

CHIEF INFORMATION OFFICER



Leveraging the Digital Domain to Master the Information Environment By: Nevin Taylor

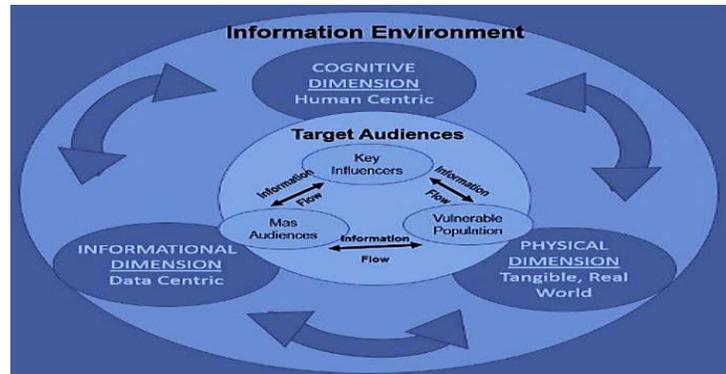
The Chief Information Office (CIO) position has recently evolved from its traditional support role to take an active engagement in day-to-day operations. Given the increased reliance on this position in the digital age, the necessity to transform the organization both technologically and culturally is job one. With this, comes the need to establish and impart a vision that leverages the evolving nature of the organization with a view and focus upon future potential as past priorities give way to a new opportunity. In this new capacity, the CIO will be responsible for ensuring the asymmetric advantage afforded by information is fully leveraged throughout all aspects of operations, support, and business systems.

Given the relative infancy of Cyber, there are a multitude of endeavors underway in most organizations to formalize a strategic plan and roadmap for the future. In this plan, the CIO will need to define their view of and vision for the Information Environment (IE) and identify how efforts in this area will shape the organization's future. Given ongoing efforts to define and refine the CIO role, significant effort continues to be devoted to aligning and allocating resources to ensure success. A strategic roadmap is critical to the evolution and funding of this role if they are to be empowered to transform the technological and cognitive capacity of the information environment to operate effectively in this interlinked, interdependent world.

PURPOSE

To be competitive in the age of knowledge, today's CIO must transition their organizations from their historic supporting role and transform their outlook and perspective into an operational mindset. Given their enduring background and embedded paradigms, this will require a strong transformational leader to guide them through this process. For it is reasonable to expect long term staff will naturally feel

uncomfortable as the organization establishes a new baseline from which to operate. Therefore, it is essential that a succinct mission statement be established with a clear vision adopted throughout the organization. This will be the stage-setter to open minds and realign perspectives.



The first step in this process is to secure advocacy from above to commit to and support this effort. Second, the CIO must establish a vision that serves as a catalyst, empowering the organization to leverage current technologies to achieve future mission objectives. Then they must align their structure to ensure it is prepared to meet those prescribed goals and objectives. Finally, they must produce, publish, and plan to formalize the requisite actions and milestones across the entire organization.

Currently, most organizations are endeavoring to develop a strategy that successfully operationalizes the cross-cutting nature of cyber throughout all phases of operations. Throughout this process, they must be encouraged to be courageous and be mindful of the sage advice offered from Clausewitz, "Everything in strategy is very simple, but that does not mean that everything is effortless." (Clausewitz, 1997) That said, change is never easy, but is bearable when approached from a top-down strategic approach aligning organization goals and objectives to fulfill their expressed and implied vision and mission statements.

By establishing a base line upon which to assess and matrix future performance the means to share and collaborate on the collective obtainment of this end goal has greatest propensity for success. By monitoring and measuring progress, potential political push-back can be observed through lead and lag indicators and actions taken to assure a persistent pursuit of progress in their effort to achieve their ascribe goals and objectives.

By leveraging the adaptive nature of this environment to their advantage, they can take advantage of the consequences of staff changeover, which are ever prevalent and pervasive in today's mobile workforce. Utilizing definitive talent management techniques, they will be able to align and allocate resources and capabilities to address potential incongruencies arising from past policies and cultural norms in their effort to transform the organization into a new reality. Compounded by current fiscal constraints with ever-increasing demand for increased productivity, this too serves as a catalyst to allow for new ideas, fresh perspectives in an effort to create a transformation environment that is both nimble and adaptive.

Thus, a well-outlined strategic plan that provides a holistic picture of future options and opportunities for evolution will be a critical component for garnering advocacy in this highly competitive digital age. By coupling the strategy with a well-orchestrated concept of operations that outlines the roadmap for proceeding, and a programmatic approach that measures the actions necessary for progress, the result will undoubtedly be a means to manage momentum and perpetuate the propensity for mission success. Publishing this programmatic effort into a plan will outline the collective engagements necessary to drive this collaborative endeavor forward. Through a prioritized progressive roadmap, the organization will have the essential guidance to remain focused on the objectives to be served not merely the requirements to be accomplished. This offers the means to understand the purpose that provides full awareness of the cost/benefit of their actions, and thus the potential for causality and resulting consequences within the strategic trade space.

Ultimately, they must matrix objectives that provide the means to assess success at this critical venture. Inculcated within their cost benefit assessments, they must analyze the quality of performance measured against a value assessment, including opportune cost and actualized benefits, if they are to realize the second and third order of effects in this dynamic, ever-changing environment. In the end, these actions require exceptional communications and close coordination if they are to achieve a collaborative effort critical to a collective engagement. Thus, the CIO must effectively integrate technological tools to support, enhance and execute (*SEE*) mission imperatives essential to achieving mission success.

They must evolve beyond their past focus on compliance, for this is insufficient, as the need to control is counterintuitive to the endeavor of collaboration. It is through responsive expectations management with a primary focus on goal and objectives that is necessary to overcome the historically reactionary perspective that encapsulates a myopic focus upon the fulfillment of requirements that has traditionally precluded the propensity to capitalize upon the fulfillment their plan in preparation for the road ahead. They must be proactive and embrace an adaptive approach to plan for their future and to bravely step out and commit to those actions necessary to actualize the options and available opportunities by investing time, resources and talent in proper proportionality to synchronize for success. It is incumbent upon leaders to therefore Teach, Help, Empower and Mentor (THEM) through inspirational engagements that encourage their team to be courageous. Clausewitz aptly advises us, "If the mind is to emerge unscathed from this relentless struggle with the unforeseen, two qualities are indispensable: first, an intellect that, even in the darkest hours, retains some glimmerings of the inner light which leads to truth; and second, the courage to follow this faint light wherever it may lead."

SETTING STRATEGIC DIRECTION

Today's CIO is challenged to provide a vision that catalyzes adaptation and empowers the organization to embrace change and use the technological tools at its disposal to achieve future mission objectives. Once they successfully leverage those technologies, they will be able to master the daunting task and garner dominance in the information environment. The CIO is charged with harnessing the power of information to maximize yield in their effort to support, enhance, and execute (SEE) their responsibilities to evolve their current state and bring tomorrow into today's reality to dominate the information environment.

In this new operational role, the CIO must establish goals and objectives that inform and influence the information environment at the cognitive level. Throughout their assessment of the confidentiality, integrity, and availability of data, they must remain cognizant of the purpose of these endeavors. To these ends, the manner in which data is collected/stored and organized/structured into information is critical as it is correlated into contextual knowledge that informs and enlightens the cognitive process. It is this process that is at the heart of implementing cyber operations' ability to influence the information environment and should not be overlooked. As Sir Basil Liddell Hart's thoughts on war illustrate, "The real target in war is the mind of the enemy commander, not the bodies of his troops." (Hart, 2013)

A framework to focus on the ends, ways, and means offered by the strategic minds of the military provides a good framework for imagining and operationalizing this effort in and through the application of the information environment in a way that influences and affects perspectives:

ENDS: *"A consequence of the way of applying IRCs"*

WAYS: *"How means can be applied, to achieve a desired end(s). They can be characterized as persuasive or coercive" (Chairman of the Joint Chiefs, p. 1-4)*

MEANS: *"The resources available to a national government, non-nation actor, or in pursuit of its end(s). These resources include, but are not limited to, public and private-sector enterprise assets or entities." (Chairman Joint Chiefs, p. 1-4)*

Thus, we must look at data as an organizational asset vital to our strategic competitive advantage. As such, we must effectively leverage it to master the information environment. Our success will be depending upon how successful we are in ensuring that in the words of the Chairman of the Joint Chiefs of Staff, "information is collected, processed, stored, disseminated, and protected. It is the dimension where the C2 of military forces is exercised and where the commander's intent is conveyed." (Chairman of the Joint Chiefs, p. vii)

The necessity to transform paradigms and encourage the organization to embrace its new operational role is vital to evolving operational efforts that achieve organizational objectives. By setting measurable milestones, the means to provide specificity ensures focused efforts toward the attainment of the ascribed results. The resulting value

proposition includes the prelude to their progress, driven by the purpose of achieving those objectives and fulfilling the organization's goals. Thus, they must delineate the organization's boundaries and establish a framework upon which to invest their efforts if they are to achieve their desired end state.

As they embark upon this journey, they would be well advised to remain mindful of the following five functions and seven areas of interest (AOI):

CYBER OPERATIONS

- *Store*
- *Transport*
- *Apply*

DATA OPERATIONS

- *Collect (Register)*
- *Correlate (Catalog)*
- *Curate (Present)*

INFORMATION OPERATIONS

- *Comply (DRM)*
 - PII
 - HEP
 - SECURITY

KNOWLEDGE OPERATIONS

- *Characterize (Relate)*
- *Contextualize (Fuse)*

ANALYTICAL OPERATIONS

- *Causality*
- *Consequence*

FUNCTIONS:

- *Assessments (Observe)*
- *Characterize (Orient)*
- *Analysis (Decide)*
 - Planning
 - Programing
 - Integration
 - Implementation



Additional clarity as to who they are, where they are looking to go, and what their end state looks like will prove critical to the maturation of their vision and linkage of the Concept of Operation (CONOP) if they are to effectively engage others to embark of this journey.

With an aggressive breadth of focus, the one common denominator is the need for training. For it is in well-qualified and competent personnel that they will be prepared to successfully face the magnitude of the challenges before them. Ultimately, this effort will help organize, inspire, energize, and sustain the motivation of professionals in the digital domain. It will provide the quintessential focus, resources, and inspiration to effectively and efficiently achieve these goals through a prioritized endeavor that supports, enhances, and Executes (SEE) the mission through its successful culmination.

This will not be an easy task for transitions, never are. The typical resistance to change will undoubtedly plague it. It is through a well-outlined plan of action and the strategic roadmap outlined above that the actions necessary for success are highlighted, which will be the catalyst for creating a culture of creativity critical to goal attainment. Thus, it is through the CIO's strong leadership and charismatic nature that the propensity to transform the culture will rest.



References

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