of discretion that an executive has in making decisions for and changes to his or her organization.

Strategic Leadership

Strategic leadership, a field of study that has emerged over the last twenty years, focuses on the importance of executives in organizations. Much of the research in this field has explored discretion, constraints, attributes, succession, organizational change, political power, and tenure (Yukl, 2001). Kimberley Boal (2000) further defines strategic leadership as involving the capacity to learn, the capacity to change, and managerial wisdom.

Strategic leadership research is concerned with the leadership of organizations. This line of inquiry is marked by a concern for the evolution of the organization as a whole, including its changing aims and capacities. It focuses on the people who have overall responsibility for the organization and includes not only the titular head of the organization, but also the member group referred to as the top management team or dominant coalition (Boal, 2000).

Much of the research concerning strategic leadership asks the question, “Are executives an important part of organizational effectiveness?” Responses to this concept have centered around three arguments: 1) external determinants, 2) limited discretion, and 3) biased attributions. External determinants suggest that the performance of the organization depends primarily on factors beyond the leader’s control, such as economic conditions, market conditions, government policies, and technological change. Limited

discretion implies that the new executive inherits an organization with various strengths and weaknesses, and the potential for making improvements is severely limited by constraints placed on the executive. These constraints can be external or internal and can be imposed by operational licenses, a board of directors, shareholders, operating resources, etc. Biased attributes imply that people try to make sense of complex, confusing events by suggesting that the executive was solely responsible for the result (Yukl, 2001).

In addition to the above discussion, another major aspect of strategic leadership is executive attributes. A leader who takes decisive action to deal with a crisis is likely to be viewed as exceptional if organization performance improves soon afterward. In contrast, a leader who fails to take decisive action in a crisis, or who takes action that fails to resolve the crisis quickly, is likely to be viewed as incompetent. Follower perception of leader competence is influenced more by highly visible actions to deal with an immediate crisis than by indirect actions to avoid a crisis and improve conditions for the future (Lord & Maher, 1991).

It seems clear from the above discussion of strategic leadership that there are many factors that relate to the success of leaders at the executive level. These include not just the situation (as discussed earlier), but also aspects of the organization. Understanding a leader's abilities is linked to the development of the skills a leader has, the role the leader is filling, the experiences the leader brings, and the complexity of the environment within which the leader functions. One of the abilities most often

questioned is a leader's understanding of problems and the aspects that surround problems.

Problem Solving

Like leadership, problem solving is a much-researched event within organizations. Most functional/behavioral leadership models consider problem solving a necessary facet or competence of the complete leader. This concept is mirrored by Jaques and Clement (1991), who suggest that "handling complexity is at the heart of the competence to deal with problems, ...how well or how badly managers handle their problems is in turn at the heart of not only the way in which they are regarded by their subordinates but also the strength of their managerial leadership." This is also true with social psychological and situational leadership models.

Problem-solving literature, as an aspect of social interaction, stems from the work of Kurt Lewin. Lewin (1951) developed a model for problem solving that is the basis for most of the problem-solving strategies used in organizations today (see Figure 1). Lewin's model suggests that a "problem" is actually a gap between what is and what is wanted or expected. The identification of the "gap" is based on the perspective of a specific individual or group. Once a gap is identified, solutions for closing the gap are identified and the "best" solution is implemented. The results of the solution implementation are examined over a period of time to determine the extent to which the solution closed "the gap."

Oscar Mink (2000) suggests that when a decision is being made concerning the success of the solution in closing the gap the solution should be looked at from two or

more perspectives. The definition of “the gap” was developed reflecting a specific time and set of circumstances that are generally the standards solutions are held to. Mink posits that the change in the gap should also be viewed from the perspective of today (as opposed to the day the gap was originally defined), as well as the perspective of the outcome associated with the gap (who the gap affects). If only the original perspective is used to determine whether the solution had an impact on the gap, then it is very probable that the actual effect on the gap will seem smaller than expected. In other words, the nature of problem solving is reactive, so generally speaking, solutions to problems are reacting to a past definition or description of a problem or event. Not surprisingly, many problem-solving solutions seem to fall short of addressing ongoing (evolving) problems.

Lewin’s problem-solving model has been moved forward to include a process called double-loop learning (Argyris, 1976). Double-loop learning is a theory that pertains to learning to change underlying values and assumptions. The focus of the theory is on solving problems that are complex and ill structured and which change as problem solving advances.

Double loop theory is based upon a "theory of action" perspective outlined by Argyris & Schon (1974). This perspective examines reality from the point of view of human beings as actors. Changes in values, behavior, leadership, and helping others are all part of, and informed by, the actors' theory of action. An important aspect of the theory is the distinction between an individual's espoused theory and his or her "theory-in-use" (what he or she actually does); bringing these two into congruence is a primary

concern of double-loop learning. Typically, interaction with others is necessary to identify the conflict.

There are four basic steps in the action theory learning process: (1) discovery of espoused and theory-in-use, (2) invention of new meanings, (3) production of new actions, and (4) generalization of results. Double-loop learning involves applying each of these steps to each step of the process. In double-loop learning, assumptions underlying current views are questioned and hypotheses about behavior tested publicly. The end result of double-loop learning should be increased effectiveness in decision making and better acceptance of failures and mistakes.

Mink's perception, as well as that of Argyris and Schon, may provide clues to why problem-solving models adapted by organizations over the past twenty years have received mixed reviews in terms of their success. These models are all based on Lewin's original thinking concerning the problem-solving process in organizations and groups. These models have an intuitive appeal for practitioners and academics; however, they seem to fall short in their ability to actually solve complex problems, ongoing/systemic problems, or problems that have manifested themselves beyond the boundaries of the organization (Dooley, Johnson, & Bush, 1995). The models tend to define a problem at the beginning of the process and not account for the complexity and inter-connectedness of problems (Mitroff & Linstone, 1993). In addition, the models are linear, one-dimensional processes that are often attempting to address systemic issues. See Section 2 for more discussion on systems and systems theory.

Mumford et al. (2000) suggest that the problem-solving ability of leaders is the best indicator of leader performance. They have developed a situational model of leadership performance that includes what they term differential characteristics. Differential characteristics are the characteristics a leader has that both nurture and drive specific skill sets. These in turn provide the basis for a leader's problem solving ability. (See Figure 2.)

The model presented in Figure 2 suggests that the first set of differential characteristics is generalized and crystallized cognitive abilities, motivation and personality. The authors define generalized cognitive abilities as intelligence. Crystallized cognitive ability is defined as written and oral expression, and the ability to acquire, exchange, and manipulate information within problem domains. A leader, through a willingness to tackle difficult, challenging organizational problems, a willingness to exercise influence, and a willingness to show social commitment, presents motivation. Personality characteristics that seem to be related to leadership effectiveness are openness, tolerance for ambiguity, curiosity, confidence, risk taking, adaptability, and independence.

The first set of differential characteristics influences the skills and knowledge of the leader. Knowledge is defined as the schema or concepts available to an individual that allow that individual to apply the skills he or she has. The authors suggest that as an individual matures he or she develops more schemas, as well as developing and acquiring new skill sets. The skill sets that seem to be most important to leaders and their problem-solving abilities are problem-solving skills, and social judgment skills. Problem-solving

skills can be described as a specific cognitive process called problem-focused cognition. This type of cognition revolves around the well-researched facets of problem solving – define the problem, gather information, formulate understanding, and generate solutions (the same basic model suggested by Lewin). For the leader, problem-focused cognition works with another cognitive pattern called organizational cognition. This type of cognitive pattern focuses on protecting outcomes and reactions, identifying restrictions and requirements, garnering support, and formulating plans or visions. Problem-focused cognition, along with organizational cognition, forms the structure for social judgment and social skills to be applied.

Social skills can also be described as a cognitive pattern. This pattern involves communication, structure, and implementation and revision. Leaders must be able to communicate vision, establish goals, monitor progress, and motivate subordinates as they attempt to implement a given solution plan. This type of cognition is closely tied to social judgment.

Problem solving for leaders of organizations takes place in a highly social context. This means that solutions to problems must be implemented within the structure and culture of the organization and quite often as a part of the social culture outside the organization. Social judgment involves a leader having a social perspective of how his or her organization fits within the broader systemic framework of culture and society. This requires a complex set of skills involving insight into needs, goals, demands, and problems of different organizational and societal constituencies.

The last two defining concepts of the Mumford et al. model are career experience and environmental influences. As leaders ascend a hierarchy, the kinds of problems they are confronted with become progressively more complex and long-term. These changes in role demands, in turn, require higher levels of conceptual capacity and greater abstract thought. Zaccaro et al. (Zaccaro, Mumford, Connelly, Marks & Gilbert, 2000), who have tested the model described above, suggest that career experiences affect a leader's ability to address more complex problems by enabling the leader to develop his or her problem-focused and organizational cognitive abilities. A similar study by Carol Diroff (2000) looked at engineers. She found that experience in solving problems is an important indicator of being able to solve problems.

Environmental influences define the problem being faced by the leader, as well as how the leader will address the problem. Leaders of organizations face different types of problems than do their managers. Leadership problems differ in three ways: they are ill defined, it is not clear what information addresses the problem, and the problems are generally novel. In addition, leadership problems generally take place in the "real world." The organizational environment, as well as societal constraints, defines these problems.

Though the model presented by Mumford et al. is compelling from both an academic and an intuitive perspective, it begs the question – How? How does the leader recognize the existence of a problem? How are the skills and knowledge – the product of differential characteristics, career experiences, and the environment – applied to the

problems in question? What decisions does the leader have to make when solving a problem? And how are these made?

Understanding how problem solving is described is interesting in terms of the focus of this dissertation. The development of problem-solving models and the introduction of those models to organizations through various vehicles, such as formal education and corporate training programs, has produced a bias concerning how problem solving is recognized. The assumptions being made by Mumford and others seem to suggest that some events are recognizable as “problems,” that they can be defined in a way that everyone focused on the event can understand, and that there is a process for solving those problems. The earlier discussion of situational and strategic leadership seems to suggest that this may not be the case. Mumford suggests that the nature of problems change as an individual moves up in an organization. It may be that as the nature of problems changes, so to does the processes for addressing those problems. For example, Boal (2000) discusses the effect that organizational attributes such as complexity, discretion, structure and size have on leadership effectiveness. It may be that these same attributes act as constraints on how leaders address problems both within and outside of their organization, and these constraints may provide insight to a leader that will influence the problem-solving process.

Problem Recognition

In answering some of the previous questions, it may be useful to explore how organizations find and use information to determine what a problem is. Part of the inability of problem-solving models to be completely successful may have to do with

how problems are identified and described (Dooley, Johnson, & Bush, 1995). This activity is often referred to as problem recognition. Though problem solving is often touted as a primary ability of leaders, just as important is being able to recognize a problem when one encounters one. As a researched concept, problem recognition (sometimes referred to as problem setting or problem framing) seems to be somewhat unorganized with little in the way of consistent research available. Efforts to study this phenomenon have looked at environmental scanning (Choo, 2001; Correia & Wilson, 2001) and organizational interpretation (Weick, 2001). Weick captures the challenge with these efforts very well in the following quote:

Although problem setting is a necessary condition for technical problem solving, it is not itself a technical problem. When we set the problem, we select what we will treat as the "things" of the situation, we set the boundaries of our attention to it, and we impose upon it a coherence which allows us to say what is wrong and in what directions the situation needs to be changed. Problem setting is a process in which, interactively, we name the things to which we will attend and frame the context in which we will attend to them. (Weick, K., 1995)

A simple example of problem recognition can be illustrated through the doctor-patient relationship (Lincoln, 1997). The doctor asks the patient several open and closed questions. He or she then watches and listens to the patient and pays attention to the importance the patient attributes to the complaints and to the wishes and expectations the patient expresses. The complaints are used to frame or set the problem(s), while the expectations are used to establish a context for the problem(s). After listing complaints

and expectations, the doctor can determine what other information he or she will need to clearly identify the problem(s) and potential solutions.

Within a closed context such as a doctor's office, the process of framing and setting a problem is fairly straightforward; however, even within this context, many individuals have experienced the frustration of not being able to provide the doctor with enough information to adequately frame their problem. When the number of individuals providing information increases, so do the statements of complaint and the expectations. In other words, the more individuals involved, the more complex and difficult it is to determine what the problem(s) are and the context that surrounds the problem(s) (Lissack, 1997; Dooley, 2002). In other words, the problem becomes "messy." Mitroff and Linstone (1993) define "mess" as "...a system of interacting problems, none of which can be formulated independently, let alone solved, independently of all the other problems on which it impacts and which impact on it" (pp. 139).

Two important concepts from above require more discussion in terms of problem recognition – complexity and context. These terms are also interrelated. An organization's complexity is based in part on the number of employees, teams, clients, services provided, products produced, campuses, and other similar elements. These elements are also what define the context of the organization. Within the organization some person or persons will identify an event that can have an effect on the organization. This person will then attempt to define the event, usually through some type of interaction with others in the organization. Each new person involved in discussion of the event brings with him or her unique perspective. The convergence of these

perspectives becomes the defining context for the problem (McCay & Mink, 1992; Mink, et al., 1991).

This process can also be called information seeking. Information seeking is generally an individual activity and is undertaken to identify and select information to satisfy a previously detected information need (Correia & Wilson, 2001). Information seeking is seldom an end in itself but is a part of a broader decision-making process. Information seeking within organizations is a condition of the information flow within the organization, integration of information with internally generated information, and internal conditions that may influence access to and use of information (Correia, 1996). According to Mink (Mink, et al., 1991; Mink, et al., 2000) each of these conditions can be explained by the openness of an organization. The more open an organization is, the more responsive the individuals and groups (teams) are to each other, as well as to their customers (see Figure 3) – both internally and externally (Mink, 1991). Openness is also a function of unity. When unity and responsiveness are high, an organization will be more disposed to an open flow of information. When unity and responsiveness are low, then information will tend to become compartmentalized and not readily shared. This argument leads us back to the first step in Lewin's problem-solving model. If a weakness to problem solving in organizations is related to how well problems are recognized, then the more open an organization, the better opportunity it has to more completely frame or understand the problem regardless of the complexity of either the problem or the organization.

Karl Weick suggests that understanding a problem before moving into a problem-solving process is an aspect of organizational learning (Weick, 2001). Weick's theory on organizational interpretation follows a particular path. The path moves through three stages – scanning, interpretation, and learning. This path is set along the border of the organization and environment within which it resides. The stages can be explained from the perspective of the members of an organization and the assumptions those members make about the environment. Weick further asserts that strategic-level managers formulate the organization's interpretation and develop specific ways to know the environment.

How organizational members choose to scan and interpret their environment affects how the organization learns. Organizations make assumptions about the environment and the level of intrusiveness they will have with the environment. If the organization perceives the environment as hostile or threatening, then it will perceive a greater need for information and will be more intrusive. On the other extreme, when an organization perceives the environment as safe or supportive, it will be less intrusive in the information it collects. An example of a hostile corporate environment would be the pharmaceutical industry. This industry expends a large portion of operational capital on “corporate spying” to determine what other industries are developing and the level of market penetration by other companies – an estimated \$45 billion in 1999 (King, Bravin & Orey, 2000). This level of intrusion has even included contracting with the garbage collection agencies of competitors to be allowed to go through competitors' garbage prior to sending it to the landfill.

Intrusion into the environment to collect information may also be a factor of the age and size of an organization (Kimberly & Miles, 1980). Organizations that are new or young have vastly different needs in terms of information than do older, more established organizations. Younger organizations are more interested in gaining information and will try new things and test boundaries. They are more apt to push the envelope of morality when it comes to finding information that they think will profit their organizations.

Simply collecting information is the first step in Weick's (2001) process. The second step is the actual interpretation of the information, and Weick suggests there are two elements that govern this – equivocality reduction and assembly rules. Equivocality reduction is the extent to which the data are unclear or ambiguous. This is an issue at all levels of management within an organization (Daft & Macintosh, 1981). Information begins to lose its ambiguity when it is shared and discussed. This concept is similar to concepts of unity and internal responsiveness for individuals and groups discussed by Mink, et al. (1991, 2000). (See Figure 3.)

Assembly rules are procedures or guides that organizations use to process data into a collective interpretation. In other words, when information enters the organization it must have a value and a use. The more ambiguous the information, the more difficult it is for the organization to determine its value to the organization, and the fewer procedures the organization will have for using the information. Likewise, the clearer or less ambiguous the information, the easier it is for the organization to determine the value of the information and use it appropriately.

The above discussion suggests that before the problem-solving process, information of some type must be brought into the organization. This is generally referred to as scanning. Scanning is filtered to some extent by what is identified as important by the strategic leadership of the organization. The information managers of the organization further filter the suspected problem. The actual interpretation of the information is a product of strategic leadership and cultural perspective. The results of scanning and interpretation can then become a learning event for the organization and may become a problem to resolve or a step in defining a problem to resolve.

Though there is little formal research on problem recognition within organizations, there are some interesting ideas suggested. First, much of this research (Dooley, et al, 1995; McCay & Mink, 1992; Mink, 1991; Weick, 2001) is suggesting the complex nature of problems. This is somewhat different than the preceding section on problem solving, where much of the research assumed linearity to the problem and the solving of it. Second, the activity of recognizing problems is built around relationships and shared information, and the shared interpretation of the information (Mink, 1991; Weick, 2001). This is similar to the discussion of leaders at the strategic level of an organization. It may be possible to assume that as a leader moves up in an organization, the problems he or she is called upon to recognize become more complex even as the environment (both internal and external) he or she functions in becomes more complex. This would also suggest that a linear process for solving problems might not be the most effective process. We may also assume that the number and depth of relationships a leader has, both internal and external to the organization, will in some way affect a

leader's ability to recognize problems. These relationships and the information they provide could be defined as constraints to a leader's effectiveness. To state this differently, complex organizations will have complex problems, and those problems will require complex (maybe non-linear) processes for recognizing and solving those problems.

The See-Read-Act model being developed for and examined through this research is an attempt at capturing some of the complexity found in organizations. Though the steps of seeing, reading and acting have a linear appearance, the idea behind the model is that organizational layering is not bound to a stepwise progression. This is in keeping with Mink's ideas of communication throughout the organization and Weick's model of information processing.

Decision Making and Leadership

So what happens to the interpreted information? How is it used? And who makes the decisions? Part of the answer to these questions may lie in work of Victor Vroom (1999). He suggests a taxonomy of leader decision making that has five levels. These are (1) simply to decide, (2) to consult other organizational members individually, (3) to consult other organizational members as a group, (4) to facilitate the group, or (5) to delegate to others or the group. Vroom suggests that a leader's choice in the decision taxonomy is based on several things, including expertise, time, importance of the commitment, and the significance of the decision. The leader-decision taxonomy seems to represent an aspect of process that fits neatly into Mumford's model of solving complex social problems and into Weick's model of organizational learning.

A second part of the answer may lie in two recent studies, one by Jorgen Sandberg (2000) and the other by Carol Dieroff (2000). Most studies of human competence at work have been approached from a rationalistic perspective. Sandberg's study used a phenomenographic approach and assumed that the competencies required for a specific process are some combination of the work and the worker, and both of these are context-dependent. Sandberg studied engine optimizers¹ while working for Volvo in Sweden. He conducted in-depth interviews with 20 optimizers and concluded that there are three approaches or strategies that the optimizers take when working on engines. They are (1) optimizing separate qualities, (2) optimizing interacting qualities, and (3) optimizing from the customers' perspectives. He found that these approaches were hierarchical (in the order listed above, with the third approach being the highest level), with optimizers in the higher levels using schema from lower levels; however, the reverse was not true. From these results Sandberg developed the following conclusions:

1. Workers' knowledge, skills, and other attributes used in accomplishing work are preceded by and based upon their conceptions of work.
2. Workers' ways of conceiving of their work create and shape the context from which the attributes acquire their specific meaning for competent work performance.
3. Depending on the conception of work, a specific set of knowledge, skills and other attributes is developed and maintained in work performance.

¹ Engine optimization is the process used in the automobile industry to develop engines that better meet customer and organizational expectations.

4. Workers' conception of work not only gives rise to distinctively different forms of competence, but also to a hierarchy of competence at work.
5. There are two basic forms of competence development: (1) changing the present conception to a different conception of work and (2) developing and deepening present ways of conceiving of work.

Sandberg's study suggests that there is a specific set of strategies that are hierarchically used to solve problems. It is possible that organizational leaders use specific strategies for solving complex problems that may also be hierarchical in nature. These strategies may be incorporated in various aspects of the Mumford model and/or the Vroom decision-making taxonomy.

In a recent study of private sector engineers, Carol Dieroff (2000) found some other interesting aspects about how engineers solve complex problems. Her series of studies suggests several things:

1. Solving complex problems is enhanced by experience in solving problems.
2. Solving complex problems begins to become intuitive with experience.
3. Both education and experience contribute to problem solvers developing and applying more complex strategies to problems.
4. More experienced and/or better problem-solvers allow the context of the problem to define the problem solving approach.

The work of Sandberg and Dieroff begins to get at an important aspect of problem solving for leaders. Rather than provide their study participants with scenarios of problems, they instead allowed the participants to define what they considered problems.

In other words, the researchers allowed the participants to use the context of their organization, coupled with the information available to them and their understanding of the expectations of their organization, to help them recognize, understand, and solve the problem.

Informing the See-Read-Act Framework

This review of the theoretical underpinnings of leadership and problem solving indicates a strong relationship between these two concepts. Some of the research reviewed for this study indicated that problem solving and, by extension, other aspects of problem understanding are often seen as a skill set of leaders. There also seems to be a relationship between experience and understanding problems.

But, problem-solving is a highly complex issue that is a result of being able to bring meaningful information into the organization, manipulate the information into meaningful concepts, and use these concepts to correctly frame the problem(s) within the context of the organization and its environment. Understanding this complexity as it relates to leaders seems to be missing from the literature.

In the introduction to this paper a model developed by the author was presented – the See, Read, Act model. (See Figure 4.) This model is a best guess of how leaders at the executive level of an organization recognize and move to solve problems. Some aspects of this model align directly to the research reviewed above. For example, See is the equivalent of scanning, Read is the equivalent of interpretation, and Act is the equivalent of decision-making from Weick's (2001) model of organizational change. Situational leadership stresses the importance of environment or external constraints on

leaders, and strategic leadership tends to emphasize the need to understand internal constraints. This would seem to suggest that aspects of problems such as recognition and solving are influenced by not just the skills inherent in the leader, but also by attributes inherent in the organization and the environment within which the organization functions.

What is missing from this picture is a theoretical model for understanding the organization and its leaders. Current thinking about the functions of organizations is that they operate as multiple-layered systems that are nested in other bigger systems. The following section explores systems thinking and how the See-Read-Act model fits within a systems theory framework.

Even if America were to devote more resources to education, simply more of the same would not prepare its youth for roles in flexible-system enterprises. At best, the current system of education prepares young people for preexisting jobs in high volume, standardized production. Some students are sorted into professional ranks and trained in the manipulation of abstract symbols. Others are prepared for lower-level routine tasks in production or sales. Few students are taught how to work collaboratively to solve novel real-world problems – the essence of flexible-system production. (Reich, 1983; p. 215)

SECTION TWO: THEORETICAL MODEL

In the introduction to this paper the metaphor – See-Read-Act – was used to represent the process used by executives to identify the problems they encounter as they steer their organizations into the future. It is clear that recognizing a problem and solving a problem are different but closely related phenomena. Though there is some research on how problems are recognized by organizational members and some research to explain how frames of reference are developed through organizational strategic direction, there seems to be limited information on the role played by executives in these processes. The research cited in the previous section does provide enough information to build a conceptual framework that may explain the processes used by executives to recognize complex social problems and feed those problems into the appropriate problem-solving framework. Figure 4 illustrates this conceptual framework.

The conceptual framework identifies those aspects of an organization an executive would probably be influenced by during the recognition a potential complex problem (See-Read-Act) and the activities that could be involved for each of those steps. This could be equated to Mumford’s problem-focused cognition and Weick’s information

interpretation process. The framework also illustrates the expected outcomes of the executive's decision.

In addition to the problem-recognition processes, the model also includes concepts that act on the executive and the processes, the concepts that “frame” the information identified as important to the organization. Those things that are completely outside of the organization are included in the area labeled “environment or external constraints.” The environment permeates the organization and the problem recognition processes through events such as economic conditions, market conditions, government policies, and technological change. On the other extreme are those concepts that impact the executive and the problem recognition processes because of the nature of the organization and the attributes of the executive that can be considered internal constraints. This includes such things as the executive's cognitive ability and experience, or the organization's complexity and structure.

Though the components of this model are laid out in a linear fashion, See-Read-Act should not be interpreted as a linear process. Intuition would suggest that the executive is constantly “seeing” new events or even re-seeing events of which he or she may have lost sight. In addition, “reading” should not be taken as a literal event. Reading involves understanding the event(s) through perception of facts and feelings – valid information. It is quite possible for an event to move back and forth between seeing and reading before any action is taken, and even after action is taken there is nothing to preclude an event from reappearing on an executive's radar screen.

Systems Theory

In many ways the See-Read-Act model is an application of living systems theory. In recent years there has been much attention focused on general systems theory or chaos theory (Gleick, 1988). Broadly speaking, systems theory concepts are not new. In fact, the historic development of these theories can be traced to the discussions of early philosophers such as Aristotle and Socrates. They have roots in classical linear/relational theory, communication theory, and field theory. Though these concepts are not new, they are not well defined, nor is there a mutually agreed upon description of the theory(s). In addition, there is little research concerning applied systems models available to organizations or groups.

There are a number of scholars who work within living systems thinking and complexity science (Dooley, 1996, 2002; Dooley & Corman, in press; Dooley, Johnson, & Bush, 1995; Gleick, 1988; Morgan, 1984; Senge, 1994; Wheatley, 2001; Wheatley & Kellner-Rodgers, 1998). The works of these scholars have pointed to suggestions of how organizations may better organize or learn; however, there are very few organizations that have been able to incorporate the changes they recommend. This may be for a number of reasons; however, a very likely concern may be the lack of a comprehensive and operational model of systems thinking that is tied to specific aspects with which an organization of today can identify.

Systems theory suggests that there are three to five main foci that define any complex adaptive system (Capra, 2003; Dooley, 1996; Mink, 2001; Wheatley, 2001). These are context, valid information, relationships, shared meaning, and emergence.

These five foci are united by events called strange attractors and by the agents who work within the system. Strange attractors influence the patterns developed by agents that interact within a system.

The initial definition for a strange attractor is a concept that serves these five foci of systems theory. In essence, strange attractors include anything that affects the patterns that are developed by agents. Consequently, another understanding of strange attractor may be that it is anything that defines patterns that occur within the five foci of systems theory.

Systems such as a school, a business, or a public agency would be considered a “complex system,” and because these complex systems almost always overlap or are nested in other complex systems, they are sometimes referred to as “complex adaptive systems” (Mink, 1994). Another way of discussing a complex system is as a large number of simple, mutually interacting parts, capable of exchanging stimuli with the environment and capable also of adapting its internal structure as a consequence of such interaction (Capra, 2003).

The better an organization is at defining its interaction with the five foci areas, the better the organization will be at addressing the strange attractors that are having the greatest influence on the organization. By extension, this would imply that the organization was now managing the strange attractor, as opposed to the strange attractor managing the organization. The organization would also be able to make more effective use of its agents and resources.

The **context** focus can be described in terms of social perspective. A social perspective would include the organization's culture and the cultures that make up the environment around the organization. Context is important in terms of the focus of the system. The **information** focus is used to understand the patterns that develop within and around a system. Agents (members of the organization, as well as others people interact with the organization) and the agents' interactions with strange attractors develop patterns. The information available is processed (framed) through **context** to determine its validity in relationship to the organization. This process also incorporates the **relationships** of both the agents and the organization, and is the first step in establishing a **shared meaning** concerning the patterns or events in question. **Emergence** is a reference to the changes that manifest themselves within the patterns of the agents and the strange attractors.

The work of Scottish philosopher John MacMurray is worth reviewing concerning the systems theory concept of agents and how they interact and help define the foci of relationship and shared meaning. MacMurray in *Persons in Relation* (1961) develops a strong argument for the place of the individual in community. His discussion of the individual in relationship to others in a social setting (the Other) is important in terms of systems theory. MacMurray writes that the individual or even the thoughts of an individual have no meaning until they involve another person. The individual or the agent develops an identity as he or she interacts with other agents. Those interactions influence the actions of other agents. This series of interactions begins to define a community. This phenomenon is very similar to the agent and pattern concepts that

underlie systems theory. In essence, the interaction of agents with each other and with strange attractors develops identifiable patterns. These patterns could just as easily be called community. The development of these patterns are also a reflection of relationship, and the strength and ability of the “community” to achieve is a reflection of shared meaning. Capra refers to communities that emerge within organizations as “communities of interest” (Capra, 2003).

Additionally, MacMurray’s discussion of the influence of the environment on the ability of the agent to use his or her knowledge to affect their surroundings speaks to the existence of constraints or strange attractors. By extension, when a group is defined as an Other, it becomes excluded from the “community” and is then treated as a strange attractor – something to be managed so that it either supports the goals of the organization or, at the very least, does not hinder the organization.

One aspect of the systems-theory framework that has not been addressed is how organizations understand their orientation to the system or systems with which they interact. Or this question could be asked, “How do organizations maintain the integrity of the systems in which they live?”

John Dewey’s (1938) proposal *Experience and Education* provides an interesting discussion and is a good place to begin to answer this question. Current experience links what people are taught with their past experiences or learning. This learning, hopefully, will then influence future experiences. From Dewey’s perspective experience becomes history (personal or social), which then influences and is the knowledge base with which an individual interacts with his or her community(s). In the context of the public school,

learning takes place in a variety of ways. The public “learning” is in the classroom; however, learning and experience also take place outside of a formal classroom setting. For example, when a new teacher begins at a school, he or she is often assigned to a more seasoned teacher to “learn the ropes.” This type of learning is often based on the experience of the moment. For example, the new teacher sends a student to be disciplined by the assistant principle, but instead of being punished, the student is sent to a counselor. The experienced teacher explains, “Well, that’s the way things work around here. Sometimes we go by the book and sometimes we don’t.” Like most organizations there are multiple sets of “rules” that are embedded in different levels of the organization and that must be learned in order for one to be able to function within the organization. Some of the rules are explicit and some are tacit, and learning any rule set requires experience working within the boundaries of the rule. This type of learning also requires the development and cataloging of experiences, or history.

In the above example the new teacher has to learn a tacit rule set concerning when to punish and when to counsel students. She or he learns this through experience and through the sharing of **tacit knowledge**. Tacit knowledge is defined as knowledge that enters into the production of behaviors and/or the constitution of mental states but is not ordinarily accessible to consciousness. As tacit knowledge is shared with the new teacher, he or she begins to better understand the context of the organization. This knowledge is a building block for developing relationships within the organization and moves the new teacher toward a sense of shared meaning concerning the organization’s philosophy and ultimate goals. As the new teacher moves through the organization and

has more experiences within the organization, he or she will seek explanations for events he or she encounters or observes and will build his or her understanding of the organization. Collectively, this body of understanding is referred to as corporate knowledge and is an integral part of the culture of the organization.

Within the structure of systems theory, experience and tacit knowledge can be described as bonding agents or connectors. The linking of the foci can be described in terms of sharing of knowledge, and the categorization and use of that knowledge. The managing of strange attractors is also a reflection of the connectedness and organizational understanding of the foci. Again, this is a reflection of the use of both tacit and explicit knowledge.

Without members of an organization having the knowledge and understanding of strange attractors and sharing information about them within the organization, a strange attractor can become the management force within an organization.

Systems Theory Application

The following example can be used to demonstrate how the five systems theory foci work together². Suppose you have started your own consulting services company (CSC) and have managed to lease a nice ten story high-rise to house your fired-up, young team of professionals. At some point you realize that your team is looking for an outlet for energy, and there seems to be an overwhelming desire for members of the team to compete with each other. After much discussion, basketball is selected as the most

² This example is borrowed from Dr. Oscar Mink's Whole Systems Thinking workshop for the City of Austin, November 2001.

appropriate competition. Unfortunately, the only area you have access to that is large enough for a basketball game is the roof of your building.

Your desire is to ensure that your employees have available to them everything they need to be successful, including opportunities to stay physically healthy and to release stress. You erect two basketball goals on either end of the roof and purchase what seems like an adequate supply of basketballs. Let the games begin.

What happens as your employees begin to play basketball on the roof is rather strange. At first, the employees try to use the entire roof as a playing surface. However, after one or two players (high-risk takers) come close to falling over the side of the roof, as well as numerous balls do so, the players move the playing surface to the middle of the roof. In fact, your team is more than content to see a ball fall off the edge of the roof rather than chase it.

In this example, “see” can be considered the executive developing a **context** for a given issue or event. Context is everything that is happening around the executive and the organization. It is recognizing patterns or understanding the existence of patterns, as well as the strange attractors associated with those patterns. In our example of the basketball game, the baskets represent the strange attractors, and the patterns that emerge are the ways your team responds to those strange attractors (i.e., playing in only the middle of the court as opposed to using the whole roof) and the amount of risk taking individuals and teams are prepared to take (i.e., how often an individual will charge after a loose ball heading for the edge). Part of context is not just seeing existing patterns, but

also recognizing that patterns can be changed or visualizing what new patterns could look like.

Strange attractors are anything that requires the actions of agents (both within and outside the organization) and the use of resources to manage. In our example the goals are the most obvious strange attractors, and the bulk of our resources (the basketball) and agents (staff) are focused on that interaction. The other major strange attractor at play is the edge of the building, which can be used to highlight several important points.

The primary goal of each team is to get the basketball through the nets of the basketball goals. In the current configuration of the basketball court, part of the focus of the players is on getting the ball to players who are in a position to do just that. However, because the edges of the court are open, some balls that miss the net or are not picked-up when passed to other players are being lost. In other words, it is taking more resources to accomplish the primary goal of the group. In addition, players are always alert to their proximity to the edge of the building. Again, agents who should be focused on the primary goal of scoring points are splitting their attention. To a great extent the edge of the roof is managing the activities (patterns) of the players. The longer the game continues on the roof, the better the players will become at managing their resources (not losing balls) and the less aware they will be of the edge of the roof managing them.

“Read” is a holistic term used to represent understanding, perceiving, or sensing. This aspect of the model represents the executive putting flesh around specific events or finding the truth that different events represent. In systems terms this is **information**. In

our example we perceive or read what is happening on the roof. We see the flow of the game, we identify the team members, we identify the boundaries the game is played within, and we sense the fear some members have in getting too close to the edge of the building. We are collecting data in the form of facts and feelings that help us define the events we are watching. As we continue to read the activities of our team, we begin to recognize potential problems, such as losing balls (or even team members) over the edge of the building, constraints that do not allow our team to perform at its highest potential, inability of the team to achieve its best potential as a team, and inability of the team to focus its energy on the primary strange attractors. Because of the distracters around the court, it is difficult for our team members to achieve a shared sense of meaning, and though they can become “good” at playing within the constraints (tacit rules) as team members understand the constraints and can limit the effect the constraints have on the team, team members can never achieve their full potential and may become frustrated as a result.

“Act,” or action, is what the executive does when he or she has enough information. The action phase can be described in the systems terms of **relationships**, **meaning**, and **emergence**. In our example we have identified a variety of patterns. Some patterns have emerged and stayed, while others have emerged and disappeared. In addition we have had the chance to understand the relationships that are beginning to develop on the court between our agents. Our desire is that our team has a shared sense of purpose, that it be able to meet its full potential, and that it not have any distractions from strange attractors like the edge of the roof. The teams understand that the main goal

of the game is to score more points than their opponents using the fewest resources. As the agents involved get more focused on their primary goal, they become less aware of the patterns they develop. In this case the executive observing the game can recognize a pattern in the play and can also recognize that this pattern does not fit with his or her ideal of patterns for playing basketball. The pattern that is observed on the rooftop is an emergent pattern, and comparing it to an expected or ideal pattern of play allows the executive to begin questioning the effectiveness of the current setup.

We have the opportunity to act, and we suggest building a ten-foot high chain link fence around the top of the roof. This recommendation meets a mixed reaction from our team. Some members are now accustomed to playing within the constrained field and do not recognize how the change will improve their performance. Other members see the merit of the recommended change but build further on our plan by suggesting we include padding around the bottom five feet of the fence, benches for resting on at the ends of the court, and a higher fence behind the baskets as one team member regularly wastes resources by shooting over the basket. At this point we have moved to action, and in this specific case we can turn the actual response to the problem(s) over to the part of our organization that is most affected by the negative strange attractor(s) and seems to understand the consequences of changing the current process. We have an opportunity to work through our relationships and produce emergent qualities that may have been hidden. Beginning to address a problem also helps establish a shared meaning with our team.

The basketball analogy is very basic and fairly straightforward – but the reality of organizations is never this simplistic. Strange attractors are not necessarily stationary or obvious – influencers are not always apparent, nor is it always important to address them. Context is dynamic – shared meaning is complex and often shifts with context. Agents are regularly “managed” by events outside of the organization, etc. However, the See-Read-Act model fits within the major concepts associated with complex adaptive systems and, at least intuitively, provides a way of looking at problem recognition and explaining the dynamics involved.

Next Steps

The conceptual framework represented by Figure 4 offers numerous opportunities in terms of application, research, and theoretical contribution. A first step would be to explore the framework. Identifying an organization to act as a case to study could do this. The results of case studies can then be used to further other research, such as the relationship between leader and organizational attributes, and executive effectiveness at solving problems. Once the framework is better understood, the results of research can be used as developmental tools for future leaders.

To begin the exploration process of the See-Read-Act model, the following research questions were addressed by this study:

1. What strategies do the CEO, the executive staff and other stakeholders of the organization employ in recognizing potential problems (threats, opportunities, or influencers) to their organization?

2. Are there distinct patterns or hierarchies of problem-recognition strategies based on situations used by the organization's executive staff?
3. What type of decision making do the CEO, the executive staff, and other stakeholders use when recognizing and solving complex social problems?

Always, always, always have a plan. And always, always change it. – John Rollwagen

SECTION THREE: METHODOLOGY

This research was conducted as a descriptive/qualitative study using a case-study approach. A case study is a written description of a problem or situation. “Cases are selected for study because they are of particular interest given the studies’ purpose... They are particularly useful where one needs to understand some special people, particular problem, or unique situation in great depth” (Patton, 1990, p. 53-54). Case studies are not intended to be comprehensive or exhaustive but to depict a particular situation within a complex environment.

Case studies are used in almost all areas of academic research. In addition, it is the method of research most often used in the General Accounting Office (GAO) (Patton, 1990). According to Merriam (1988), case studies are also the mainstay of educational research and evaluation.

The case study method involves defining a “case” and then observing and interviewing people whose experiences are related to the topic in question and represent the “case.” For the purposes of this study, the case will be an organization that meets specific requirements discussed below.

The essence of social-problem recognition is embedded in the organization and the organization’s culture. This would indicate that simply interviewing the head of the organization would probably not provide a clear picture of the organization’s culture and climate, or of the context within which decisions are being made. A better picture could

be achieved by interviewing and observing several members of the executive team, as well as members of middle management or lower members in the organization. This logic would suggest that the unit of study is the organization and not the individual. In practical terms this is a much easier “sell” to heads of organizations. The organization’s leaders are being asked to provide access to their organization, and their organization, as opposed to any individual within the organization, is the focus of the study.

The previous paragraph discussion fits with the See-Read-Act model, which suggests that relationships and constraints that are unique to the organization help to define how events are addressed through the model. The key to this process will be the executive of the organization; however, the executive does not hold all of the information about the model.

Case Selection

There were two things that influenced the case selected for this study. First, exploring the See-Read-Act model within a systems framework requires an understanding of the context (culture and climate) of the organization. Context is not something that can be understood through two or three interviews but requires spending some time with the organization selected for the study. This would include observing how employees interact, how public areas and offices are presented, how the organization presents itself on paper, and how members outside of those being interviewed present and describe the organization in their daily activities.

Second, this study is exploratory in nature. It is not essential that the findings be generalizable beyond the organization selected for the study; in fact, the main intent of

this study is to determine if the model in question has any validity in the “real world.” These factors suggest that the organization selected does not need to be large, but does need to be comprised of enough complexity to ensure that the researcher will have adequate opportunity to observe the See-Read-Act model.

Case Description

The organization selected was a major property development/holding company in Texas founded in the early 1960s. This agency is privately held and provides a variety of services primarily in Texas. The organization’s web site describes the organization as follows:

This is a company deeply rooted in the value system and work ethic of idealistic entrepreneurs.

The company's core concept – where each property is perceived as a total environment, with development, property management, maintenance, landscaping and security services totally integrated – ensures a rare level of quality and performance.

The organization employs several hundred in its umbrella group and approximately five times that in other wholly owned companies ranging from car dealerships to a recording studio to a security firm; at one time the organization even had a hospital and staff as a part of its holdings. Most of these holdings, as well as the main offices, are in Texas; however, the company also has major holdings in the southeast United States and in Mexico.

Data Collection Process/Participant Selection

Data collection and participant selection were, to a great extent, tightly entwined. The first step in the process was to gain access to an organization's decision-makers. This was accomplished through utilizing personal contacts of the researcher. A major decision-maker in the organization was briefed on the intent of the research, issues of confidentiality, and the researcher's expectations concerning a participating organization. More specifically the researcher asked to be able to meet and interview individually the executive management team of the organization, to be able to attend executive and/or strategic meetings, to be able to meet and interview other members of the organization, to review internal documentation that reflects the organization's focus and culture such as newsletters, and to review external documentation that is meant to portray the organization to clients and other outsiders. The president of the organization agreed to these expectations.

Working with the first point of contact within the organization, the researcher identified the executive team of the organization. For this organization, the executive was composed of a Chief Executive Officer (CEO), a President, a Chief Financial Officer (CFO), Chief Operations Officer (COO), and a General Counsel.

All five members of the executive team were asked to participate in the research through an e-mail circulated by the President. Three of the five members agreed to participate in the study – the President, CFO and General Counsel. The other two members did not participate in the study but asked to be kept apprised of the research process.

The researcher coordinated interviews through the President's executive secretary. This was done via e-mail and telephone. The first interviews were with the President and the General Counsel. Each interview took approximately 90 minutes. At the end of each of these interviews the researcher asked the participant if there was anyone else in the organization he or she thought the researcher should interview. In each case the participant was able to generate between four and five names. After each of these interviews, the researcher met with the President's secretary to get contact information for the newly named participants (2nd tier).

The 2nd tier participants were contacted and asked if they would participate in the study. Of the nine names generated during the first two interviews, seven agreed to participate, and of these, five were actually interviewed. The two who agreed and were not interviewed were both called out of the office on the day the interview was scheduled. The second round of interviews included the CFO and two of the 2nd tier participants. This round of interviews generated six more names for participants (3rd tier). The same process was followed with the third tier participants, and three of these participants agreed to participate. Two of these three were actually interviewed.

The researcher was able to schedule three interviews per day, though typically only two of the scheduled participants were available for interviews. On a usual visit to the organization, the researcher would arrive 45-60 minutes early. The President provided a cubicle for the researcher to use that would be available whenever the researcher arrived. Upon arrival the researcher would contact the participants scheduled for interviews and would check with the President's secretary to determine if there were

any meetings available for the researcher to observe. This process resulted in the researcher being able to sit in on parts of six different meetings. In addition, the researcher was able to observe considerable activity within the organization from his assigned cubicle. These observations were recorded in the researcher's field notes.

The researcher was also able to shadow some of the people he had interviewed, as well as others. This activity was unstructured and usually lasted no more than 30 minutes at a time; however, it provided some very rich information.

After six weeks of visiting the organization eight times, the researcher was informed that he had completed his interviews and meeting observations. The COO delivered this message. The president of the organization was unavailable for comment.

In summary, a total of ten interviews were conducted; the interviews were recorded and the recordings transcribed. The participants were composed of seven men and three women. The longevity of the participants ranged from two years or fewer for four members, from six to twelve years for three members, and over 25 years for the remaining three members. The participants represented the executive level of the organization, 2nd – and 3rd – tier managers and one administrative member. The roles of the participants varied. Fictitious names were assigned to the participants, and the following table shows those names in conjunction with sex, longevity, and role of the participants. (See Table 1.)

In addition, the researcher took extensive field notes before, during, and after interviews. Observations of setting and of activities of participants and their staffs were also captured through field notes. The transcripts and field notes were reviewed for

variation in responses to the phenomena being investigated. Variations in the phenomena were then interpreted and results drawn from these (Sandberg, 2000).

Table 1 – Fictitious name, longevity, sex, level in the organization, and role with the case organization of study participants.

Name	Longevity In Years	Sex	Level	Role
Jim	< 10	M	Exec	President
Henry	> 1	M	Exec	Chief Financial Officer
John	> 12	M	Exec	General Council
Eric	< 20	M	2 nd Tier	General property management
Mark	< 25	M	2 nd Tier	General construction oversight
Bob	< 25	M	2 nd Tier	Manager of mall retrofit
Mary	> 1	F	3 rd Tier	Residential rental property management
Michael	< 2	M	3 rd Tier	Operations manager
Cindy	< 2	F	3 rd Tier	Lawyer
Glenda	< 6	F	Admin	Administration

Interviews

The researcher developed a list of potential participants with the help of the executive director and other participants. The researcher set up appointments with these individuals and conducted an initial interview, which asked open-ended questions from the following specific areas:

1. Explain the goal(s) of the organization.
2. Explain the culture of the organization.
3. Where do you see your organization in the next five years?
4. How would you describe the age and size of the organization?
5. What are the most influential aspects of the organization's culture?
6. Who and/or what were influential in your deciding to become a leader in this organization? How? Why?
7. Where did you learn the most about performing your current role?

After completing the interview the researcher sent a thank you e-mail to the participant. The researcher transcribed both the recording of the interview and the field notes taken during the interview, usually within two weeks of the interview.

Direct Observation

Direct observation differs from interviewing in that the observer does not actively query the respondent. It can include everything from field research in which one lives in another context or culture for a period of time to photographs that illustrate some aspect of the phenomenon. The data can be recorded in many of the same ways as interviews (field notes, audio, video) and through pictures, photos, or drawings (e.g., those courtroom drawings of witnesses are a form of direct observation) (Taylor-Powell & Steele, 1996).

Direct observation tends to be focused on observing specific concepts within a specific sample of situations. For this study the researcher focused primarily on how

participants identify social events that can or affect their organization and how those events are defined and organized (Taylor-Powell & Steele, 1996).

According to Dorothea Cloutier et al. (1987), there are six major component areas to consider in direct observations, which are listed below. These six areas represent a good framework for understanding the context of a meeting and of the organization. For purposes of this project, the researcher attempted to record observations in each of the areas. The components are as follows:

1. Characteristics of participants –
 - a. Gender, age, profession, dress, appearance, ethnicity
 - b. Attitude toward subject and others, and about self
 - c. Perceived skill and/or knowledge displayed
 - d. Statements about commitments, values, and changes to be made.
2. Interactions –
 - a. Level of participation, interest
 - b. Power relationships, decision-making, current issues
 - c. General climate for learning, problem solving
 - d. Levels of support, cooperation
3. Nonverbal behavior –
 - a. Facial expressions, gestures, postures
 - b. Interest and commitment
4. Program leaders, presenters –
 - a. Clarity of communication, access to questions

- b. Group leadership skills, encouraging full participation
 - c. Awareness of group climate
 - d. Flexibility, adaptability
 - e. Knowledge of subject, use of aids, other teaching/learning techniques
 - f. Sequence of activities
5. Physical surroundings –
- a. The room – space, comfort, suitability
 - b. Amenities – beverages, etc.
 - c. Seating arrangements
6. Products –
- a. Brochures, manuals, newsletters, handouts, agendas
 - b. Websites and other audio/visual materials

Shadowing

Shadowing is a process of following an individual or group for a length of time and recording specific activities performed by the individual or group. Often, shadowing is an end unto it self. The results of a shadowing experience can be used in a variety ways. For this study, the shadowing experiences were used to observe the See-Read-Act model as it manifests itself in the workplace and as a source for some of the questions to be used in the interviews.

The subjects of the shadowing were all employees of the organization in question and were shadowed during the course of normal workdays. The observer/ researcher documented instances that seemed to relate to the See-Read-Act conceptual model.

During the shadowing the researcher seldom had any opportunity to speak with the participants. Because of this, the researcher was unable to clarify events that have recently been observed. After completion of each shadowing experience, the observed processes were documented. The documentation included the dates and times of the shadowing, and the observation notes.

Examination of Organizational Documents

Participants in the organization were asked to provide examples of recent documents that would help the researcher better understand the culture of the organization. There was surprising little in the way of documents that described the organization's culture, with most of the information being readily available on the organization's Internet site. The researcher was able to collect a group of documents that were being used to highlight specific opportunities for investors. These included newsletters, public relations print material, and news releases.

Data Preparation and Analysis

Patton (1990) suggests that the best method for exploring the interview information collected is to record the interview and have it transcribed. For Sandberg this resulted in over 700 pages of typed text from his 20 interviews. Patton goes on to suggest that the transcripts are then treated as data, and a content analysis is conducted. Miles and Huberman (1984) suggest reviewing the transcripts and looking for patterns, concepts or themes, which the researcher then codes both on the transcript and in a separate log. These codes can then be interpreted in a number of different ways. For the purposes of this study the transcribed data – approximately 250 pages – was converted to

text files, and software designed to assist in the analysis of qualitative data (HyperRESEARCH) was used to assign codes and help recognize patterns.

The process of analyzing this type of data is called content analysis. Content analysis is systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding (Stremmler, 2001). Content analysis is useful for examining trends and patterns in documents or large text files, such as the ones that were generated through this study. Six questions must be addressed in every content analysis:

1. Which data are analyzed?
2. How are they defined?
3. What is the population from which they are drawn?
4. What is the context relative to which the data are analyzed?
5. What are the boundaries of the analysis?
6. What is the target of the inferences?

The boundaries for analysis in this study are the research questions; however, before the data is addressed using them as a framework, the data will first be reviewed in terms of organizational context/culture. The framework for this will be to answer the following questions:

1. What are the underlying values the organization is based on?
2. What event/activity/concept best describes the culture of the organization?

The data from the case will then be examined using the research questions as boundaries for analysis. These questions follow:

1. What strategies do the executive staff of the organization employ in recognizing potential problems, threats, or influencers to their organization?
2. Are there distinct patterns or hierarchies of problem-recognition strategies used by the organization's executive staff based on situations?
3. What type of decision making do the executive staff use when recognizing and solving complex social problems?

During the formatting and analysis phases of this research, there were several steps taken to ensure the validity of the data itself. These were member checks and peer reviews.

Member Check

It is important to ensure that the data accurately reflect what the interviewees have said. This is usually accomplished through a process called member checking. There are two points at which participants should be asked to check the information. The first point is after the researcher has completed the transcription of the interview. The second point is after the researcher has developed his or her interpretation of the data.

After the interview transcripts are completed, the researcher provided the interview participants with an electronic copy of the transcript for their interview. The participants were asked to review the transcripts and address the following:

1. Is the interview transcript consistent with your memory of the interview?
2. If not, what changes should be made to ensure that the transcripts accurately reflect the interview as you remember it?

3. Is their information missing from the transcripts that would make the document more complete?

Only four of the participants responded to the requested questions. All four of these participants agreed that the transcripts seemed to reflect their memory of the interview, and had nothing further to add.

After the first member check, the researcher began the analysis of the data as described above. This involved identifying major categories that seemed to have meaning in terms of the questions asked the participants and the overall research questions. After these categories were developed, they were provided to the peer review team. (See below.)

At this point the resulting categories were returned to the participant organization. The organization requested that the results be submitted to the General Counsel of the organization for review and approval. At the organization's request, there were no direct quotes in the resulting categories (all quotes were paraphrased) that could be attributed to a specific member of the organization. The organization's representative had no additional comments or recommended changes to the categories as defined by the researcher.

Peer Review

Patton (1990) and others (Lincoln & Guba, 1985) also suggest that other independent individuals or groups review both the data and the results of the research. These others can be asked to develop their own coding from the raw data or their own

interpretation of the coding scheme developed by the researcher. This is often referred to as a peer review.

For the purposes of this research, three distinct approaches were developed to provide the researcher with feedback from peers. These approaches were the following: first the researcher got a very traditional peer review in which data and outcomes were reviewed by others; second, the researcher presented his preliminary findings at an academic psychology conference; and third, the researcher met with three leaders of organizations to get their reflections and interpretations of the results.

The process used in the traditional peer review was to have two acquaintances of the researcher, both experienced researchers, review portions of the transcripts, and in using the research questions as a framework, to identify categories of responses. The results of these two peers were compared to the results of the researcher. There were minor differences. These differences were resolved through discussion, and the results of those discussions were incorporated into the next phase of the peer review.

The researcher then presented his research ideas and preliminary findings at the annual meeting of the Society of Police and Criminal Psychology (Dietz, 2003). Following the presentation, several members of the audience suggested where they thought these results fit in terms of social and psychological theories. Several of these suggestions have been included in Section 5 of this report. Other members of the audience suggested variations on the interpretation of the data. Their comments were considered by the researcher, and some of them were used to fine tune the researcher's results.

Finally, the researcher met individually with three organizational leaders. The researcher presented his findings to these individuals and solicited feedback from them concerning the validity of the results to their experiences. Comments from these individuals were also incorporated into Section 5 of this report.

Reflective Observation

During the process of conducting this study, the researcher kept a reflective journal. This journal included before and after interview notes, as well as concepts, ideas, problems, and frustrations that developed during the course of this study. The researcher referred to these notes on a regular basis while developing the conclusions for this study.

Validity

Gall, Borg, and Gall (1996) have identified guidelines for validity and reliability for case study research, and by extension, all qualitative studies. They suggest a concept called interpretive validity. Sandberg (2000) suggests that communication and pragmatic validity are essential for phenomenological based research. McCay and Mink, meanwhile, (1992) suggest that convergent (heuristic) validity is an essential component of any research conducted in or around organizations.

The differences in these types of validity are worth noting. “Interpretive validity refers to judgments about the credibility of an interpretive researcher’s knowledge claims” (Gall, Borg & Gall, 1996; p. 572). There are twelve aspects of interpretive validity. Several of these aspects are more closely tied to reliability issues and will be discussed later. The aspects of interpretive validity that are clearly related to a discussion

of validity are usefulness, contextual completeness, researcher positioning, reporting style, triangulation, and member checking.

Usefulness is related to external validity to some extent. The concept of usefulness suggests that the study have meaning to individuals or groups beyond the author and the study participants. Contextual completeness suggests that the study provide enough contexts for the reader to experience the study to some degree. Part of this may include a setting's multivocality, meaning that participants do not speak in a unified voice. The researcher's positioning is an articulation of the researcher's own position or bias with regard to the participants or event being studied. Finally, reporting style is the researcher's choice for reconstructing the participants' phenomenological reality. This means that the story the researcher tells must express not only the context of the study, but also how that context is understood by the participants through a style of writing that draws the reader into that understanding. Triangulation is the process of using other sources to verify the results obtained from participants. Other sources could include other research studies, survey or questionnaire results, or theories. Member checking is having participants review statements made in the researcher's report for accuracy and completeness.

In contrast to Gall et al., Sandberg (2000) proposes communication and pragmatic validity. An ongoing dialogue of alternative knowledge claims that are discussed throughout the research establishes communication validity. This is accomplished by the following:

1. Establishing a relationship of mutual trust between the researcher and the participants,
2. Using a limited number of open-ended questions to encourage participants to describe themselves with as few barriers as possible,
3. Using follow-up questions during the interview process to insure a complete understanding of the concepts being described.

To some extent this form of validity seems similar to contextual completeness, though it is much more specific in terms of how the interviews are conducted.

Sandberg also uses pragmatic validity. Pragmatic validity is “testing the knowledge produced in action.” Pragmatic validity is based on action theory and involves capturing “theories in use” as opposed to “espoused theory” (Argyris & Schon, 1974). This form of validity is again focused on the actual processes used in data collection. Essentially, the researcher does the following:

1. Observes and interviews the participants, and compares the differences,
2. Asks follow-up questions that require the participant to demonstrate what statements meant in practice,
3. Observes participants’ reactions to the researcher’s interpretation of statements.

Pragmatic validity is very similar to member checking except that pragmatic validity takes place before and during the interview.

McKay & Mink (1992) have suggested that organizational research should establish some form of convergent validity. This concept suggests that we gain confidence in a research finding and reduce our uncertainty only when we have

agreement of substantive outcomes derived from the use of different and independent models, methods, and occasions. In other words, this study looks at leadership strategies in the form of problem recognition from a phenomenographic perspective. The results of this study will be held in more confidence if the findings are similar to those of Zaccaro et al. and Sandberg. The results of three studies using different methods have converged on similar findings; therefore, we can have confidence in the validity of the results. This is similar in concept to triangulation.

It seems appropriate that interpretive, communicative, pragmatic, and convergent validity be considered an essential ingredient for this study. Though there is some overlap between each of these forms of validity, they are each focused on a different aspect of the research. Because of this, ensuring that each of these forms of validity is applied to the proper part of this study will greatly improve the end product.

That's all very well in practice, but how does it work in theory? – Anonymous

*Insight, untested and unsupported, is an insufficient guarantee of truth. –
Bertrand Russell*

SECTION FOUR: RESULTS

The results of this research will be presented as responses for each of the research questions; however, prior to responding to the questions, it is important to understand the context in which the questions were asked. To that end the following is a description of the case organization's culture based on comments from participants, public information about the organization, and the researcher's observations.

Organizational Culture

The case organization's culture emerged around three areas: 1) the organizational foundation and history, 2) the new leadership and organizational instability, and 3) dissension between new and long-term employees. Descriptions of the above three areas are preceded by the researcher's observations of the organization's culture to set the foundation for the organization's context.

Researcher's Observations

Each of the researcher's visits to the case organization allowed the researcher witnessed the activities of the people who were in the organization's offices, as well as, the physical presentation of the offices. These observations were recorded in the researcher's field notes. A review of these notes will provide an additional perspective on the culture of the organization.

The most striking thing about the case organization was the physical splendor of the offices themselves. One enters the foyer from the elevator, which is bright and spacious. The floor is marble tile and the walls are paneled with a dark reddish brown wood that has a deep, rich finish. At one end of the foyer are a receptionist, a sitting area, and access to a large conference room. When the conference room is not in use, the doors are left open. The conference room contains a large, beautifully crafted, oval, walnut table and floor-to-ceiling windows that provide a panoramic view of the surrounding communities.

The reception and sitting area is attractively arranged, allowing visitors to watch the news and surf the Internet on four large television screens. A quick look at the browsing history for the Internet at that location showed that most of the sites visited were either news sites or search engines. There are also phones and hook-ups for laptops. Typically, the receptionist offers visitors refreshments such as coffee and pastries in the mornings and cheese, fruit and crackers in the afternoons. There are always fresh cut flowers in the reception area, as well as in other places throughout the offices. The flowers are replaced every Monday, Wednesday, and Friday.

Every morning a caterer shows up to provide small platters of cheeses, fruit, vegetables, and crackers, as well as soft drinks. The refreshments are placed in a number of public places throughout the two floors of the building used as the organization's offices. It appears that the availability of refreshments is a long-standing tradition with the organization. While speaking informally with various staff members, the topic of

refreshments was brought up quite often, and several said that having these types of small amenities contributed to their enjoyment/motivation working with the organization.

The office space is designed to be very open. Abutting the exterior wall are glass-fronted offices of various managers or team leaders. In the center areas are the cubicles of the administrative assistants, as well as the copy machines and printers. During the researcher's visits to the organization, he was allowed to use one of the cubicles. In general, the office areas are very quiet; there were no radios playing, and typically when someone needed to visit, employees shut the doors to their offices or moved to one of the break areas. I learned from informal conversations with staff that the original leader of the organization frowned on meeting during work hours and never used his office, nor did he use the conference room. He also frowned on informal meetings, so employees found ways to avoid being noticed as "...spending good time jabberin'."

Typically people would be in their offices a few minutes prior to 8 AM, they would all leave the office area during lunch, and they would all leave for the day just after 5 PM. The offices were rarely staffed after 5 PM; again because the founder's philosophy was that "...an employee should be able to get all of their work done in an 8 to 5 day." Another carry-over from the original leader was having the foyer receptionist check off staff as they arrived in the mornings, record when they left at anytime during the day, record the time they returned, and note when they left for the day. As mentioned more than once, if a staff member wanted to leave early he or she would take the stairs down three floors and then use the elevator to avoid using the elevator in the foyer.

During all of the researcher's visits to the case organization, he noticed only one staff member of color – a Hispanic administrative assistant for a junior manager. The staff members who had offices were about 70% men, while all of the administrative assistants were women. The women who had offices were lawyers on the legal staff, managers of human resources, and two women who were operational managers. This does not reflect the organization as a whole, but only the corporate office area that was observed by the researcher.

Organizational Foundation and History

The following discussion of the case organization history is based primarily on informal (i.e. not part of the formal interview process) discussions with members of the organization and public documents concerning the case organization. The original founder of the case organization was the sole leader of the organization from its inception through his retirement. He began the company when he was quite young, by using the profits from a "lucky" business deal and his trade skills to both invest in and develop a middle class housing development. He partnered with a home designer and did much of the home building himself. Many of the people he hired as he was starting his development stayed with him for many years, and several have retired from his business after as much as thirty years of service. Though he initially started with a small single-family housing development, he quickly expanded into general property development, as well as invested in undeveloped property outside of the main urban/suburban development areas of the city. He moved into developing small commercial centers such as strip-shopping centers, which he then leased to small business owners. When the

researcher visited, the organization's executive team were just entering into discussions about whether or not to sell off some of these original commercial properties.

The founder had some basic guiding principles that he spoke of often: do the work yourself, don't borrow money, and build things as if they were for your family. These principles appear to have played out in several ways. When the founder retired (well into his sixties), he was the head of a multi-national organization worth millions of dollars. When one looks out across the land from the top floor of a 15-floor office building he had constructed and helped design, almost all the property one can see (commercial and residential) is property he either owned or developed or both. And he had never taken a loan or partnered with a financial backer. He had also overseen most aspects of every major and most minor projects in which his business had been involved. The stories about him were interesting, as one senior manager, named Michael, stated:

[The founder] could come to your worksite and remember what he had asked you to do a month ago, and then he'd want to check it. Even little things. Things behind the walls sometimes. I remember once he made me tear some dry wall off to check if I'd reinforced the studs right. Turns out I hadn't done it the way he wanted, and I had to do it over again. He didn't get mad though – he just made you do it again.

The founder understood the building industry from a tradesperson's perspective, and (according to the employees that worked with him) he had a "natural instinct" for business. Michael went on to say the following:

The founder would regularly hire people he thought had talent. For example:

He'd come to you and say, "You know that guy that's laying the carpet in the such-n-such apartment complex?" "Yea," I'd say, even though I didn't. "He's pretty good. Do we still need a site manager for that complex?" Of course he knew we didn't because he knew he'd fired the last complex manager several weeks ago. "See if he fits." He was like that. He'd see someone working like the carpet layer or someone wiring up re-bar, watch him for a bit, and then say find him a place. And he'd check on them. He figured if he picked 'em he could let 'em go too. The ones that stuck around, though, they're loyal.

[Researcher]: Did the carpet guy take the job?

Not at first. He owned the business and liked it that way. [The founder] talked to him, though, and [the carpet guy's] over in the complex the other side of the mall. Been there ten years now.

Many of the cultural qualities the members of this organization attributed to the founder of the business are qualities that I have often associated with my father. I do not remember my father borrowing money; if something in our home was broken, he would repair it, and he thought it was important that his children understand how to repair and maintain the things that are in their lives. I suspect that values such as these – not borrowing and building/repairing things – are common to the generation of working-class families that came through adolescence and the depression at the same time. I know that my father came from a working class/immigrant family, and I suspect the founder of this organization had similar roots.

The founder lived within the shadow of the office building he built for his corporate headquarters. He spent his days touring his properties – all his properties. He did not typically keep a schedule but would arbitrarily visit sites under construction, sites that were being renovated, and sites that had been leased out for 20 years or more (this explains how he knew about the “carpet guy”). He would often have a list of building changes for the under-construction and renovation projects, and a list of repairs for the leased properties. He would meet with his senior managers, son, and son-in-law every day for lunch, which was held (whether permitting) in his backyard. His wife would fix the meals and during this time he would discuss issues he thought needed addressing, share the lists he had prepared touring properties (all verbally), and try to determine other issues that needed his attention. Apparently, even though he had an office and a beautifully appointed meeting room in his corporate headquarters, he never used these.

The founder maintained much of the corporate knowledge in his head. He seldom committed ideas to paper, leaving that to others. He had a knack for remembering details, and even when he had turned his business over to his son and son-in-law, he still actively managed projects. It appears that the founder’s continued involvement in the organization may have hindered the affairs of the organization, especially in terms of employees knowing who was running the organization.

The New Leadership and Organizational Instability

The founder retired when he was in his late sixties or early seventies and turned the reins of the corporation over to his son and son-in-law. His son had proven himself to be a fairly good businessperson, starting his own residential development business in

another city. Organizational members who discussed this aspect of the son's life suggested that the son felt a need to prove he was capable of being successful on his own and outside of his father's influence. The founder's son-in-law was a successful lawyer who had also developed his skills outside of the organization. (This individual is also one of the main story-tellers of the organization and helped to explain the history of the organization.)

There were several years of instability within the organization following the founder's retirement (organizational re-structuring and executive team re-structuring), in part because the founder's style of management had been very directive and authoritarian, and because the founder had maintained most of the corporate direction in his memory. The executive team talked about instability as an event in the past, even though it was still with them and in fact parts of that instability emerged in the collected data and are described later in this report.

The son and son-in-law were tasked with developing an executive team. Initially, most of the team members were long-standing members of the organization. At the time of this study, the executive team was comprised of five members, all white men. As mentioned previously, two of these men were related to the organization's founder, one was a long-time employee, one (the youngest) had worked for the organization for around ten years, and the last was a very experienced professional but had only been with the organization for a few months. This team was the third or fourth combination of members since the founder's retirement.

As mentioned above, the founder stayed quite active within the corporation following his retirement, which may have contributed to a perception by organization members of indecisiveness in the executive team. Apparently, the founder continued to tour properties and make lists of problems to be addressed until just prior to his death. Shortly before the founder's death, several long-term members of the organization were moved (leveraged) from management positions to positions on the board of directors. This leveraging seemed designed to honor their contribution to the organization and loyalty to the founder, and at the same time keep these individuals from being obstructions to the day-to-day activities of the organization.

The new CEO's management style is extremely different from the founder's. The CEO keeps irregular hours, seldom has meetings in his office, is very active in his church (apparently, the founder was an "Easter-Christmas Christian"), and provides direction through hand-written notes. This was a comment during one interview with Jim the President:

He comes here at night. I know because when I come into my office in the morning I'll find little notes in my in-box. Here I'll show you.

The participant began sorting through papers in his in box and found a folded scrap of paper. He unfolded this and showed it to me. It read, "Need to work on dealership. Go in AM. Update. [Initials]."

This is pretty typical of what I get.

He found three more similar notes.

I rarely see him. But we talk on the phone. I figure out who needs to do what and make sure it gets done. Sometimes they try to do end-arounds, but I tell them I'll fire the next guy that does that. He [the CEO] is always thinking about stuff, and I try to help out.

Several other interview participants explained similar interactions with the CEO. There seemed to be consensus that the CEO had an interesting, if not odd, style of management. Because the CEO is somewhat removed from the organization, most of the decision-making is being done by the COO, the CFO, and the President of the organization. There is a sense of gate keeping with these three between the bulk of the organization and the CEO. There is also a sense of in-fighting/tension between these three.

One of the CEO's directives being discussed during my time with the organization was the idea of charitable contributions. The CEO left a note with the CFO stating that he wanted to see a plan for tithing. The rest of the executive team was left to figure out just what that meant. The following are excerpts from interviews that discussed the issue of tithing:

Executive One: I think he wants to see 10% of gross going to religious causes. What we need to do is figure out how much actually goes to charitable things now, find a figure we can live with, and adjust as necessary. But this is very similar to what we get from him. I figure he'll make this clearer fairly soon. In the meantime we'll just get our information together and be ready.

Executive Two: He wants us to figure out what we already do – you know we do [youth baseball league] – which is all before net you know, and we do lots of other things. I think we're already there. I don't actually see any reason to worry about this one much. We'll just show [the CEO] what we're doing and he'll be fine.

Executive Three: I can see that this will have great impact on the future of the business, and is something we really need to be doing. I think we already do something like this. I think a tithing is about 5%, so I don't think it will be a problem. As long as it doesn't impact the trust, we should be fine.

Senior Manager One: Our job is to support the trust, not to be giving it away. It's just the latest bullshit. It'll be something else next week.

Senior Manager Two: First I heard about it. If they want my opinion they'll ask and I'll give it.

Second Tier Manager One: I heard about this. [Executive One] told me the other day. I think it's very noble and well worth the effort. I think we need to do more for the poor in the community.

These excerpts suggest that the executive team and senior managers tend to not have a formal process for addressing requests from the CEO. In fact, even though the tithing request had been in circulation for at least a week, there had been no formal dialog surrounding the request or even any effort to define the terms of the request.

Part of the challenges that the newly formed executive team were having was dealing with the long-time members of the organization and their concerns about the

future. Many of these individuals think that they have a clearer understanding of where the organization needs to go and how to get there.

During several of the interviews conducted with the study participants, the difference in the style of leadership in the organization was discussed. Many of the long-term employees had been hired by the organization's founder and expected to be with the organization through their retirement. There was consensus among the study participants who had experienced the founder's leadership that he was authoritarian, curt, future-focused, paternalistic, and fiscally astute. Senior manager Mark said, "For the most part coming up in this company, it was pretty much a dictatorship. So when you were told to do something, your job was to execute, and a lot of things you made decisions on how it was to get done – you know the quality product that was believed to be maintenance free for a long time – but we had direction. But there was trust that you would get the job done at the quality that was expected, and if you had problems you'd own up to the problems."

Eric's experiences were similar: "He [the founder] was a tough man, and I worked for him for a number of years. If he told you to do something, you could question him, but if he told you to do it again, you better do it. If it was wrong he'd tell you, and you did it again. If he told you to change it, you changed it." The long-time employees included in the study all expressed similar sentiments. However, all of the long-term employees projected a feeling of pride into their dialog. They were proud to have worked for the founder, and having done so represented an honor none of the new employees can acquire. In fact, the pride displayed by long-term employees was very similar to the

pride displayed by members of the military who receive medals and ribbons associated with specific campaigns and actions in which they are involved.

Long-time employees also tempered their comments about the current executive team. Mark said the following:

The [executive team] have all been around for a while except ... and I've worked with them, so I kinda know what to expect from them. I don't always agree with what they do, but I didn't always agree with [the founder] and were still here.

And even the executive team had reservations about themselves. Jim said, "We [the executive team] are still finding our way, learning how to work with each other, trying to make the best decisions, making mistakes. We're just human."

Earlier it was mentioned that the executive team were actively discussing selling off some of the older properties owned by the corporation (specifically several of their strip-centers). These properties were paid for many times over, so they generated a steady, predictable revenue stream. Tradespeople who were interested in quality craftsmanship had built them with the best materials available, and the end result was a building that has not required extensive maintenance after thirty years and will continue to require limited maintenance in the years to come. Not surprisingly, the long-term members of the organization have some identity investment in the older properties. They see these properties as representative of the essential values of the corporation.

So why even discuss selling the properties? Part of the challenges these properties represent is that they have long since reached a ceiling in terms of the amount of money they can bring into the organization. The lease value for these locations has

been reached and cannot go higher. Additionally, the cost of maintaining the properties has increased over the years, so every year the properties net less income. Finally, they represent a very small part of the corporation's overall assets. It was interesting to hear these discussions from the point of view of the study participants – from the first interview to the last interview three months later, the same discussion was still ongoing. This, more than anything else, reflected the spirit (specter) of the corporation's founder and the challenges facing the new organization.

Dissent between New and Long-term Employees

The organization seemed to value long-term commitment from both employees and contractors. However, there is a sense that long-term employees have “paid their dues,” and regardless of the experience brought in by new employees, they must pay their dues as well. “Dues paying” was demonstrated in a number of ways. Bob said the following:

We used to have our own fab shop.

Really, what did you fabricate?

Oh. We did everything. We had a cabinet builder, made doors and windows, trusts. You name it, we made it. I used to manage it.

What happened to that aspect of the business? Do you still have it?

Oh no. We got rid of it years ago, partly because of the unions, but also because [the founder] met a guy who did cabinet work, and we hired him for a couple of jobs, and when we closed out our fab shop, we sold it to him and contracted with

him for those services. He's still working for us as a contractor. I've managed his contract for almost 15 years now.

Most of the employees from the fab shop either went to work for [the contractor] or we found other jobs for them. We don't lose people that are already proven.

Before an individual could become a property manager he or she was/is expected to perform well in other lower-level jobs. This also suggests that one is not able to move up in the organization unless he or she is capable of performing the duties he or she will be supervising. Bob said, "A lot of these new people are more interested in starting new projects than in the projects we already got going. It takes money to get the new projects off the ground and it distracts from our roots." In other words, after an employee has proven oneself, or "put in your time" with the organization, then, maybe, the employee can start his or her own project.

There are also many unstated rules that support working for this organization. Learning these rules is part of the "dues-paying" process, and violating the rules is not expected of the long-term employees. Mary said, "I brought my own assistant with me when I came to [the organization]. She's really good and knows me, and that's what you need in an assistant. But they had already assigned me an assistant who had been here for some time. It took me awhile to convince them that I was going to keep my assistant and that they had agreed to this in the hiring contract."

Some of the rules are subtle and involve office etiquette, such as only women are hired as administrative assistants, and those hired are white. "We have only had one

Hispanic administrative assistant since I have been here, and she didn't last long. I think she felt uncomfortable in the corporate offices," said Cindy.

Other rules involve the processes used for arriving and leaving the corporate office complex. For example, the main receptionist has a list of all the employees who work in the corporate offices. As each person arrives in the morning he or she is required to take the elevator to the top floor and "check in." One new member, Mary, was not informed of this and went directly to her office in the mornings of her first week there. After a couple weeks with the organization, her boss asked when she was getting in to work. She told him. He then said that according to the main receptionist, Mary had not been showing up until much later. This was how Mary became aware of the "policy" for checking in upon arrival. Mary said, "Oh, it's like any place you work – there are rules, and there are rules. It seems a little odd to me that I need to take the elevator one floor higher than my office just so the receptionist can see me. I mean, come on, I am a professional I think." Apparently the receptionist also recorded what time people left for lunch, when they returned from lunch, and when they left for the day.

The long-term members of the organization could skirt this aspect of the system, though. Mary described this situation:

I was speaking with my boss on 17 [the floor of the building] and went to take care of something. I came back to finish our discussion and couldn't find him anywhere. I checked with the receptionist who assured me he was still around. I finally gave up and went back to my office. The next day I asked him where he was. He just smiled and said, "There is no [corporate name] after 16." I finally

figured out that if you want to leave early you take the stairwell down to the 15th floor, which is leased space (*she laughed*). Its kinda ridiculous.

There is a sense that processes within the organization could be improved; however, there is not much energy surrounding making those changes. “They’re still using management practices that were available when they built-out their property. But heaven forbid you should try and change something that’s not broken,” said Mary. “We do need to change some of the ways we do things, but we got a lot of people who have been with us a long time and we need to be sure they’re onboard with the changes.”

Diversification Verses Sticking with the Roots of the Organization

A theme that emerged during most of the interviews, as well as during informal discussions with various members of the organization, was whether or not to diversify the organization’s holding or to continue to invest in and grow what had been the organization’s primary building block – property development. The following quotes reflect both sides of the concerns surrounding diversification:

Henry: We are no longer just a property management company. We are what I like to call us, a holding company. We have a lot of different things going on. You know we have a recording studio, car dealerships, some hotels, and all kinds of different things. And you know when you invest in different things sometimes they do well and sometimes they don’t. We just got to be ready and willing to cut when we need to.

Mark: Our roots are in property development. Do you want to see something really cool? Look out the window. Everything you can see we built, and much of

it we still manage. That's what we're good at, and that's what we should be doing.

More than anything, these quotes seem to reflect the loyalty employees feel to the organization and to a great extent the loyalty they have toward the memory of the organization's founder. These comments also express the cultural context for the foundation for the attitudes and behaviors of long-term employees.

Summary

The above discussion sets the context of the case organization. The organization is masculine in its presentation (even with the freshly cut flowers) and hierarchical in its structure. In many ways it is a new/young personality in a mature body. The change in management structure from authoritarian individual to an executive team is a major contribution to many of the tensions currently being experienced by the interview participants. To some extent the organization is still trying to develop a more fluid working relationship between the new leadership and the organization at large, and between long-term and new employees.

Research Question #1

The first research question addressed in this study is the following:

What strategies do the executive staff and other stakeholders of the organization employ in recognizing potential problems (threats, opportunities, or influencers) to their organization?

The interview information was transcribed, and the resulting text was examined for themes and categories. Initially the information was reviewed with a focus on

examples of problems expressed by the participants. The information collected was loosely categorized into groups suggested by systems theory – context, valid information, shared meaning, and relationships. Participant responses that fit comfortably into more than one category were included in all of the pertinent categories.

Context

Context was defined earlier as a social perspective that would include the organization's norms, values, and culture, as well as the norms, values, and cultures that make up the environment around the organization. The collected data begins to allow the systems theory foci definitions to take form in two ways. First, though context is unique to an organization, it is also somewhat fluid. Henry said, "In the business I came from we did things differently. There are some things I'd like to see changed because I think there may be better ways of doing them." This suggests that Henry has carried some aspect of the context from the organization he was with prior to coming to the case organization. Henry will at some point reconcile those differences in context. This also suggests to some extent that an organization's context can influence and be influenced by the context of other organizations. This idea is further supported by the following quotes: John said, "The consultant we hired showed us some things that were much different than we expected," and Mark said, "Sometimes we can change things. We look out and see our competitors doing things different – maybe not better, but different. So you say, 'Should we be doing that?' I don't always know what the answer is, but it gets you to thinking."

There are two aspects to the idea of context as fluid. First, individuals within any organization become immersed in the context of the organization, and as they move to other organizations they take aspects of the original context with them – such as “the proper way” to address an issue. When an individual makes a permanent move from one organization to another, he or she brings a sense of what the context for an organization should be like. The idea of what the context should be for an organization is one of the primary roles of a consultant. The consultant brings with her or him models of context that have been developed through experiences in a variety of organizations. Second, as organizations interact with other organizations, they share context. This sharing can be overt, as in the example of looking at what other organizations do, or covert. However, when sharing of ideas and concepts occur between organizations, context changes.

Another way the organized data better explains context is obvious but needs to be stated. Context is dynamic and changes constantly. This is expressed very clearly by the quote, “There are certain things you come to expect from this company. They’re what we always had. It was tough and sometimes you weren’t happy, but it was always fair. Now things are different, and I’m not sure what to expect sometimes.” The members of the case organization that had the most time within the organization were the most sure that context had changed. Their understanding of that change is important, as is their response to change. Some indicated that the change is not good and that the past had more stability; however, they also acknowledged that there has been a change, which impacts the way work gets done in the organization.

There is also evidence to suggest that some aspects of an organization's context do not change or change more slowly. Michael said, "We had bids out to develop software that addressed one issue, and then found out that the infrastructure couldn't support the software we were hoping to get developed." Michael went on to explain that not only could the computer system not support the software they had developed, but the data he had thought to be readily available was "...hard to find and hard to verify and, I think, not really a driving concern of [the organization]." Though the information system was technically up-to-date, the ability of agents to use and extract information from the system seemed to be tenuous at best. The technological aspect of the organization's context was more of a façade than an actual resource. This phenomenon suggests that an organization's context does not shift at a constant rate throughout an organization.

Valid Information

Valid information is used by an organization to understand processes and is a method for understanding the patterns that develop within the organization. In this study the case organization viewed valid information as numeric and very quantified, and was shared on a very limited basis. In addition, it is possible that some of the shared information is in code (for example, accountant spreadsheets, or building specifications that contain trade-specific language). There was little if any discussion about existing resources or available agents. Most of the valid information concerning the organization has centered on numbers and accounts. Additionally, information seems to be highly compartmentalized. I suspect that the compartmentalization of information is also a holdover from the founder. He was very much in control of the organization and kept

most of the corporate history in his head. While he ran the company, there was little need to share information, and sharing information was probably frowned upon. This hypothesis would also support the need to have some quantified information available in specific locations, but no other supporting documentation.

Michael expressed his concern:

The information flow was not what I expected for an organization this size. I expected I would get reports daily on some things, but found out that those things weren't reported at all, or were reported differently. It took me a while to figure out what was going on.

He went on to explain the problems with the computer information system the organization was using, but even with that, there was a lack of understanding of basic accounting practices. "And the processes are not consistent across the organization. Some areas are collecting and using detailed accounting information, and other areas are using a spiral notebook." He suggested that this was a reflection of the independence some groups had developed under the organization's founder. It also seems to reflect a lack of interaction between different groups within the organization.

Eric said, "We met to develop the specific cost figures we needed." This is typical of the participant's explanation of shared information. Jim shared a story of how he helped set up a venture capital process. "We would meet off-site. Basically, we would look over the opportunities, look at the costs, and then try to see if it looked like a moneymaker. If they did we'd write a check." Jim then rattled off a list of the opportunities they had underwritten. The bulk of the list was transportation or

construction-related ventures; however, to Jim they were simply a list of potential revenue streams. Jim's story also suggested a compartmentalization or "hiding" of information when he specifically said they met off-site to make their decisions.

The comment, "I wasn't able to understand how they could tell where their money came from and where it went," was made by a new member of the executive team, Henry. It reflects a sense that information is not just compartmentalized, but processes for sharing information are hidden to non-members of the organization. I think this may be a reflection of "dues paying" discussed earlier. The new member of the executive team is still an outsider and has yet to satisfy the long-term staff members that report to him. The staff reverts to passive-aggressive behavior until such time as a social leader suggests that the new member is part of the team.

A bi-product of compartmentalized information in the case organization may be that results from specific projects are hidden. "We started looking at the numbers and they weren't adding up. We thought that the project should be doing better, but the accounting spreadsheets showed something else," said Michael. He was discussing a residential development project that he was managing. He went on to explain that part of the problem with the spreadsheets was the way materials were requisitioned. His on-site supervisors would submit requests for materials or additional labor, which would go to one of the finance offices, and at some point, the materials would appear, or the approval for hiring would be approved. Michael tracked these costs on a spreadsheet. According to Michael, though, the finance offices did not record the costs the same way, and he

thought he might be paying for other labor or materials used elsewhere in the organization.

Bob was also managing a development project, but had considerably more experience in construction and with the organization. “The way I approach my job is to figure what we need, who can do it, and get them and the materials to the same place at the same time. Easy.” Bob said that he never looked to see if his projects were being successful. “Oh they’ll tell ya if there’s a problem. I just do my job. I’ve been at this for a while, so I just do what’s right, and let the bean counters sort it out (hahahahaha).”

Mark is also a long-time employee and involved in development projects as well. He also rarely looked at the financial success of individual projects. “I’ve been at this a long time. I know when someone is blowing smoke up my ass. And when someone’s blowing smoke I know I need to look into it. And when I do I can usually find the problem and what’s going on.” Though he made numerous references to revenue development and maintaining revenue streams, it seemed that most of his decision-making concerning project success was built on his personal relationships with the people working for him, as well as his personal observations of job sites. He added, “When they ask me about a project, I know where we stand. But unless I have a major problem, I just focus on my work.” Again, this suggests that information remains compartmentalized.

In terms of more clearly understanding the focus of valid information, the above analysis of data suggests several things. First, simply having information is not enough to make it valid. For information to become valid, it must be shared with other agents who then validate the information by determining its usefulness. Second, sharing and

understanding information are an important part of the problem-recognition process. When information is compartmentalized there is little opportunity for organizational leaders to understand what is going on in the organization. Third, there were both formal and informal paths for sharing information in the case organization; however, some of these paths reflected the old leadership of the organization and were ineffectual. The validation of information is closely linked to relationships, which will be discussed next.

Relationships

Relationships are interesting within the case organization. Relationships are the interaction between agents within, between, and outside of the organization over time, and shape availability of resources within the organization. The organization started out as a highly structured, top-down workplace with little need for meetings to discuss ideas or projects. Some parts of the organization are moving to a more collaborative way of doing things. “We are using teams to assess upcoming ventures and projects. This is kinda new around here as we never did much in the way of meetings,” said Bob. Bob went on to explain that the founder usually just made a decision, and there was no reason to argue. He suggested that the meetings were because the current leadership was confused about where to take the company. He also suggested that most of the organizational membership is in a “wait and see” mode concerning collaborative work.

The consultant that provided the researchers introduction to the organization had been working with the organization for close to one year, developing collaborative work models. Various members of the organization discussed the collaborative teams developed by the consultant. Most of these discussions were informal, with one

exception. One of the cross-functional teams that was developed by the consultant was focused on identifying the core values of the organization. Glenda, a secretary with the organization for about six years, was on the team.

We are doing some really good stuff. We meet about once a week, and we have a plan for documenting the culture of the organization. [Mrs. X] is the team leader, and she's been here for almost 30 years. She was going to retire, but Jim asked her to stay and take on this project. I like it because I'm getting to see more of [case organization] and meeting people who I would never have seen.

She went on to explain how they were going into every aspect of the organization and asking employees about the culture. She was not sure of the ultimate goal of the team; however, she seemed to think that the executives of the organization "had a plan" for the team. Glenda's story suggested that, like information, relationships have also been compartmentalized in the case organization.

There seems to be a direct relationship between available information and internal relationships. The members of the organization, in particular the long-time members, suggested in a variety of ways that one was given a job and one did it. Eric said, "We used to get told what to do, and we went and did it. Now we talk about some things a lot, and other things never get discussed. Those are the ones you have to watch because they're the ones that'll bite you in the butt." Eric went on to explain that in the past, "You did not ask questions, and you really did not ask questions about projects you were not involved in." Eric seemed to suggest that if an employee took care of his or her work, he or she could trust that others were taking care of their work. In other words, the only

relationship that was needed in the organization was trust of the founder. This reflected the compartmentalization problem with information discussed earlier.

However, the study participants also suggested that it was accepted practice to go outside of the organization for information. This may reflect a work around for finding information, not just about industry standards, but also for what is happening within the organization itself. Mark said, “I call on friends in the industry to get a feel for what they see going on. Sometimes there not even in the industry, but just friends and acquaintances.”

One of the executives focused on organizational relationships through much of the interview. “The biggest part of this job is to know how people are going to do what is asked of them,” he said. He went on to say that much of his time was spent speaking with organizational members about what they were doing. He acted as both an information and relationship filter for the CEO.

My role is to keep the conflict out of the meetings. If people have a problem with what they’re doing or with what I tell them to do then they need to come see me before we get into the meeting. I’ve told ‘em – I’ll fire anyone who either goes to the CEO without seeing me first, or who doesn’t do the project I assign them. (This participant actually said this same thing at two different times.) This statement seems to imply that there is still a need to maintain a hierarchically structured organization, at the same time that the executive team is giving indications that they are expecting employees to act collaboratively.

The analysis of the data concerning relationships also provides a better understanding of the focus relationships. In this organization, relationships seem to be constrained to specific projects; also, the organization seems to favor a top-down approach for communication flow. A top-down communication flow will not only constrain relationships, but will also hinder sharing of information. The above analysis suggests that in the case organization, there was an effort to constrain relationships, which is probably an artifact from the original organization.

When the founder ran the company, there was little need for sharing or validating information as the only person who validated information was the founder. The same concept holds true for relationships. The founder made all of the decisions concerning project staffing, so there was little need for other agents in the organization to have organizationally focused relationships. This series of ideas moves us back to context. When there was a single paternalistic leader for the organization, there was little problem related to inconsistency of context through the organization. In fact, when the founder was the director of the case organization, the context would have been project specific with little need for the members of different projects to share information or even know each other.

Shared Meaning

The study participants suggested that there are shared meanings within the organization in some areas; however, there is also data that suggest that the organization as a whole did not create shared meaning. Shared meaning is the collaborative interpretation and understanding of information between agents that is used to establish

the guiding principles, goals, and mission of the organization. Sharing leads to an understanding of patterns, events, new attractors, and old attractors at any one moment in time within an organization. It seemed clear that members of the organization thought that the organization stood for quality workmanship. Mark said:

We use 'A' quality materials and produce 'A' level workmanship on 'B' level property. At first you think this doesn't make much sense. No one else does it that way. The result is that our 'B' level properties are still turning a substantial profit 40 years after we built them out – most other people have gotten rid of theirs in about 10 years.

This message was consistently repeated by all of the study participants. However, there seemed to be little shared meaning beyond this understanding of historical value, with a few notable exceptions that will be explored later in this paper.

John, an executive with over ten years employment at the case organization, said, "We ended up doing a major re-structuring of several of our major divisions, and we're still not sure that we fixed the problem. And any more, I can't tell you what the problems were we were trying to fix." John was the only participant to discuss the reorganization. He was frustrated and said, "This was soon after [the founder] died and Jim called us [the executive team] together to talk about doing a re-org. [The consultant] was there and said that we needed to do this to become more effective. We were all busy so we just said yea." Apparently, the actual reorganization was conducted by the consultant and the President. John said, "I woke up one morning and things were different, but I'm still not sure what happened. Jim was happy, though." This example suggests that even at the

executive level of the organization, decisions affecting the entire organization are being made without complete investment or understanding by the executives – much like the founder would have acted.

Another aspect of the data that seems to suggest a lack of shared meaning within the organization concerns the observed activities of agents within the organization. Eric stated, “Sometimes people aren’t doing what I expect them to be doing. I’m never sure if I got it wrong, or they got it wrong, or we both got it wrong.” Michael said, “We started looking at who was doing what, and we realized that it wasn’t what we expected.” This information is interesting for several reasons. First, Eric is a long-time employee and Michael has only been with the organization for a couple of years, yet they were identifying the same phenomenon – shared meaning. Second, for many years the organization ran on the shared understanding that everyone did what he or she was told, as well as what needed to be done. It appeared that individual agents were not doing either.

Within specific areas of the organization, there seems to be an effort to ensure a shared understanding. For example, Mary says, “When I first got here I met daily with my boss and discussed many of my concerns and what I was seeing. He took the time to explain what was going on. It was really good of him.” This is very similar to an earlier quote from Bob: “The way I approach my job is to figure what we need, who can do it, and get them and the materials to the same place at the same time. Easy.” Bob was interested in ensuring that the people reporting to him understand not just the goal, but also the specific resources available to them.

Additionally, there was a decision made to "... only promote someone to managing a project if they have operational experience with us. We have fewer problems when we do that." This statement came from Mark, and he did not specify who had made that decision, but it is one method for helping to ensure that lower levels of the management chain are already indoctrinated in the culture of the organization, and by extension, have some idea of the broader shared meaning of the organization. In other words, they are doing business within the cultural context of the organization. Another strategy that was being employed to develop shared meaning was to ensure everyone had access to the same resources for decision-making. Jim said, "I told everyone to read the financial reports before we get together again. They have to know this stuff, because this is where we're going to find the problems. They need to know it." His understanding of the financial reports was that they held the keys to understanding the problems the organization was currently facing. His thinking was that if all of the executives understood the financial information, they would all make decisions that would be "right" for the organization.

Summary of Systems Concepts Analysis

The analysis of the focus, shared meaning, sheds more light on understanding the four foci of systems theory. The case organization was originally organized as a project-based organization, with different groups focused on accomplishing an assigned task; the founder created the vision and then determined the success of the task/accomplishment. The organization changed management structure but did not change how vision sharing and success were determined. Shared meaning, which was established by the founder, is

now a secret. With few paths for formal sharing of information or development of relationships, it is difficult for employees in the organization to develop a shared sense of understanding. In addition, it becomes more apparent that the organization has an inconsistency in context and is trying to maintain or move back to the context established by the founder, while also moving forward to a more collaboratively based context.

The above discussion begins to provide a better understanding of the foci of systems thinking and also begins to provide specific examples for better explaining the foci. In addition, the above discussion also adds some credibility to the framework being explored through this paper. One of the more interesting aspects of the above discussion is the image presented of a highly structured, linear organization that purposely attempts to control information flow and the development of relationships within the organization. These self-imposed constraints had meaning when there was a unique leader in the organization who managed the focus of the organization. With the organization attempting to move to teamwork-based project management, there is a need for the structure to become more open.

The interactions between the four system foci are very apparent in the above analysis. The foci are formed and defined by the interactions of agents and resources both within and outside of the organization. These interactions, and constraints placed on the foci, determine the level of shared meaning throughout the organization. For example, compartmentalization of information is closely coupled with the development (or not) of shared meaning. The organization's context and relationships within the

organization define the sharing and understanding of information, which in turn develop the organization's sense of shared meaning.

There seem to be some common links within themes, as well as across themes. The most important across theme concept is the dissonance or incongruence expressed by the participants. Dissonance could be seen in the participants expressing frustration for things like agents not doing what was expected, individuals not understanding how decisions were being made, things being done differently than expected, or agents not having the necessary information to make decisions.

The next step in further defining the See-Read-Act framework (see Figure 4) and completing the answer to research question #1 is to view the same information through that framework.

Analysis of the Data – See – Read – Act

During the interview process several story lines were addressed by more than one of the study participants. Reviewing these stories through the See-Read-Act model may provide insight into the problem-recognition process. As the stories were related from more than one source, the researcher will present quotes from the participants and then provide segues to the other quote so the stories have some continuity. The story lines that will be explored are the following:

- Apartment buildings and the Americans with Disabilities Act (ADA)
- Reporting financial information
- The mall: Refurbishing or selling
- Making decisions through consensus

Apartment buildings and ADA. One of the participants, Mary, discussed some of the things she encountered when she first started at the company. Mary was charged with managing, among other things, several multi-family housing properties and would be considered a “new” employee in the organization.

I had done this type of thing before at the executive level, so I know what I’m doing. Do you know that not one of the apartment properties was ADA accessible? I couldn’t believe it, so I tried to get started on getting that fixed right away.

Mary went on to discuss speaking with the different apartment managers about what needed to be done, but became frustrated as the apartment managers did not seem to see ADA non-compliance as something that needed to be fixed. In a separate interview, Mary’s direct supervisor Eric stated the following:

We do things a little different here. We take a lot of pride in our properties and always have them at 100%. We fix everything and ... we go the extra mile.

When a guy moved in with a wheelchair we went out and built him a custom ramp, changed the cabinet pulls, made sure he could get through the doors. You know – we were complying with federal law.

Mary also talked about working with her supervisor on ADA and other things. I haven’t been able to get the ADA stuff taken care of and I’m still trying to get the accounting systems automated, and the water on separate meters. What I’m finding is that there’s this attitude that if it’s not broken don’t fix it, and if it is broken we’ll not only fix, but the customer will feel like this is the best company

in the world to be with. It's frustrating to some extent. This is a company that does things its way and I think there's a certain amount of pride in that.

Mary's story reflects the See-Read-Act model in several ways. Mary identified a gap between her expectations of ADA compliance and the reality of the properties she was managing. In terms of the earlier discussion of context, Mary brought with her a specific understanding of ADA compliance, which seemed to be associated with her previous experiences doing similar work. Her expectation of compliance and the reality of compliance with the case organization represented a gap or, at least for Mary, a problem.

Mary made an effort to close this gap by bringing her understanding of ADA compliance to the apartment managers and her boss. This initial sharing of information would represent reading the problem. It would appear that neither her boss nor the apartment managers who report to her currently share Mary's identification of a potential problem – they do not perceive/See a problem. Mary explained in her interview, "...I cannot tell you the number of seminars I attended concerning ADA compliance. I think I know what I am talking about." Mary sees her understanding of compliance as valid information, and the validation for her has come from the "experts" who conducted the seminars. On the other hand, Mary's boss does not see a gap between the reality of the organization and ADA compliance. It is unclear where his validation of compliance comes from, but it comes from the culture of the organization itself. However, Mary's boss seems to imply that the organization knows best (paternalism), and has already developed a remedy for a "construction" related issue. This matched the values

established in the organization by the founder but also indicates an apparent blind spot in terms of management problem-recognition.

Reporting financial information. Henry had recently joined the company in a financial management capacity. He brought with him tremendous experience working with a multi-million dollar, privately held businesses.

I am used to working within privately held companies. They can do things a little differently than public businesses that have to be responsive to shareholders.

However, the bottom line is that you are still in the business of making money for the principals or owners of the company – in this case the trust. So I was a little concerned about what I was seeing in the accounting reports when I first got here.

Jim, another member of the executive team said:

We had a system in place for tracking expenses and income that we thought was pretty good and we all understood it. Then Henry comes in and really raised the bar. He started looking at our numbers and then we started looking at our numbers. So we ended up spending a lot more time looking at the financial reports.

I told everyone to read the financial reports before we get together again. They have to know this stuff because this is where we're going to find the problems, they need to know it. Here, look at it. We all need to get through these and understand them.

Henry said:

I started looking at what was available and realized that it was organized so that the individual manager could figure out what they were doing – maybe. I need to be able to get the numbers in a place where I could see what was happening for the whole company. I asked the other execs to give me a hand and they've been really good about working with me in it.

Jim added, “We are starting to see that the only person who really knew where everything was and knew everything we were doing was dead, and he tended not to share much when he was alive.”

A quote from Mary also seems relevant to this discussion:

I started looking at the, apartment managers, you know. And I thought I'd just get a quick look at their capacity, monthly expenses, that type of thing. I was appalled at what I found. Every complex used a different system, none of them were computerized, and all they did at the end of the month was report their net – over the phone. I still do not have a clue for a couple of the complexes.

Henry's experience coming into the organization and looking at the financial reports was similar to Mary's previously cited experience with ADA compliance. Henry had a frame of reference for what the financial reporting process should produce that was developed in a context outside of the case organization. The gap between his understanding and the reality of the case organization represents a potential problem (similar to Mary's ADA compliance gap/problem). Unlike Mary, Henry does not report to a “boss”; he is a peer with the other organizational executives, and he is male. Henry is able to present his potential problem to his peers and then is able to produce evidence

to support or validate his potential problem. Unlike Mary, Henry is able to bring a portion of his prior context into the organization and integrate that context with the context of the case organization. He is then able to move forward with Reading the problem at a faster pace than Mary as he is dictating the path for validation of the financial information and, in effect, Reading the problem for the other members of the executive team. Thus, problem recognition in this case hinges less on a shared sense of Seeing the problem and more on a shared sense of Reading the problem.

Henry had the following to say:

We reached a point where we [the executive team] realized the extent of the problem and I was able to bring in some of my people from [former employer].

This is helping a lot, as I do not need to re-invent the wheel with them. I can turn them loose on different parts of [the case organization].

Henry's problem is interesting. He was able to take the case organization from Seeing a problem, to Reading the problem, to Acting on the problem in a short period of time (less than 3 months). This may be a reflection of his position in the organization and indicate that the "problem" was outside of the problems the organization had focused on in the past. Specifically, this organization set great pride in its ability to manage any problem that could be couched in terms of construction. The organization also seems to value males over females. Henry, a male, brings forward a problem that is not construction-related, and by doing so, introduces a new aspect into the organization's context. He then proceeds to develop valid information around the problem as a part of building relationships with the other members of the executive team. He achieves shared

meaning around the problem and then is in a position to bring agents and resources to bear on the problem. In other words, the problem is now being acted on and has become an attractor within the case organization. In addition, Henry brings the problem to the executive team on a regular basis, so they can again See and Read the problem, and understand how the problem shifts with time, as well as provide an understanding of the agents and resources surrounding/acting on the problem/attractor.

The mall: Refurbishing or selling. One of the study participants, Bob, had been with the company for thirty years. Most recently, he was in the process of managing a multi-million dollar retrofit of one of the larger company-owned properties. The decision to retrofit the property seemed to be an issue of contention, even though the decision had been made at least one year prior to this study. The processes for deciding to take on this project apparently took several years. Bob said the following:

I think that the mall project is really important for the company. We need to have good solid income generators, and the mall was the first really big thing [the company] built. When we were first talking about what to do with it [the mall] some people actually wanted to sell it. We've [the company] never sold property that I know of.

In a separate interview Mark stated:

I can tell you that the retro of [the mall] was and still is one of the hardest decisions this company ever made. [The company] always prided itself on the quality of its properties, and the mall was getting really run down and seemed out of date. One of our anchors left. An anchor is a primary store that anchors the

smaller stores in a given location, such as a mall. Typically, an anchor does not provide a revenue stream for the owners of the mall. A lot of the old-timers wanted the retrofit, but some wanted to sell it and move on to other things.

Eric added the following to the decision-making discussion:

We did a lot of research and a lot of talking. You know we're talking \$150 million bucks – estimated. And there's nothing that says you'll get that back.

That's taking a big hunk out of the family's trust. I've been here for over twenty years, and my father retired from [the company], so I can tell you it wasn't easy, but I really thought we should sell.

I think it [the final decision] was more than just the money. I mean you look out of any of the windows on this side of the tower, and the first thing you see is the mall. It's a part of our identity. I'm still not sure that they made the right decision, but it's certainly a better decision than some others I've seen around here lately.

Jim also mentioned the mall retrofit:

We made the decision we had to make at the time. We did it mostly for the [family's] trust, but also because the mall is a flagship for us. When people see the mall, they think of [the company]. We landed a new anchor, and we may even get another anchor. We're getting the demographic we want to get, and mostly the community likes it. We've gotten great comments from them.

Bob stated:

I'll be managing the retro and build-outs until I retire, so I have a personal stake in what [the company] does with the mall. That being said, I think the turn around is already starting to show, even with the economy being down.

Have you been over there?

Researcher: "I was over for lunch today. I really liked the merry-go-round; it gives kinda a European flair."

Yeah. The merry-go-round was [the new CEO's] idea. That was contentious. It just came out of the blue – he was over there one day with his kids and wife and I guess decided we needed a merry-go-round. You know it's free for the kids.

They love it, and I think it'll pay for itself. It was pretty much the only time I've seen [the new CEO] get involved in a project [chuckles].

Unlike the first two examples, which were problems identified by newcomers to the organization, the mall retrofit seems to have been a problem that was identified by long-term agents of the organization. It appears that more than one employee began to see the mall as a liability to the organization as John's statement illustrates:

Yeah that's what you should look at for an example of problem solving. It was amazing what we went through. I guess we had been talking about it for a while but like in hallways or informally, and then someone said we should sell it. I think that was the catalyst for us deciding to make a decision.

Even the informal participants made comments about the retrofit, and several had suggested I visit the mall to see the work being done. There was considerable organizational excitement surrounding this project.

The seeing/identification of this project seems to be related to the members of the organization having similar concerns about the mall, and as they voiced these concerns, they found shared meaning with others. Apparently, there was even shared meaning with the tenants of the mall. “I thought the hardest thing to do would be to get people to shut down their businesses while we renovated. Instead, they worked with us to figure out a way to rotate through some of our unleased space. A few left, but most are still here,” said Bob.

The seeing and reading of this potential problem seemed to orient around two things. First, there was a perceived gap between the ideal of a flagship property and the actual condition of the mall. The mall is an obvious point of pride with the organization, so its continued existence seemed to be tied closely with the organization’s spirit and values. Second, there was a perceived gap between the potential for a high-quality revenue stream, which the mall represented, and the frailty of that revenue stream as demonstrated by one of the anchors leaving. The more discussion the organization’s members had around these topics (validation of information), the more shared meaning (reading) there was of the potential problem. As shared understanding grew, the need to close one or both of these gaps also grew, until a decision was made. The most challenging aspect of the retrofit in terms of reading the problem seemed to have been addressing both of the above gaps with one solution.

An interesting aspect of this problem was the level of commitment made by the organization to do the refurbishment. Several members of the organization described the mall as the flagship property. The impression I have is that there was always a sense of

pride in the organization that they had built and owned a mall. However, the use of the term flagship seemed to be a new way of looking at the mall. At some point as the organization's agents were moving between seeing and reading the problem represented by the mall, someone introduced a new value into both the context of the mall and the context of the organization – flagship. The term flagship changed the way the agents read the problem and, more importantly, represented a shift or manipulation of the context of the organization.

Making decisions through consensus. The final issue that was discussed by more than one participant was the perceived change from authoritarian decision making to consensus decision making. “We have an executive team that gets together every week. My job is to make sure that the meetings run smoothly and that there's no dissension or arguments,” said Jim. “The point of the meetings is to make decisions. I told everyone to read the financial reports before we get together again. They have to know this stuff because this is where we're going to find the problems – they need to know it.

We all make decisions, but if I tell someone I want something done, and they go behind my back, they're out of here. Its simple; our executive meetings are for us to know what each other is doing and what's going on in the company. It's where we make the decisions on where [the company] is going. My role is to keep the conflict out of the meetings. If people have a problem with what they're doing or with what I tell them to do, then they need to come see me before we get into the meeting.

Bob said, “We used to get told what to do, and we went and did it. Now we talk about some things a lot, and other things never get discussed. Those are the ones you have to watch because they’re the ones that’ll bite you in the butt.”

Mark mirrored this sentiment:

We are using teams to assess upcoming ventures and projects. This is kinda new around here, as we never did much in the way of meetings. Now it seems that all we are doing is talking.

I think a lot of the tension in [the company] is from this huge change in leadership. Instead of being run by a dictator, we’re being run by committee. I think it’s hard for people to get used to the change. Oh, eventually they will, but right now I think some people are having a tough time with the change, and I think we’re going to lose some good people because of it.

Mary stated the following:

I’m pretty happy here, but one of the things that really bothers me is that I don’t always get told why some decisions get made and who’s making them. I’m used to working at a different level of the organization; you know a higher level, so I knew why we made decisions. But here I am not part of the secret meetings, so I don’t know what’s going on. I get the feeling that my boss doesn’t either.

The participant discussion surrounding authoritarian versus consensus decision making is interesting. Though the participants are vocalizing concern about a change to decision making by committee, it is not clear that this is the actual problem. It seems more likely that the gap is between a need for a clearly defined and recognizable

decision-making process compared to the reality, which is (at best) a murky decision-making process. None of the participants commented on having discussions with peers around the issue of decision making, yet many of the participants commented on how decisions having been made. Even the executives did not talk about any actual decisions being made, even in their executive meetings, which were supposed to be specifically for making decisions.

It seems that the decision-making process is still of concern to members, but that concern has not reached a point of mental distraction that is required for vocalization to other members of the organization. In other words, though there seems to be concern over the need to have a decision-making process that everyone understands, there are other, more pressing concerns in the forefront. At some point in the future, the issue of clear decision making may become important enough for the members of the organization to develop shared meaning around it, but for now, it is an unrecognized attractor in the organization.

In terms of the See-Read-Act model, moving to a consensus-driven organization is interesting. The problem has emerged through the relationship focus of the systems theory framework. The participants are Seeing a potential problem and are beginning to articulate that problem to the researcher through the interviews. There are indications that the participants are also starting to articulate the problem to each other as a beginning of the Reading of the problem and as a way of validating their understanding of the problem. The statement by Jim concerning firing people who go behind his back has as

much to do with gate-keeping and control as it has to do with a tacit recognition of the organization being out of equilibrium, and Jim being uncomfortable with the instability.

Summary of See-Read-Act Analysis

The above vignettes begin to provide some examples of how problem recognition relates to decision making within the case organization. As with the first analysis of the data, there are similar themes represented. The most obvious theme is the sense of dissonance within the participants and between the participants and other members of the organization as defined by the gap between ideal and reality. This dissonance seems to be key to the recognition of problems, and a catalyst to the eventual decision concerning the problem. It is also clear that the dissonance does not necessarily go away even after a decision has been made. In fact, it appears that the dissonance remains and acts as something of a touchstone through the entire problem-solution process. It is also clear that individual dissonance alone is not enough for an action to occur. It seems that dissonance must be shared before action can be initiated.

The vignettes also suggest that the participants moved back and forth between the See-Read concepts of See-Read-Act multiple times before moving to action, and even after moving to action. Moving between See and Read supports the concept of an individual working through dissonance, and is similar to the concept of cognitive dissonance developed by Fessinger (1957). According to cognitive dissonance theory, there is a tendency for individuals to seek consistency among their cognitions (i.e., beliefs, opinions). When there is an inconsistency between attitudes or behaviors (dissonance), something must change to eliminate the dissonance. Dissonance theory

applies to all situations involving attitude formation and change. It is especially relevant to decision making and problem solving.

Dissonance occurs most often in situations in which an individual must choose between two incompatible beliefs or actions – in the above examples the incompatible beliefs are the gap between ideal and reality. Individual attitude change is more likely in the direction of less incentive since this would result in lower dissonance. In this respect, dissonance theory is contradictory to most behavioral theories, which would predict greater attitude change with increased incentive (TIP, 2003). To some extent the participants in this study are wrestling with personal dissonance. However, resolving this personal dissonance requires creating a shared meaning around the dissonance or creating group or organizational dissonance.

According to Miller, Crabtree, McDaniel, and Strange (1998), systems theorists define agents as not just the individual who is a member of the organization, but also any cluster or node of individuals that has a uniquely defined role. This definition can be used to explain the in-group and between-group dissonances expressed in the vignettes.

This discussion can be taken one step further to reflect Argyris and Schon's (Anderson, 1997; Argyris & Schon, 1974) concept of organizational congruence. As discussed earlier most problem-solving models are based on the work of Lewin and the idea that there is a perceivable difference between what the observer expects and what the observer finds (Figure 1) – in other words the gap between ideal and reality. This difference is referred to as incongruence and becomes the focus of the problem solving

process. In other words, the “problem” to be solved is incongruence, and the desired result is congruence.

Interpretation of Data Analysis

The first research question of this study asked, “What strategies do the executive staff and other stakeholders of the organization employ in recognizing potential problems to their organization?” This is a difficult question to answer. There are some overt formal strategies in place within the case organization that have been defined by the organization as problem-recognition events – for example, the weekly executive meetings or the processes put in place for collecting accounting information. However, the analysis of the participants’ responses suggests that the decision makers within the case organization are more prone to use informal methods for identifying problems, generating consensus, and moving to action on those problems.

The analysis of the information also suggests that participants may have a preferred focus for identifying problems, as well as a preferred method for getting to action. Table 2 presents a description of the strategies demonstrated through the analysis of the transcripts. The table presents a definition of participants’ explained activity in the four foci of systems theory and the first two steps of the See-Read-Act model. Only the first two steps of the See-Read-Act model are included in this table as it appears that problem recognition occurs as a product of recognizing a gap or dissonance (Seeing), sharing the dissonance (Reading), receiving information from others (validating information), and eventually achieving some level of shared meaning. At this point agents move to action.

Table 2 – Strategy matrix of problem recognition framed by systems theory foci and the first two parts of the See-Read-Act model.

	See	Read
Context	Environmental dissonance/ incongruence identified between individuals and groups within the organization, and in relationship and interaction with other organizations.	Explaining the incongruence through comparisons with other environments or explanation of current environment. Some importance may lie in understanding or identifying new patterns.
Relationships	Seen in relationships expressing dissonance in met expectations when expectations are based on shared experiences. This may also include hearing messages from one's network that are dissonant to one's expectations.	Discussions of shared experiences or story telling to identify dissonance in shared experiences.
Valid Information	Credibility of information provider is questioned. Dissonance in source and validity of common fact-based information.	Establishing validity of data and other information. Determining other sources of information and resolving conflicts in information.
Shared Meaning	Expressions of goals differ. Organizational energy is moving differently than expected.	Explore differences in meaning, identify points where dissonance may occur, and identify possible dissonance resolution.

The third step of the See-Read-Act process addresses action. Typically participants viewed this in a very straightforward manner. Something happened. The actions identified by the participants were similar to those identified in earlier sections of this paper and in Figure 4. Action seemed to be less important to these participants than managing their perceived dissonance or incongruence.

The view that action may be less important could be because all of the participants in this study already knew how to Act. In other words, they have many models of acting on their surroundings and a framework for what actions will be appropriate in a given situation. This rationale would suggest that the first two concepts – See-Read – are more unique to the participants than the Act concept.

However, having said that action is less unique, it seems that once an action is instituted, agents still have a need to ensure that the action will indeed resolve their dissonance. Agents continue to See and Read the problem as the action is implemented. This is demonstrated in the data in several ways. The most obvious is the example set by the founder. In the original organization he was the only member in a position to be able to resolve dissonance. He did this by regularly conducting check-ins of his properties and developing lists of problems to be addressed by subordinates. This process was adapted by the senior managers, who all indicated they regularly visit their project sites to “track the progress” of the project.

Argyris and Schon (Anderson, 1997; Argyris & Schon, 1974) discuss the processes involved in tracking problems as solutions are applied to those problems.

These authors all suggest that tracking solutions as they are implemented is critical to ensuring that the solutions actually close the gap for which they were designed.

Research Question #2

The second research question addressed through the data collected from participants of the case organization is the following:

Are there distinct patterns or hierarchies of problem-recognition strategies based on situations used by the organization's executive staff?

Analysis of the participants' responses suggested that there is not a hierarchy to problem-recognition strategies. However, there may be preferences for using a specific systems-theory focus as a lens for seeing and understanding potential problems. For example, the CFO was very clear that problem recognition was a function of valid information:

I know when there's a problem. (*He handed me a stack of spreadsheets.*) It will be right in there. This is where problems always show up first, and if we have good systems in place for monitoring cash flow within the organization we won't get blindsided by problems any more.

The CFO's inclination to identify problems through a specific process may represent the method of problem recognition he learned in the various organizations within which he worked, or it may be a reflection of what he learned in school, or a combination of these two concepts. Problem-identification preferences may be a learned preference for identifying initial dissonance. The following are more examples of problem recognition from different systems-theory foci.

Two of the study participants could be considered new, and each of them began articulating potential problems by comparing the context of the case organization with the context of the organization they most recently left. Both of these participants then moved to another systems-theory focus to further articulate (See) the potential problem. Using a comparison between context in discussions may be a process new employees use to help them understand their new context.

Mary said, “In the business I came from, we did things differently. There are some things I’d like to change, because I think there may be better ways of doing them. I asked the apartment managers about some of these things, but they just said this is how we do things.”

Henry said the following:

I am used to working within privately held companies. They can do things a little differently than public businesses that have to be responsive to shareholders.

However, the bottom line is that you are still in the business of making money for the principals or owners of the company. So I was a little concerned about what I was seeing in the accounting reports when I first got here.

A couple of participants used a relationship focus to seeing potential problems. These participants were described by the other study participants as “real people persons.” Michael said, “I call on friends in the industry to get a feel for what they see going on. Sometimes they’re not even in the industry but just friends and acquaintances.” Michael is also one of the newer members of the case organization.

Jim said the following:

When I really want to know what's going on, I look around and try to talk to the people I know here. Some of these people have been with us for thirty years Mr. [the founder] used to jump in his truck and just drive from job site to job site to see where things were and how they were progressing.

Jim is definitely focused on relationships for identifying problems and on context for making sense of process.

Three other participants tended to stay in the valid-information-focus area for describing potential problems – one of these was an accountant and the other a project manager. He said, “We started looking at the numbers, and they weren't adding up. We thought that the project should be doing better, but the accounting spreadsheets showed something else.”

The other information-focused participant was Mark, who said, “The way I approach my job is to figure what we need, who can do it, and get them and the materials to the same place at the same time. Easy.”

Cindy, one of the attorneys on staff said the following:

I come into work, pick up a folder from the pile, and start working on whatever issue is presented. I don't really worry much about which case is on top as my assistant is very good at prioritizing them. For me it is simply look at the case and do what ever needs to be done, then I go home.

Two of the participants provided richer descriptions of potential problems. Their approach to describing the potential problem was to use three or four of the system foci to See with and then move to the Read aspect of the model. These two participants also

seemed to have a more balanced view of the organization and the current challenges facing the organization.

Michael stated the following:

The information flow was not what I expected for an organization this size. I expected I would get reports daily on some things but found out that those things weren't reported at all or were reported differently. It took me a while to figure out what was going on.

Michael discussed some of the problems he had in getting good information and how he went about developing relationships outside of his group to get the information he thought he needed.

Mark, a long time member of the organization stated the following:

I looked at what we were doing as a division, and then I looked at where I thought we should be, and the two didn't lineup. So then I started asking [the COO] what was going on and what they were doing. I even tried to figure out if we should be doing things differently.

Mark went on to explain that he thought most of the problems he was currently having were related to process changes in other parts of the organization that were not well documented.

The above excerpts suggested that participants had a preferred systems theory focus for initially seeing a potential problem. Some participants used multiple foci, and others used only one. New employees may have a preferred focus but initially begin seeing potential problems through the context focus.

Research Question #3

The third research question addressed through the data collected from participants of the case organization is the following:

What type of decision making do the CEO, the executive staff, and other stakeholders use when recognizing and solving complex social problems?

This was an interesting question, seemed to be a logical extension of the two prior questions, and relates directly to the work of Mumford, et al. (2000). Mumford suggested that the higher an individual moves in an organization, the more apt he or she is to find himself or her self addressing problems outside of the formal structure of the organization – specifically, addressing complex social problems. However, theory does not always translate cleanly into practice. The challenge with this question was the assumption that the organization’s members viewed problems recognized outside of them as having a social context that was different from the context of the organization. The decision makers in the case organization assumed that if they were defining and making a decision about a problem, then that problem was a part of the context of their organization. In other words, the assumption the decision makers were making was that they only addressed problems that had a direct impact on their organization.

According to Ollhoff and Walcheski (2002), “...in a complex adaptive system, the boundaries are often blurry. It is sometimes impossible to tell what is part of the system and what is not part of the system.” This is probably the issue with the case organization. In fact, one of the more senior study participants said, “Unless someone tells me different, if I find a problem I’m going to work on it.”

During the interviews participants seldom discussed the types of decisions they made. When pressed to explain a decision, such as deciding to refurbish the mall, participants simply said, “We decided to do it.” There was little or no explanation as to what “we decided” meant. There was a sense that the decision making was much less important than identifying and understanding the potential problem.

It is also possible that participants have many models available to them to move to action. They may also have a set of actions they typically use. For these individuals it is more important to understand the uniqueness of the situation and then select what they would consider to be the correct action.

Summary of Results

The data collected from the study participants in the case organization provided a rich source of information for answering the three research questions posed by this study:

1. What strategies do the CEO, the executive staff, and other stakeholders of the organization employ in recognizing potential problems (threats, opportunities, or influencers) to their organization?
2. Are there distinct patterns or hierarchies of problem-recognition strategies based on situations used by the organization’s executive staff?
3. What type of decision making do the CEO, the executive staff, and other stakeholders use when recognizing and solving complex social problems?

The results of the data analysis of the first question produced a matrix for explaining specific strategies used by the study participants for identifying potential problems. The matrix utilized the four main foci of systems theory – context, valid

information, relationships, and shared meaning – and the first two aspects of the See-Read-Act model to develop a matrix. The problem-recognition matrix provides an explanation for each specific combination of systems theory foci and either See or Read.

The analysis of the data also provided a better understanding of each of the systems theory foci. The four foci are closely related to each other, and changes in focus will affect the other foci. Context is more completely defined by understanding that individual agents can influence the context through challenging or questioning the existing context. Agent challenges can come from comparing current context to experiences in previous contexts, or comparing current context to past context within the same organization. For information to be valid, it must be shared with agents who are able to apply the information to the current context of the organization. Information that is compartmentalized (i.e., not shared) is not validated and is also not used in problem recognition or for problem solution. The challenge of compartmentalization is also problematic for relationships. When relationships are constrained through an organization's hierarchy, information flow/sharing is also constrained, and problem recognition is limited to intact work groups. To some extent the case organization's constraints on relationships and sharing of information probably retard the ability of the organization to come to shared meaning. This was demonstrated in the process of trying to decide what to do with the mall. The many challenges associated with the mall were not evident and only emerged over time. Individual dissonance slowly emerged into a shared dissonance, which then evolved into a shared meaning within the organization,

and provided an attractor for agents and resources both within the organization outside the organization associated with the mall.

The case organization's mall problem also exemplified the See-Read-Act process. The data indicates that part of the process for recognizing problems is based on being able to first identify or See a potential problem, then understand or Read the problem, then have the opportunity to See the problem again from a different perspective, then Read the problem again from the new perspective, and continue moving back and forth through See-Read until a shared dissonance is achieved. For an organization like the case organization that is hierarchically structured and has few formal paths for communicating between groups, the See-Read process takes some time to evolve and probably results in some parts of the organization having a high level of shared dissonance before other parts of the organization ever realize there is a potential problem.

The second research question asked whether there are distinct patterns or hierarchies of problem-recognition strategies based on situations used by the organization's executive staff. The analysis of the data suggests that there is not a specific hierarchy, but there do seem to be preferred strategies for recognizing problems. An examination of the participants' descriptions of a recognized problem suggested that they have a preferred-systems-theory focus that they use for identifying problems. Those participants who use multiple foci for recognizing problems were clearer in their descriptions of the potential problems. Though Sorenson's discussion of the processes engineers use in optimizing engines is hierarchical, it is similar.

The third research question asked what type of decision-making do the CEO, the executive staff, and other stakeholders use when recognizing and solving complex social problems. An analysis of the data did not find a clear answer to this question. The participants for this study did not discuss any problems as being social problems. From their perspective the problems they were dealing with were all “obviously” organizational problems and a part of the organization.

When an organization is examined through a systems-theory perspective, any problem faced by the organization is in some way directly linked to the organization. The best example, of this from the data was again the discussion of the mall renovation. In that example one of the problems facing the retrofit manager was how to best work with the tenants. But (to the manager’s surprise) both the case organization and the tenants considered themselves a part of the problem and worked together to determine a solution. From a systems-theory perspective, the edge of the system is always fuzzy and moving. A problem that initially appears outside of the organization will soon become a part of the organization.

Everything about business comes down to PEOPLE. Where in business can we escape the impact of human care, human creativity, human commitment, human frustration, and human despair? There is no reason for anything in business to exist if it does not serve the needs of people. – Bruce Cryer, Re-Engineering the Human System (a conference presentation).

SECTION FIVE: DISCUSSION and RECOMMENDATIONS

This section of the dissertation will discuss the relationship between the results of the research and the theoretical concepts presented at the beginning of the paper, present recommendations for future studies, and make recommendations for applications of the results to organizations. However, before taking a close look at the results of this study, it is important to look at the conceptual framework that drove the research.

Initial Conceptual Framework Developed for this Study

The initial conceptual framework developed for this study was based on the relationship of systems theory to a model of problem recognition called the See-Read-Act model. The See-Read-Act model itself was presented graphically in Figure 4. Figure 4 provided the researcher with some ideas about where to look for information within an organization and ideas of how to focus the interview questions. The elements included in Figure 4 were pulled from current leadership, problem-solving, and decision-making theory in the literature.

When the model was first developed, it was hypothesized that executives made clear unambiguous decisions concerning identified problems. There was an expectation that those same executives came to their jobs with certain well-defined competencies and attributes. The researcher also assumed that not only are there constraints on the

activities and decision making of executives, but that the executives would be, at least to some degree, aware of those constraints.

The results of this research seem to suggest that this model is not completely accurate. The three verbs that form the model, See-Read-Act, seem to apply and were all, to some extent, presented in the participants' dialog. See-Read are much more important to the participants in this study than Act. The executives understood the concept of constraints but seemed not to pay much attention to constraints or were unaware of constraints until they ran into one. Decision making and problem recognition seemed to be fuzzy at best. Decisions were made by informal consensus more than by specific individuals. Problem recognition seemed to be closely aligned to informal consensus surrounding a perceived gap in reality and an ideal state.

The original model was based on studies that tended to be much more strongly quantitative in nature, and this may be why this study identified differences in the manner in which executives make decisions. When a study participant is given a finite number of choices, it is much harder to tease out ambiguity. Many of the studies available on executive problem solving and decision making were done within rigid hierarchical organizations such as the U.S. Army; these organizations are generally organized to respond to a dictated problem as opposed to defining a problem.

A new graphic depiction of executive problem recognition will include See-Read separated from Act and the high level of interaction that occurs between the See-Read concepts. In addition, the new model must include dissonance as a prelude to strange attractors. It is possible that constraints are simply a form of strange attractor; however,

because the study participants were (for the most part) unaware of constraints within the organization, this idea will require more study. Finally, it will be important to depict the role of the executive as an individual in relationships both within his or her organization and with members outside of his or her organization. To a great extent, relationship defines the information that is available to the executive, and the executive validates that information.

Theoretical Implications of this Study

The interpretations of the results of this study have implications for a number of theories and research foci including systems theory, leadership, problem cognition, and organizational dynamics.

Systems Theory

This study used the concepts of systems theory as defined by Wheatley (2001) and Mink (2000) as a framework to both build from and explore. The foci of systems theory can be used as a frame of reference or set of lenses for examining organizational behavior, and using the foci as lenses can provide insight into the operation and process implementation of an organization.

Dissonance. Dissonance is clearly related to participants determining that a potential problem exists. This supports Fessenger's (1957) concept of cognitive dissonance; however, dissonance also seemed to exist around not only potential problems, but even after problems had been acted on and shared by agents across the organization. For example, when the case organization moved forward on the renovation of the mall, the problem was defined through an understanding of the dissonance

experienced by several members of the organization. These members of the organization exchanged information and validated information concerning a problem until such time as the gap between reality and ideal was clearly understood. The initial sense that something was not correct would be “seeing” or cognitive dissonance; the discussion of the dissonance with co-workers is the human motivation to resolve the dissonance (Fessinger, 1957), which in our model is the beginning of participants “reading” the problem. Reading is also the process the group uses to exchange information and to determine which information needs to be validated. Finally, the participants, around the concept of dissonance, which allows action to be taken, develop shared meaning.

Dissonance seems to have characteristics that are similar to the strange attractor concept discussed in section two, especially when it develops shared understanding among co-workers. Dissonance affects the activities of agents and resources in an organization and helps to create patterns within an organization. Recent research (Dietz & Mink, in press) has suggested that strange attractors develop or focus energy from agents and resources. Part of this energy may be the dissonance perceived first by individuals and then by groups around potential and actual problems experienced with the organization.

Context and shared meaning. The systems-theory foci of context and shared meaning seem to be double-edged swords. Participants who were new to the organization were able to identify problems that were not obvious to participants who had been with the organization for longer periods of time. The two examples from the data that highlighted this were Mary’s concern with ADA compliance and the finance

manager's concern with tracking funding streams. Both of these participants seemed to be trying to fit an alternative context into the context of the case organization, and both seem certain that the shift in the context of the case organization will produce a change for the better. For both Mary and the finance manager, the biggest challenge is to get the other members of the organization to recognize the dissonance they are experiencing as valid, and then share in that dissonance.

When organizations take on new members, there is often an effort made by both the new employees and the employer to get the new employees on "the same sheet of music" as the rest of the organization. But this may reduce some of the value the new employees bring to the organization. If an organization is concerned with identifying potential environmental or contextual problems, it may be in the organization's best interests to have some new employees move into the organization's context more slowly and use the new employees to help identify potential contextual problems.

To some extent this is one of the strengths that external consultants bring to a client organization. Consultants come into an organization with a limited understanding of the specific context of the organization they are serving, but with some understanding of other organizations' contexts. That understanding is based on the consultants' past experiences and the consultants' initial interactions with the contracting organization. Consultants are able to point out contextual challenges or differences that would not be evident to members of the organization who have been in the organization for any length of time. This is very similar to the ability of new employees to see differences between their past experiences and their current experiences.

Shared meaning is also problematic in terms of problem identification. Meanings change with time and situation (Mink, 2004). Shared meaning can be looked at as the glue that holds the organization together. Shared meaning is developed through one's understanding of the context of the organization, relationships with other agents within the organization, and the information that is shared through the organization. As situations change, meaning changes, and the more flexible the organization is, the better understanding there is of the shifts in meaning throughout the organization. When problems are identified through the focus of shared meaning, it is usually because one or more groups/agents within the organization have been less flexible in their interactions with the agents or groups who are shaping a new meaning of expectations for the organization.

Connectedness. The results of this study further reinforce the connectedness of the four main focus areas of system theory (context, relationship, valid information, and shared meaning). For instance, when participants used two or more foci to See a potential problem, they were better able to articulate the problem or the dissonance they were experiencing.

An agent's ability to See through multiple systems lenses can be a great advantage in terms of organizational decision making. Additionally, having an executive team whose members reflect being able to See through all four systems foci may aid that team's ability to recognize potential problems.

Leadership

In this paper leadership has been defined as “...the process of influencing others to understand and agree about what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives (Yukl, 2001, pg. 7).” The results of this study point to a new aspect of leadership that is in alignment with the definition of leadership. A leader should be able to articulate potential threats and opportunities to the organization or to groups within the organization, and to receive feedback from other agents in order to influence others and to facilitate individual or collective efforts.

Strengths. The results of this study also suggest that there are different strengths that a leader can leverage in order to recognize problems. A primary strength a leader needs is to be able to recognize problems early. And one method for recognizing problems early is a breadth and depth of relationships both within, and outside of the organization.

Depth and breadth of relationships help a leader recognize problems in shared meaning and determine the validity of information. The more interactions a leader has with agents within the organization, the better the leader will be at identifying potential problems associated with shared meaning, and the more depth those relationships have (shared experiences), the more likely the leader is to recognize “someone blowing smoke up” his or her behind. Depth of relationships also provides the leader with multiple avenues for determining validity of information.

Depth and breadth of relationships would also be important in terms of recognizing contextual friction between systems. The more interaction a leader has with industry peers, vendors, and customers (breadth of relationships), the more opportunity a leader has for identifying non-permeable boundaries that are preventing the organization from functioning effectively.

Competencies. As stated in the beginning of this paper, an area of research that seems to have a high level of energy from researchers and practitioners is the development of leadership competencies. Many of these researchers agree that well developed problem solving abilities are a characteristic that is highly valued in current and potential leaders. However, there are no competency studies that have discussed the need for problem-recognition skills in organizational leaders. Though there is obviously a need for further study, it seems that good problem-solving skills cannot be effective if an organization's leadership is not able to both identify and define potential problems.

Problem Cognition

Mumford et al. (2000) say that problem solving is an aspect based in part on an individual's experience solving problems and the development of problem cognition, or a mental framework that allows one to more readily construct solution scenarios after exposure to a complex problem. To some extent, this research supports Mumford's findings. However, part of being able to develop solution scenarios for problems may lay in how the problems are articulated. If a potential problem is presented through a systems theory focus lens that is not the typical lens a problem solver views problems through, then it is possible that the problem will not fit into the problem solver's problem

cognition. In other words, the problem solver will not See the problem. This is a particularly common challenge for new, young employees who are regularly asked, “How could you not *see* the problem?” The answer is, they truly could not *see* the problem because they had not yet learned to *see*. Mumford’s model for problem solving assumes that everyone will See the problem as a problem and will address it as such.

Organizational Dynamics

The results of this study have direct application to studies of organizational dynamics. In particular, there is application of these results to research in organizational structure and organizational effectiveness.

Structure. Earlier in this paper the Nine Windows Open Organization Model (Mink, Owen, & Mink 1991) was presented as both a model for looking at organizations and as an assessment framework for looking at organizations. The Nine Windows Model (Figure 3) identifies three levels of agents (individuals, groups, and organizations) and three types of interactions (unity, internal responsiveness, and external responsiveness) to form a 3 x 3 matrix. Unlike traditional depictions of organization that identify roles and activities, Mink’s model identifies interactions and then suggests where specific agents can be the most influential.

The results of this study seem to support the notion that the more fluid and open an organization is, the better the organization will be at addressing threats and opportunities. Additionally, the Nine Windows definition of unity seems to be a combination of shared meaning and relationship, and according to Mink may be the most important in keeping an organization focused, healthy, and successful (Mink, 2004).

Goals development and organizational constraints. The second aspect of organizational dynamics that the results of this study impact is goals development. Goals are developed to focus an organization. They are generally supported by specific objectives that act as roadmaps for the agents within the organization. As discussed earlier, when a potential problem begins to be recognized, it attracts energy, and the amount of energy attracted by the potential problem determines if it becomes defined as a problem. When agents within an organization define a potential problem as a problem (opportunity or threat), they have actually developed a goal for the organization.

There are probably two ways that potential problems become goals within the organization – formally and informally. Additionally, these formed goals can be either enabling (supporting the main direction the organization wants to move or thinks it is moving) or constraining (taking the organization in a tangent or even reverse direction).

Goal development in organizations has become an art form, and there are consulting groups that focus entirely on different processes of developing roadmaps complete with training and on-line tutorials. There may be something to learn by looking at goal development in organizations and energy development around agent dissonance.

Recommendations for Future Research

The research conducted in this study was limited for several reasons. There was little or no formal research on problem recognition within organizations or on how major organizational stakeholders identify and resolve organizational problems. Because of the lack of other research, this study was exploratory in nature. As would be expected with exploratory research, the results have generated more questions than answers. There are

several programs of study that can be developed. Below are outlines for three such programs.

Strange Attractors

A specific program of research based on the results of this study could focus on dissonance/constraints and strange attractors. There seems to be a connection between some of the current research on strange attractors and energy, the dissonance agents experience in association with potential and identified problems, and the energy this dissonance provides to organizations. A program of research could look specifically at measures of relationship between perceived dissonance of individuals and groups, and threats or opportunities for organizations. A detailed analysis of the structure, role, and guiding principles related to strange attractors would move systems theory forward.

Organizational Effectiveness and Openness to Change

The concept of energy and sustainability of effort within an organization is a current focus of organizational-dynamics research. This study provides some clues to where some energy may originate and an example of how that energy is maintained (the mall improvement scenario). As mentioned above, there is a relationship between the amount of energy developed around a perceived opportunity or threat and the creation of an attractor or goal to address that opportunity or threat. Future research could look at where dissonance is found in organizations and whether or not those pockets of dissonance become goals, whether they are defined as formal/informal goals, whether they are enabling or constraining, and whether the energy they develop is sustained.

Identifying Characteristics of Leaders

The results of this study suggest that there is still more work to be done in determining what leadership characteristics are important both to develop in potential leaders and to look for in new leaders. When considering individuals for leadership roles, determining good problem recognition skills may be as important as good problem-solving skills. Identifying and developing problem-recognition and -solving skills may be independent of each other, or they may need to be developed in tandem. A future program of research could look at current leadership characteristics that seemed to be valued in organizations and try to determine the worth of problem recognition in that context. It may be important to look specifically at the See-Read relationship, as there seems to be more ambiguity surrounding those activities than the activity of Action. One can assume that leaders generally know how to Act.

Recommendations for Practical Application

The results of this study seem to suggest several practical applications. These would include using the See-Read-Act model as a consulting model and developing workshops to explain problem-recognition processes to organizational leaders and potential leaders.

See-Read Model as a Consulting Model

The See-Read model as it is depicted in Table 2 can be used as a consulting model. The table provides definitions for behaviors of organizational members. A consultant could use those definitions to determine how agents (individuals or groups) within an organization are identifying potential problems. Information about how

participants See and Read problems can allow a consultant to determine if the agents are seeing a complete spectrum of possible opportunities or threats.

Developing Problem-Recognition Workshops

Using the results of this research, it is possible to develop workshops designed to teach participants to better identify potential problems in their organizations. The focus of the workshops would be on determining individual participants' preferred problem-identification focus and help them to See through the other foci.

Summary

This study produced several important results; however, the most important is the concept of dissonance, and the relationship of systems theory and strange attractors to problem recognition. The idea that agent dissonance provides the initial energy for a potential problem becoming defined as an opportunity or a threat to the organization, and the idea that that same dissonance can become the catalyst for generating strange attractors, are new concepts in systems theory.

The results of this explanatory study are preliminary; however, they lay the groundwork for more detailed studies of problem recognition, leader decision making, and systems theory. These results are also important in helping to point out the lack of substantial research available on the executive behavior of problem recognition, especially as seen through the lenses of systems theory.

Figure 1. Lewin's basic problem solving model.

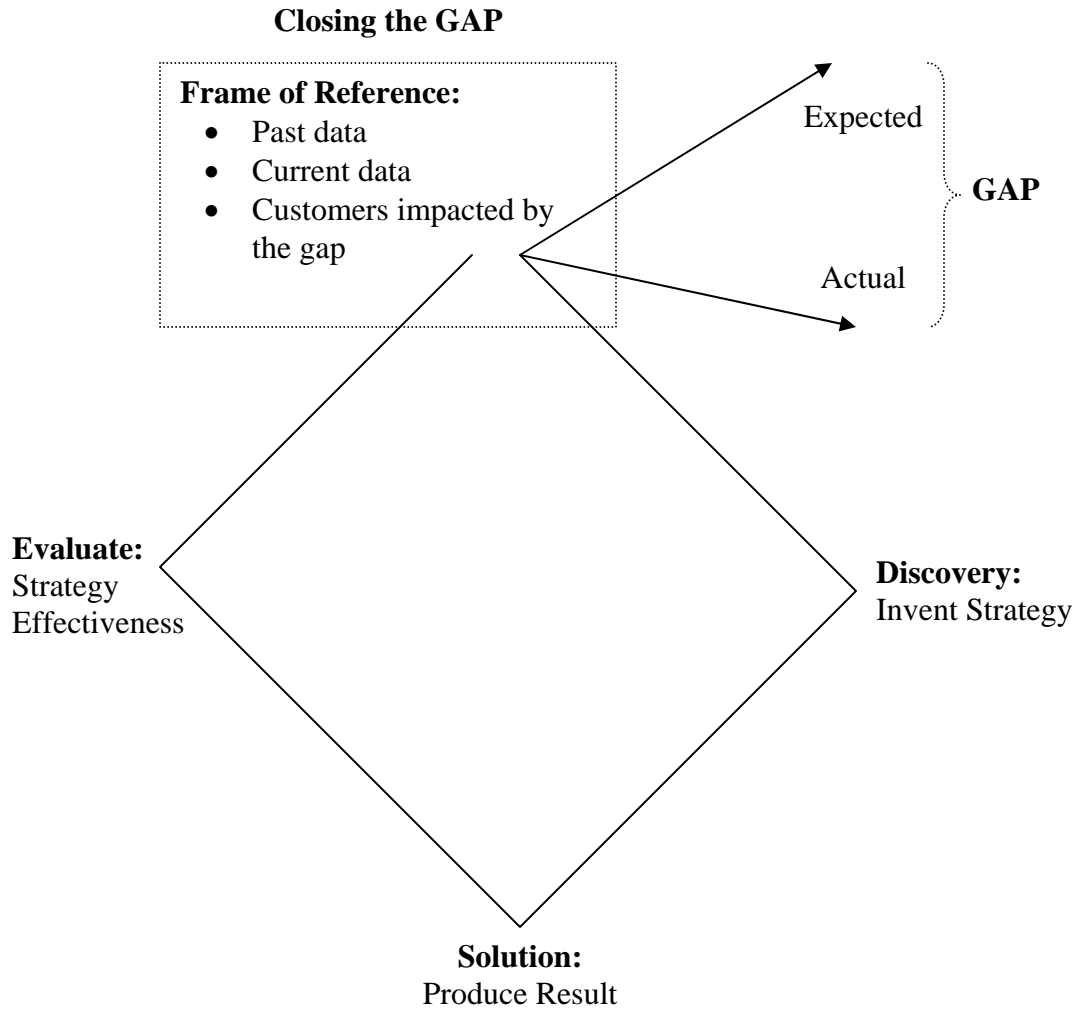


Figure 2. Influence of Leader Characteristics on Leadership Performance (from Mumford et. al., 2000).

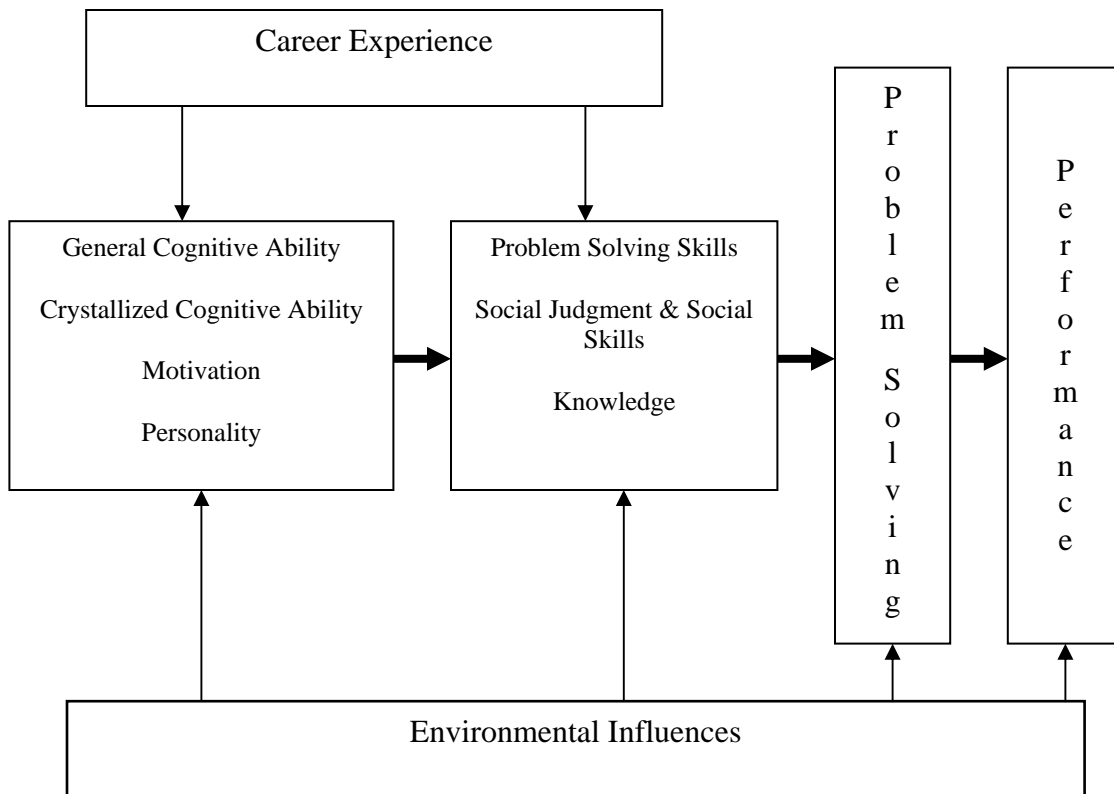


Figure 3: The Adaptive/Open Organization Model (Mink et al., 1991).

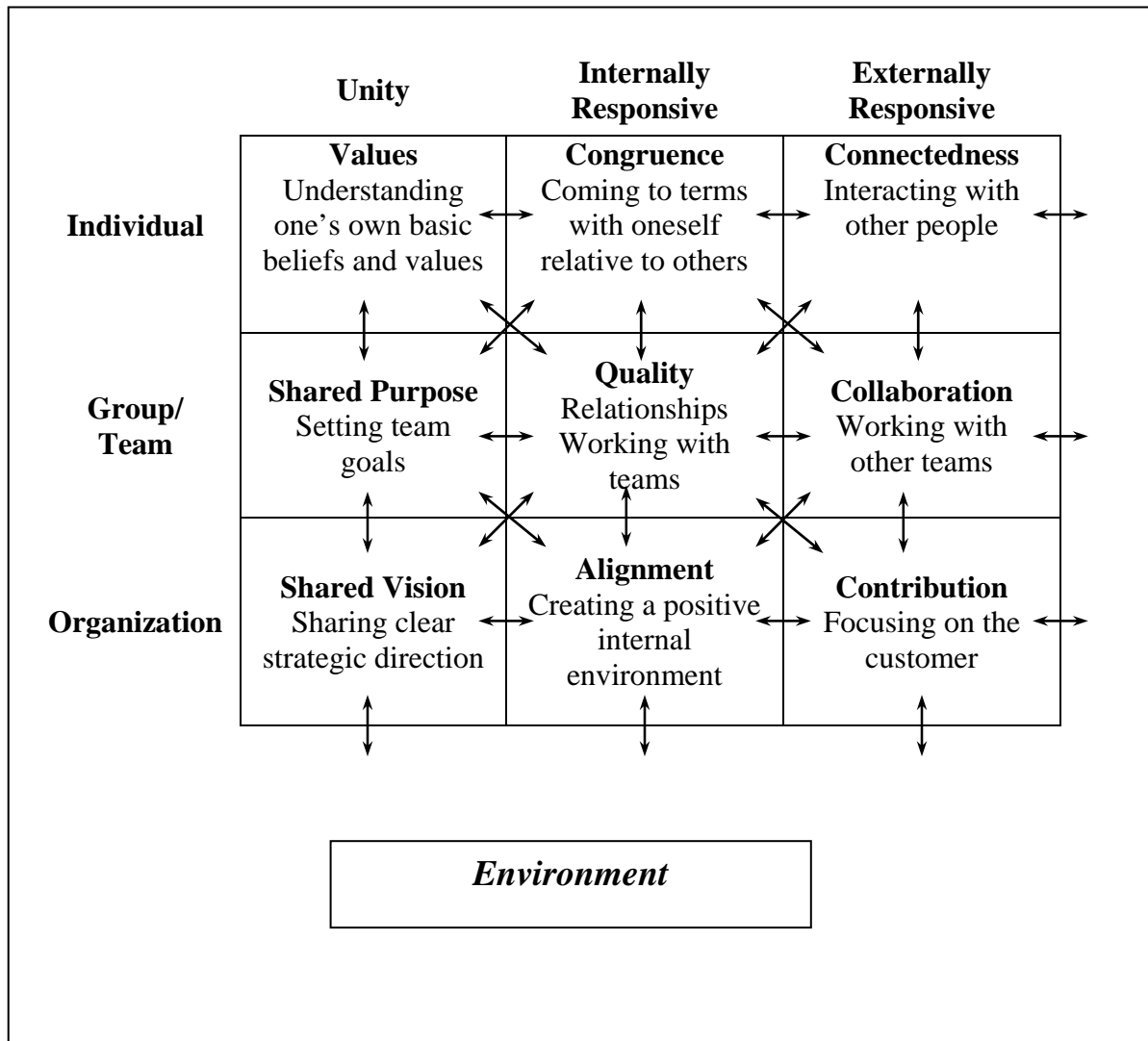
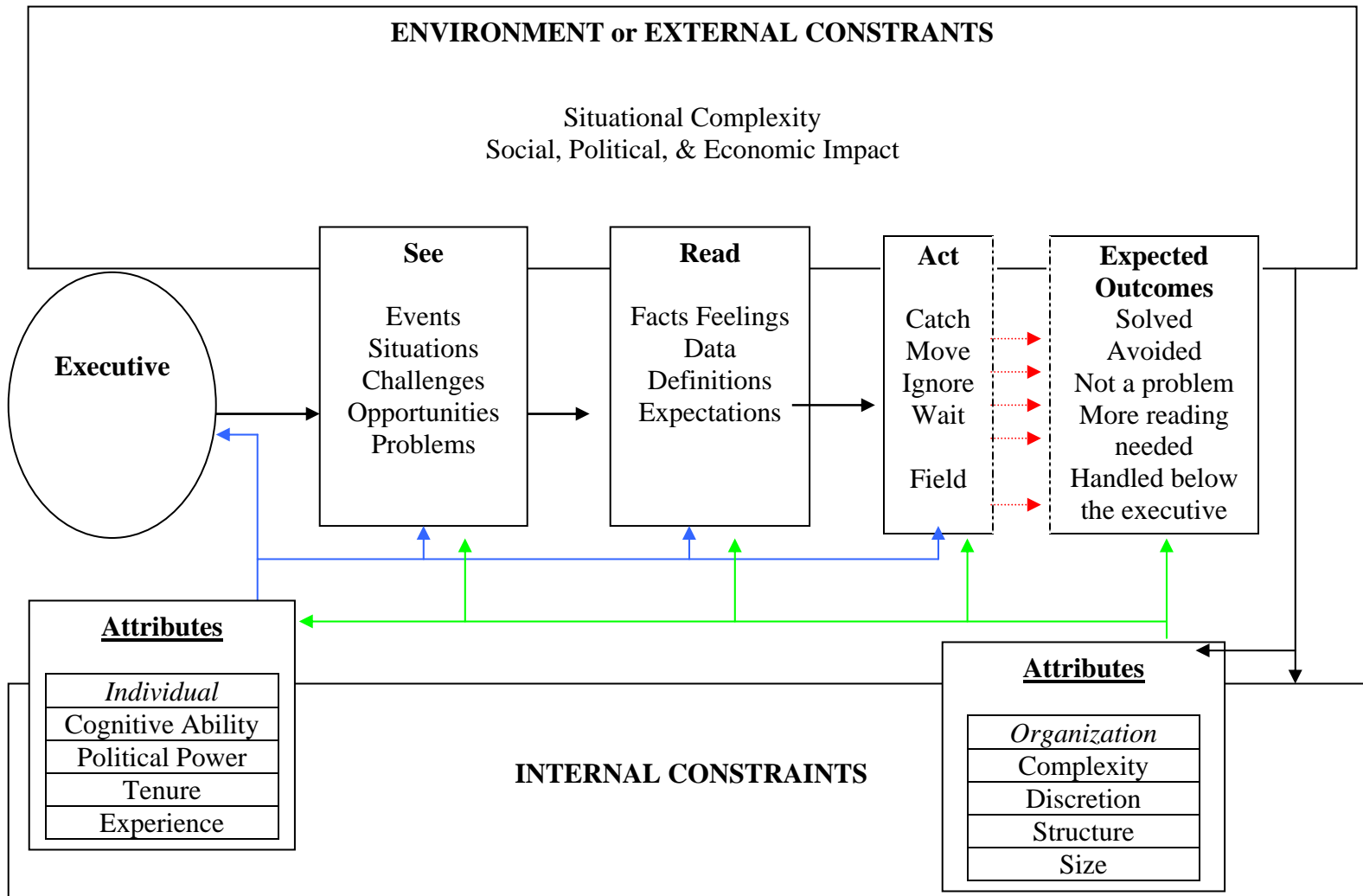


Figure 4. Hypothesized conceptual framework for understanding executive problem recognition (developed by author).



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