Personality Inventories and Cognitive Frames: Understanding the Balance in Managing and Leading IT Organizations

Kenneth Janz
Winona State University
Somsen Hall 111i
Winona, MN 55987
1-507-457-2299
kjanz@winona.edu

Robin Honken
Winona State University
Somsen Hall 207
Winona, MN 55987
1-507-457-2215
rhonken@winona.edu

ABSTRACT
With the complex dynamics of higher education and the ever-changing nature of information technology, leaders/managers find it difficult to effectively lead the effort to integrate technology into the academic and administrative culture of higher education institutions. Leadership and organizational literature is rich with ideas, theories, and models about viewing organizations. Because we work in complex organizations, these models provide tools that enable a leader/manager to understand environments and people. This presentation will combine the personality inventories of DiSC with the cognitive frames discussed by Bolman and Deal [10] and Birnbaum [7]. This will create a platform for conversation for both current CIOs and staff aspiring to leadership positions.

Categories and Subject Descriptors
K.6.1 **[Project and People Management]:** Management

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Leadership, Chief Information Officer, Higher Education, Organizational Performance, Cognitive Frames, Personality Inventories

1. INTRODUCTION
The complex innovative use of information technology that is found on college campuses today requires a level of leadership found in a CEO executive team or cabinet level position. By 2002, a majority of doctoral granting institutions had appointed a CIO that provided executive level leadership for the organization [18].

Given the increasingly visible role of CIOs, combined with the enormous resource investment dedicated to information technology, the CIO has become a target of criticism. Leadership in higher education often fails to recognize their dual managerial and technical roles. Potter states that CIOs must manage their supervisors' expectations if they want to survive [36]. This takes a "keen sense of what the boss anticipates from information technology projects as well as a diplomatic understanding of what the boss really does—and does not—know about information technology" (p.75) [36]. Zastrocky and Schlier assert that CIO misunderstanding of this dual role is one reason that the longevity in the CIO position is still limited when compared to other senior executive management positions. Within higher education the CIO position exists in a complex, loosely coupled organization [46]. Stakeholders bring multiple perceptions and expectations to the leadership and management role of the CIO. Because of this complex political environment, CIOs are finding it difficult to effectively lead efforts to integrate technology into the disparate cultures of the academy.

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2. CIO LEADERSHIP

2.1 Role of the Chief Information Officer
The CIO is responsible for the overall leadership in the area of information technology Synnott and Gruber first used the title, "Chief Information Officer" or CIO. They defined the CIO as "the senior executive responsible for establishing corporate information policy, standards, and management control over all corporate information resources" (p. 66) [42]. In the 1970s, private and public sector organizations began to create positions generally called Chief Information Officer (CIO) in order to provide high level coordination over increasingly complex information technology resources and needs [42].

Rockart, Ball and Bullen carried out one of the first studies that looked at the emerging role of the CIO. In their study, successful CIOs and researchers were asked to describe the responsibilities of the CIO position. The study found that the role of the CIO was becoming shaped by external forces beyond the control of the organization itself [38]. The three role characteristics described by many in the study were: (1) the CIO are responsible for information infrastructure, (2) the CIO have a staff orientation and utilized communication, education, standards, and other indirect controls to perform integrator and gatekeeper roles for new technologies and finally, (3) the CIO have become a integral member of the executive management team [38].

Benjamin, Dickinson, and Rockart interviewed 20 CIOs to test the role characteristics defined by Rockart, Ball and Bullen [2]. These researchers concluded that the role of the CIO had evolved faster than anticipated and was becoming a high level executive, "primarily concerned with issues of long-range planning, consultation, and support of the broad range of constituencies throughout the organization" (p. 178) [2]. As described above, the literature showed a continually upward ascension of the CIO position into higher levels of executive management throughout the eighties and nineties. As the CIO position moved into these higher levels of executive management, the role he or she

performed within the organization become more and more complex.

By the 1980s, turnover in the CIO position was common in business and industry. Hayley and Bolek reported from data collected in a Touche Ross and Company survey that nearly one-third of the 568 CIO participants replaced individuals who were dismissed or demoted [19]. Frenzel, using data from a Coopers and Lybrand's Highbarger survey, concluded that the CIO was a victim of power politics and unrealistic expectations in corporate environments [17]. This same survey data also showed that very few CIOs remained in their companies for more than four years.

By the 1990s, it became evident that the need for a skilled leader/manager to head information technology was increasingly important and had grown out of need to have a skilled technical specialist heading information technology for the organization. In her study of the literature and previous research, Stephens concluded that seven elements were common responsibilities of the CIO by the mid-nineties: (1) policy procedures and standards for information resources, (2) strategic planning for information resources, (3) budgetary oversight for information technology, (4) coordination of information technology units, (5) education of top management in the role of information technology in the organization, (6) consulting services to top management, and (7) understanding the internal political environment of the business [41].

By the early 21st century, the CIO role had developed into a position that had become a full member of the CEO management team. McClure described the role of a CIO in the early 21st century as an individual who worked with senior administration in the organization to implement effective information management in order to achieve the organizations goals [26]. This would assist the organization in establishing a sound investment process to select, control, and evaluate information technology spending for costs, risk, and benefits. In addition, the CIO was to promote improvements to the work process and increase the value of the organization's information technology resources. The literature on CIOs changes from research on roles and responsibilities to factors that contributed to successful and failed CIOs. This is demonstrated in research by McClure and the reporting of Kwak and Datz [26], [23], [13].

Kwak, in covering the research results of Enns, Huff, Golden, and Higgins, reported that CIOs with strong technical backgrounds were equally as effective as less technically specialized CIOs with greater general management experience at mobilizing the support of other top executives [23]. Datz reported from data collected from a 2002 survey of Global Conference Board's CEOs that six habits contributed to highly effective CIOs: (1) commit to the care and feeding of top management, (2) govern wisely, (3) assign direct reports to be business unit ambassadors, (4) join hands with business leaders at every opportunity, (5) advertise your technology strategy, and (6) make information technology user-friendly for everyone [13]. McClure found three critical factors associated with successful CIOs. The factors included (1) aligning the information management leadership with organizational goals, (2) promoting organizational credibility, and (3) executing information management responsibilities effectively. [26].

2.2 The Chief Information Officer in Higher Education

By 1990, the position of CIO began to appear in the higher education literature reflective of information technology's growing importance to the college campus [32]. The roles and responsibilities of the CIO in higher education began to evolve and expand even more rapidly since that time [1], [24], [32], [35].

Lattimer conducted a survey of 204 CIOs in higher education to update the Penrod et al. EDUCAUSE CIO study of 139 CIOs [24]. Lattimer found most CIOs report to a Provost or Executive/Other Vice President, and the majority had responsibility for administrative computing, academic computing, voice and data communications, and planning, but not for television, institutional research, printing, copy services, media services, mail services, or the library. Most CIOs approved information technology purchases throughout the organization and established standards for information technology purchases. Over half the CIOs surveyed were involved in leadership, planning, and communication with the greater campus community.

Penrod et al. placed CIOs into three categories in higher education. The categories they identified are as follows:

1. policy officer reporting to the president/chancellor or vice president for academic affairs who also serves as an executive officer of the university and holds line responsibility for substantial information resources;
2. policy officer reporting to the provost or vice president without major technology units reporting to them but who is still expected to provide leadership and vision; and
3. a senior administrator who is unlikely to interact with executive officers except when there are difficulties or at budget time and typically the institutional strategy toward information technology is undefined [32].

Zastrocky and Schlier identified seven issues that effective CIOs in higher education are regularly confronted with in his/her institution. These seven issues are: (1) politics and public relations, (2) finance, (3) marketing, (4) knowing the concerns of the CEO, (5) understanding the needs of others on the executive team, (6) understanding the drivers of higher education, and most importantly (7) the ability to read, look, ask and listen [46].

Many institutions of higher education are using information technology as one of the primary means by which they can improve their competitive advantage [27]. As higher education looks to information technology as a means to improve competitive advantage, there is increased interest from stakeholders in the organizational position with overall responsibility for integrating information technology on campuses of higher education. The centrality of the information technology on the college campus, and its leader, the CIO, is evident by its impact on the wider institutional mission, increased salary of the CIO, increased resource allocations for information technology, and growing literature base focused on this functional area and position. It is important to remember that the CIO position exists in a complex, loosely coupled organization. Stakeholders bring multiple perceptions and expectations to the leadership and management role of the CIO.

3. FRAMES AND MODELS

The leadership and organizational literature is rich with ideas, theories, and model about viewing organizations. Bolman and Deal, Weick and Bougon, Morgan, Quinn, Slater, Bergquist, and Birnbaum are a few examples of authors who argue that organizations can be better understood using multiple lenses, images or frames [6], [7], [8], [10], [30], [37], [40], [45]. This is due to that fact that the nature of organizations is complex, surprising, deceptive and ambiguous. These lenses, models, or frames provide a tool for a leader to examine and make sense of

organizations. Four frames or images of organizations: structural (bureaucratic), human resource (collegial), political (political), and symbolic (anarchical) have been developed by Bolman and Deal and Birnbaum [10], [7]. Bolman and Deal, in developing the four frames, "consolidated major schools of organization thought" (p. 12) [10]. Birnbaum extends this theory base into higher education. All of these authors argue that the ability to use a multiframe perspective is important for effective leadership [7]. Each of the four frames are described in the following sections.

3.1 Structural (Bureaucratic)

"The structural frame emphasizes goals, specialized roles, and formal relationships" [10] (p. 13). It draws from the disciplines of sociology and management science. In the structural frame, the metaphor for the organization is that of a factory or machine. Organizations designed and operated as if machines are called bureaucracies [30]. Frederick Taylor and Max Weber's work forms the bases of what we think of as the structural frame today. Taylor used time and motion studies to break down and reconstruct tasks in a more efficient manner [43]. Weber sought to develop a model of organizations based on rationality [44]. He describes bureaucratic models of organizations. Mintzberg provides a modern perspective to the structural frame [29].

Bolman and Deal provide six assumptions of organizations that make up the structural frame:

- accomplish and recognize goals and objectives;
- rationality triumphs over individual choice and outside demands;
- design structures to match circumstances;
- enhance effectiveness through specialization;
- coordination and control are essential to benefit organizational goals; and
- troubles occur from structural deficiencies [10] (p. 40).

A structural frame approach to organizations operates efficiently under the same conditions where machines or factories operate efficiently [30], (p. 27).

The structural frame focuses on the coordination of work. This coordination takes place both vertically and laterally. Examples of vertical coordination are through authority, rules and policies, and planning and control systems [10]. Conversely, one can describe lateral coordination with meetings, task forces, coordinating roles, matrix structures, and networks. It is important in the structural frame to know and understand the characteristics of power and authority [7]. Structural leaders assume an active role in decision-making and execute well-researched solutions to organizational problems [4], [5].

3.2 Human Resource (Collegial)

The human resource frame focuses on the individuals who make up the organization. Family is the metaphor for the human resource or collegial frame. The central concepts of the human resource (collegial) frame are that individuals have needs, skills, and relationships and the leader must empower employees to successfully lead the organization [10]. Morgan uses the metaphor of an organization as an organism in describing features of the human resource frame [30]. The work of Maslow's hierarchy of motivation [25], McGregor's Theory X and Y [28], and Argyris' people's need for self-actualization, create the theoretical basis for this frame.

Bolman and Deal provide four assumptions of organizations that depict the human resource frame:

- organizations serve human needs;
- people and organizations need each other;
- when the fit between individual and system is broke, one or both suffer; and
- a good fit benefits both the individual and the organization [10] (p. 102 - 103).

Organizational success and effectiveness are linked to people-conscious strategies that seek to meet the needs of the individuals as well as the organization [4], [5], [7]. [10]. The faculty members within a collegial college or university see the president (or other senior administration) as a first among equals [6]. Effective human resource leaders rely on participation, collaboration, and empowerment of the individual to advance organizational goals and strategies [7], [10]. Positive campus results are linked to collegial leadership [4], [5].

3.3 Political (Political)

The political frame was created and developed by political scientists. The metaphor for the political frame or system is the jungle. The central concepts of the political frame are power, conflict, competition, and organizational politics. The leader must be an advocate for employees to successfully lead the organization [10].

Bolman and Deal provide five propositions of organizations that represent the political frame:

- organizations are coalitions of various individuals and interest groups;
- enduring differences exist between coalition members in values, beliefs, information, interest, and perceptions of reality;
- the allocation of scare resources become the most important decisions;
- scarce resources and enduring differences give conflict a central role in organizational dynamics and make power the important resource; and
- goals and decisions emerge from bargaining, negotiation, and jockeying for position [10] (p. 163).

Leadership within the political system depends upon the leader's presence and timing [7]. Political leaders are seen as negotiators or mediators working with shifting power blocs [5].

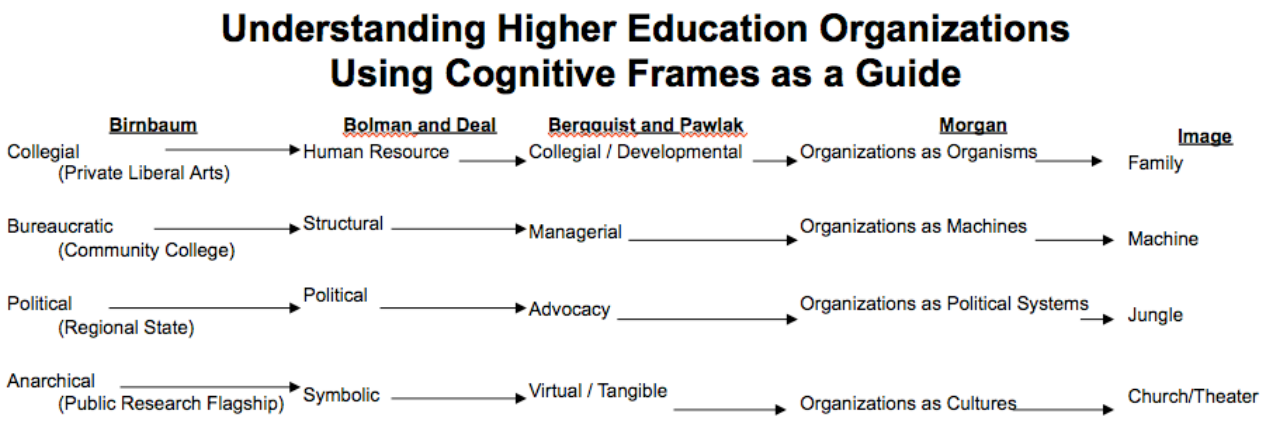

Figure 1. Alignment of various authors' descriptions of organizations

3.4 Symbolic (Anarchical)

The symbolic frame draws on social and cultural anthropology and assumes that the meaning underlying events is more important than the event itself. People within symbolic or anarchical institutions must deal with issues of attention and meaning [7]. The metaphor for the symbolic or anarchical frame represents organizations as tribes, theaters or temples. The leader must inspire employees to successfully lead the organization by using culture, meaning, ritual, ceremony, stories and heroes [10].

Bolman and Deal provide six assumptions of organizations in the symbolic frame:

- it is not what happens but what it meant that is important;
- activity and meaning are loosely coupled;
- life is ambiguous;
- high ambiguity undercuts most issues;
- people create symbols to resolve confusion; and
- events are important for what is expressed, not what is produced. [10] (p. 216 - 217)

Goals are realized through the communication of organizational vision, as well as through the use of symbols and stories [4], [5].

3.5 Integrating Multiple Frames and Models

It is important to remember that frames are viewpoints from which organizational leaders process events and determine actions. Leaders who view their organizations through only one of the four frames are likely to have an unbalanced view of the institution [7]. Morgan proposes using multiple frames or metaphors to view and understand organizations and organizational problems [30]. Birnbaum argues for a cybernetic view of organizations [7]. Bensimon et al. provides eleven principles of cybernetic leadership, which manifest themselves through the incorporation of organizational theory, leadership theory and higher education [5]. These principles help leaders build an integrated perspective of leadership in higher education.

Bolman and Deal also point out that "multiframe thinking is challenging and often counterintuitive" [10] (p. 380). They argue that effective leaders and managers need to reframe until they understand the situation at hand and use a multiframe perspective in leadership. While the emphasis on a cognitively complex viewpoint is certainly well developed, the importance of multiple perspectives is evident in other scholarship [4], [5], [7], [8], [10], [30].

Bolman and Deal and Birnbaum argue that organizations need to be examined from multiple frames and that it is critical for an organizational leader to be able to understand and use frame thinking if they are to be effective [7], [10]. These frames or images of organizations impact how an individual leads and manages. Research has shown that it is difficult to understand and lead complex organizations from a single frame [4], [5], [6], [7], [8], [9], [10], [20], [21], [30], [37], [40], [45].

4. PERSONALITY INVENTORIES

Personality inventories are tools used to report behavioral preferences of individuals. These tests include a host of questions and are designed to offer awareness to individuals about how they would generally respond to situations. These inventories can also be used as a team building activity. The idea is that by understanding your behavior style and the style of others, you will gain a better understanding of each other, which can lead to more effective communication [31].

4.1 Myers-Briggs

The most familiar tool, Myers-Briggs, can be traced back to the early 1920's when a Swiss psychiatrist, Carl Jung, developed his theory of personality types, stating that people are different in the way they process information and make decisions [31].

Jung's theory classified individuals as having a natural preference in all of four dichotomies. The four dichotomies are: introversion/extroversion: how one prefers to get organized, sensing/intuition: how one prefers to take in information, thinking/feeling: how one prefers to make decisions, and judging/perceiving: how one prefers to approach life [31].

It was Jung's theory that led mother, Katherine Briggs, and daughter, Isabel Myers, to create a tool to help others understand themselves better, the Myers-Briggs Type Inventory (MBTI) [11]. The MBTI consists of multiple-choice questions and a discussion about what your personality type means. It is meant to show preferences related to the four dichotomies. It is important to note that we may use each of these eight preferences, but some are more natural for us. There is no right or wrong, and all preferences are equally valuable [12].

For example, someone might be introverted, sensing, thinking and judging (ISTJ). This means they have an attention to detail, appreciate facts, rules and fulfilling obligations. This tendency may conflict with someone else's who may be extroverted,

intuitive, and makes decisions based on feelings. The theory behind the MBTI instrument is when individuals are aware of their own styles and those of others, they can hopefully adjust or be more understanding towards each other based on this knowledge [15].

4.2 DiSC

The DiSC assessment is similar to Myers-Briggs in that it is an instrument meant to measure behavior styles. It was built upon the model of behavior by William Marston, a psychologist with a degree from Harvard. His 1928 book, *Emotions of Normal People,* categorized behaviors into four primary types or styles: Dominance (D), Influence (I), Steadiness (S), and Conscientiousness (C) [14].

Walter Clarke, another psychologist, created an assessment instrument around Marston's theory [14]. Similar to Myers-Briggs, the idea with the DiSC instrument is that everyone has a preferred style, and by understanding this, you can learn to adapt your style to work more constructively with others [16].

Back in the early to mid-1900s, when these theories of behavior and instruments were being developed, people were skeptical of the field of psychoanalysis, especially those in the scientific community, and are even skeptical to this day [12].

But in the last 20 years, administering these instruments to those in corporate America has become a big business. The idea that it can lead to more productive teams has grown. A large selling point for both Myers-Briggs and DiSC is that no behavior is better or worse than the others, and can only lead to better understanding. This positive approach to understanding behaviors is helping continue to sell these instruments to corporate America.

5. PRACTICAL APPLICATION IN IT ORGANIZATIONS

Winona State University (a mid-sized university located in southeast Minnesota of 9,000 students) IT support is provided by Information Technology Services (ITS) which is organized into four units: User Services, Development and Web Support Services, Infrastructure Services, and Teaching, Learning, and Technology Services. The ITS leadership team consists of the Chief Information Officer and the Directors of User Services, Development and Web Support Services, Infrastructure Service, and Teaching, Learning, and Technology Services. This leadership team began using the research base of cognitive frames and personality inventories to enhance organizational performance.

5.1 Leveraging the Power of Cognitive Frames as an Information Technology Leadership Team

The ITS leadership team at Winona State University tries to set aside one meeting a month for the purposes of professional development. Over a period of six months the group read and discussed "Reframing Organizations" by Bolman and Deal and also discussed important elements of "How Colleges Work" by Birnbaum. Each month a different frame was discussed. Real work issues were examined using the frames. Several problems were discussed on how people within the organization use a different organization frame could perceive the same issue very differently.

This professional development activity was shorted and then presented to the technical lead group made up of project managers, the chief security officer, lead developers and system administrators. Again the process was used to examine real world work issues using the multiple perspectives of cognitive frames.

This activity was done over two years ago, but the directors still will use the cognitive frames to describe issues at the University. It has provided a common tool/language for the leadership team to discuss organizational issues. At the same time cognitive frames were being discussed at the leadership level, one director was involved in an initiative to use personality inventories to assist members of her team to better understand the personal dynamics of the unit.

5.2 Leveraging the Power of Personality Inventories to better manage/lead IT staff

At Winona State, the Development and Web Support Services Team, a team of fourteen people, used the DiSC assessment as a tool to increase each team member's understanding of one another and improve communication. The team hired an outside facilitator to administer the DiSC to each individual, analyze the results and schedule a two-day session to review and discuss results. The session agenda included the following:

- Developing an understanding of the different individual behavioral styles;
- Identifying my own style;
- Identifying the styles of our team and others;
- Modifying our styles for improved communication.

The most aggressive of the behavior styles is (D)ominant. Individuals who score high in the D category tend to be decisive, tough and competitive. Under pressure these individuals can appear to be self-centered and not concerned about others. This style can be more concerned about results than people, and can be impulsive. It would be important to utilize someone with a D personality when decisions need to be made and to keep processes and projects moving ahead [47].

The most social style would be (I)nfluence. Individuals who have a high I tend to be very talkative, enthusiastic and persuasive. They do not focus on details, so under pressure these individuals can appear disorganized. These individuals are good with people, yet like to see results also, and would be called upon to help align others towards a common goal [47].

The most patient style would be (S)teadiness. These individuals are also social, good listeners, yet very careful before making decisions. These individuals appear laid back yet like consensus before moving forward with an action. This can also cause them to appear indecisive; as they want to make sure everyone is heard before a decision is made. It would be important to call upon those with an S style when needing to make an important, high impact, decision that involved many viable options [47].

The last of the four styles is (C)onscientiousness. Someone with this style is a rule-follower, very logical, precise and careful. These individuals can appear impersonal, as they tend to be more

concerned with details than people. It would be important to call upon someone with this style when details are important [47].

During the two-day session, each individual evaluated their own results and did a few exercises around how their preferred style is typically seen by others. They discussed motivators and de-motivators for each style, and were asked to bring up real-life examples from their job. They were also presented with the team's results and asked to pair up with an individual with a different preferred style. During this exercise, individuals explored ways they can adjust their style based on various circumstances. They learned to recognize their comfort zone and areas of discomfort, and when they may need to work outside of their comfort zone. Finally, those with similar styles broke into groups and created the top ten things we want others to know about how to best communicate with us, and presented to the rest of the group.

At the end of the two days, each individual had a better understanding of themselves, each other, and learned to recognize when they needed to adjust their style to better communicate with others. Through this exercise, the group determined that all of the developers are high C's. They are concerned with details and want to ensure their work in precise and error-free. The director, was a high D and I, and was concerned about results. With this realization, the director is able to better build project teams with styles that complement each other. For example, if a project needs quick results, the director will help ensure the project keeps moving. If the project requires careful analysis and attention to detail, the director will call upon her development team to manage the project. Overall, the use of DiSC in the director's area has led to better teamwork, more effective and efficient use of resources, quicker project completion, and overall improved morale department-wide. There is a need to periodically revisit the session to reinforce what the group learned, but overall this has been well received by all team members.

6. RECOMMENDATIONS

From our experiences with managing and leading IT professionals, we can make several recommendations. First, based on the literature and findings in the field, the use of the structural frame is critical in effective management. The chief information officer as an effective manager: thinks very clearly and logically, strongly emphasizes careful planning and clear timelines, uses logical analysis and careful thinking, develops and implements clear, logical procedures, approaches problems with facts and logic, has extraordinary attention to detail, sets goals and holds people accountable for results, and strongly believes in a clear chain of command.

Literature will support that structural framing appears to be a risky, if not untenable, means of leading an information technology division. As such, if the job requirements of a CIO necessitate the exercise of managerial skills (e.g., coordinating the work of others, solving problems, making equipment purchases, scheduling installations, etc.), working from a structuralist perspective is advantageous. However, if the demands of the position are really leadership oriented (e.g., thinking strategically about the development and implementation of an IT plan, visioning the future, reorienting the basic approach to the conduct of work in the area, etc.), a structural framework may lead to difficulty with staff charged to carry out this work. Thus, the CIO needs to carefully assess his organization's needs, his or her relationship to the institution, and engage those frameworks needed to be successful. Metaphorically, the CIO needs to be chameleon-like, able to be flexible enough to adapt to the environmental circumstances as they are presented.

The chief information officer needs to be aware that various stakeholders, internal and external to their unit, weigh in on how effective they perceive the CIO to be in their work. In the CIOs managerial capacities, perceptions are driven by how the chief information officer integrates the political with the structural frames into their daily practice. In the environment of higher education, the chief information officer is not the owner of the information they store, protect, and report but is responsible for this information that is actually controlled by a variety of departments with competing priorities. It is in this surrounding, that to be managerially effective, the chief information officer must create the appropriate structures needed to maintain the IT enterprise while also having the requisite political sensitivities to the larger environment. Both of these frames provide the tools, or perspectives, for the chief information officer to be an effective manager. Yet, once again, though, the CIO needs to be sensitive to the use of structural approaches to problems when the needs are more strategic and require the exercise of leadership. Additionally, he/she need to be aware that a human resource perspective does not necessarily advantage them in either domain.

Today most information technology services are treated like a public utility (e.g., phone, gas, and electric company); people expect 100% performance all of the time. It is hard to create an environment that supports innovation when stability has become the main focus. When stability of the network or other information technology services is important, the structural frame is emphasized. This use of the structural frame to create stability negatively impacts the need and desire of other campus constituents for innovation, which in turn negatively impacts the overall leadership effectiveness of the chief information officer, as perceived by others. While this concept may be riddled with inconsistencies, it is the nature of leading a complex loosely coupled system. The CIO is constantly assessing and reassessing the issues and reframing his or her actions. One could use the analogy of a teeter-totter with the chief information officer balancing the conflicting needs of stakeholders.

Given the increasingly visible role of CIOs, combined with the enormous resource investment dedicated to information technology, the CIO must use multi-frame thinking to be effective as the role of information technology management has expanded to include both leadership and management responsibilities. It is important to remember that frames are viewpoints from which organizational leaders process events and determine actions.

Where understanding the different frames can help a leader achieve a better understanding of one's environment, personality inventories enable leaders to better understand their people. Theories, by such psychiatrists as Carl Jung and William Marston, which started to dig into the behaviors of people and how understanding these behaviors can lead to more productivity. These theories have proven successful through the creation of instruments such as Myers-Briggs and DiSC. These same environments that require the use of multiple frames also require individuals to understand each other in order to work in harmony and produce results. As information technology leaders at Winona State, we have implemented the use of these tools successfully, and through continued review of the literature and work with our teams, we strive towards continuous improvement.

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