

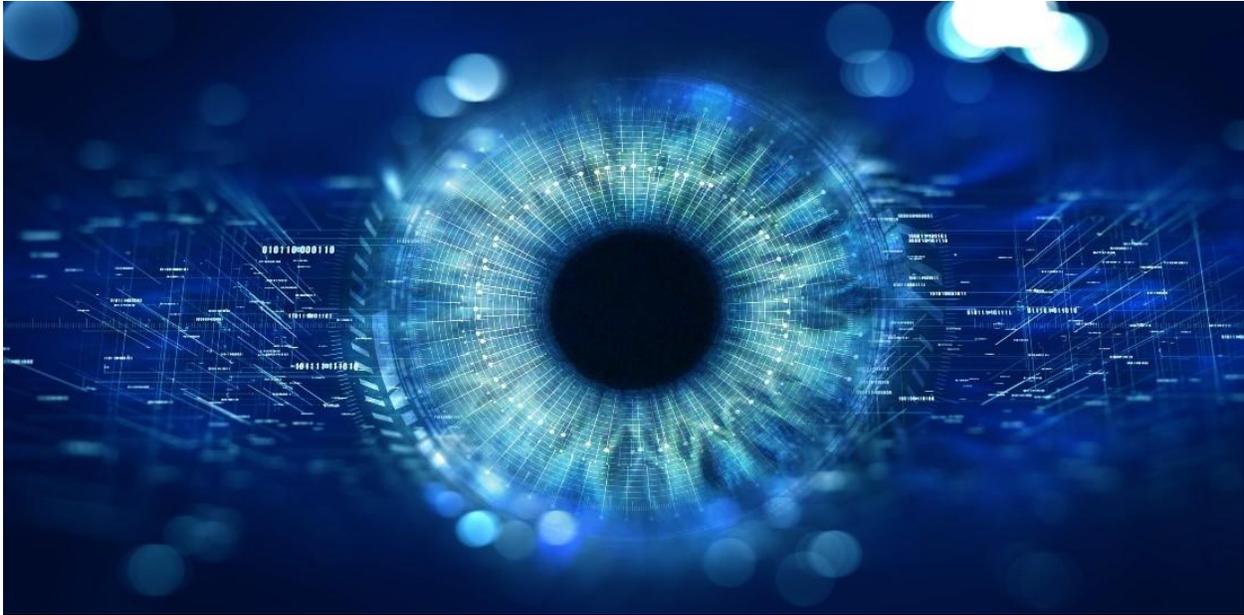


## Leveraging Data to Inform Understanding

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History is replete with examples of failures to learn from the past. Leaders often disclose how in hindsight, they would have had the opportunity to learn and evolve from others' experiences. In today's interconnected world, opportunities such as these allow people to become aware of obstacles, identify opportunities, and learn to adapt and overcome in a Volatile, Uncertain, Complex, and often Ambiguous (VUCA) environment. Essentially, as we become aware and learn from others' experiences, the future can indeed be revealed through a concerted assessment of history.

By employing a well-established process that serves as the baseline for growth and evolution, the prudent leader can acquire the means to develop a sound strategy. Elevated by a heightened awareness of both past actions and current circumstances, effective leaders learn to view problems as opportunities that alter their circumstances and successfully confront emerging threats. Thus, by embracing data as a strategic asset, organizations can unleash the power of information to make informed and enlightened decisions—in full consideration of the potential consequences of actions taken, measured against desired results to be achieved. Given the mass and complexity of this task, most organizations have engaged the CDO as their principal data strategist, who leads efforts toward improving data quality, data sharing, and the development of essential capabilities to unleash the power of information in data products and services in an attempt to evolve a data-driven organization (2DO).



Organizations typically have three assets: people, money, and data. The people and financial aspects are well organized and generally managed under oversight from the Chief Human Capital Officer and Chief Financial Officer. In the last 20 years, however, the value of data as a strategic asset has increased markedly as its volume has grown exponentially. New analytical tools must be leveraged through technological means to ensure the requisite capabilities empower gaining and maintaining the sophistication needed to manage the mass and overcome the resulting complexity associated with the cognitive process. Today's fast-paced, interlinked, and rapidly evolving information environment demands a structured approach to deliver the right information to the right place and at the right time.

Given our increasing reliance on data, we begin to appreciate the challenge of leveraging information and its inherent influence on establishing and evolving our strategic perspective as we endeavor to make informed decisions. As our reliance on it continues to grow, we begin to appreciate the importance of formalizing the criticality of leveraging data as a strategic asset and the need to establish a Chief Data Officer to effectively coordinate, collaborate, and communicate in today's dynamic information environment. To synchronize the synergistic endeavors of a team-focused effort, the CDO must ensure that data is visible, information is accessible, and knowledge is understandable. It is through this approach that an organization's ability to share data through a cohesive architecture that links it cohesively, providing context and identifying at what level of confidence or trust leaders can place in it throughout the cognitive process, is the key to their competitive advantage.

To achieve this, an innovative and inspirational leader who encourages courageous actions with a vision to leverage critical thinking, coupled with a flair for articulate communication and well-established interpersonal skills, is essential, for it is their tasking to assure the means to inform decision with sufficient context that illustrates causality and illuminates potential consequences from actions taken measured against desired results or objectives to be achieved. Through their engagement, they catalyze an environment that cultivates cultural transformation. Through their proactive approach to solving, not merely fixing, existing problems, they provide models that show the strategic trade space across all phases of the planning process and the means to produce simulations that ensure effective programs that fully leverage scarce resources. To accomplish this sufficiently, the CDO must possess a firm grasp of conceptual modeling to inform the planning process and provide programming that illustrates the potential of those options and opportunities to derive strategic competitive advantage in today's interconnected and interdependent world.



Because the role of the CDO is a newly emerging position, the necessity of this person possessing transformative leadership traits and being aware of and astute about the adaptive process is key to their ability to take an iterative approach to capitalize on the inherent value proposition of a data-driven organization. Unlike in the past, today, data must be operationalized, not merely managed. In discharging their duties, it becomes incumbent upon them to be aligned to the upper echelon of executive leadership if they are to serve the totality of the organization and be effective at creating cultural transformation. For it is at this level that they will be able to fulfill their responsibilities in actualizing the organization's ascribed vision and professed purpose.

*To implement a data-driven organization, leadership must determine its direction and the outcomes it seeks. Many have asked about the scope and level of engagement for this position, as well as the specificity of their responsibilities. A newly minted CDO has an ominous task that must be carried out with careful consideration of what to do and when to do it. First and foremost, publishing a strategy, establishing an EIM, and creating an architecture to harvest data value through the application of the aforementioned VAULT objectives are vital to their success. A well-coordinated approach through an adaptive architecture that supports and creates the conditions essential to ensure the cognitive process capitalizes on those capabilities that produce results that matter is key. To that end there is a plethora of areas that must be considered:*

- Secures funding and determines budgets/priorities against the organization's overarching objectives*
- Establish a data architecture that integrates, enhances, and applies current processes in a manner that allows for synergistic growth to achieve continual advancement of organizational goals and objectives*
- Ensuring that the organization has an optimized, flexible/adaptable data distribution network (DDN) that can deliver data responsively.*
- Produce and identify, modeling, coordinating, distribution, and architectural design to afford data sharing across boundaries.*
- Establish an information exchange process between programs, within organizational units, and between its business partners*
- Align and cultivate those individuals with the requisite responsibilities to operationalize, manage, and mature data in a way that serves all aspects of the organization (Data Stewards)*
- Develop and evolve a strong governance program to synchronize and synergize efforts that assure VAULT is achieved toward the obtainment and fulfillment of organizational goals and objectives*
- Continuously improving the effectiveness and efficiency of data delivery systems including database technologies, virtualization, analytical tools and services that enlighten, empower, and evolve the organization's cognitive process.*



Ultimately, the CDO must focus on the continual maturation of data to generate actionable information, which is critical to the depth and breadth of knowledge. By employing predictive analysis to maximize tactical capability, the strategic advantages gained through fact-based decisions elevate awareness and foster an enlightened understanding of potential opportunities, informing leaders of the associated risks prevalent in today's society. Therefore, ongoing efforts must be made to ensure the data is structured and organized into reliable, relevant information. The asymmetric advantage, which is critical to maintaining strategic advantage, can be derived from high-quality, reliable, contextually relevant data, empowering decision makers to take informed, substantiated actions.

This VAULT process creates an environment that unlocks the ominous power of information, empowering understanding of options and opportunities to derive a competitive advantage. With a focus upon the value proposition to effectively engage the cognitive process, the means to mature and inform the knowledge base garners the propensity to surpass current understanding. Through these efforts, the organization can achieve the objectives that support its overarching goals and meet its vision for the future. To achieve VAULT and leverage data in a way that creates a data-driven organization (2DO) the following considerations must be the focus of the CDO:

- *Leads and collaborates on data strategy for the organization to ensure data is informative, available, reliable, consistent, accessible and timely to support mission imperatives*
- *Ensures data is interoperable by standardizing data models and encouraging collaboration across the department to ensure it is visible, accessible, understandable, linked, and trustworthy (VAULT).*
- *Establishes an Enterprise Information Model (EIM) to register data to assure it is discoverable and well defined by establishing an Enterprise Data Dictionary (EDD). Structure and catalog information so it is searchable through an Information Asset Catalog (IAC).*
- *Provides a process to collect, catalog, and correlate data so it can be contextualized through sage governance to sufficiently store, structure, manage, and publish the vast mass, velocity, variety, and variability of data within the information environment.*
- *Creates data sharing policies and standards that increase effectiveness, which in turn produce resulting efficiencies that provide a value proposition. Analyzing and assessing the overarching strategic, operational, and tactical value catalyzes enlightenment, empowerment, and organizational evolution.*
- *In collaboration with the Chief Knowledge Officer (CKO), Chief Analytics Officer (CAO), Chief Information Officer (CIO), and Chief Technology Officer (CTO), empowers the staff of data specialists to provide insightful, actionable and real-time analytics for predictive and prescriptive modeling.*

Overall, the CDO provides the necessary vision, inspiration, and leadership to assess the veracity of data, the dependencies on information, and the currency/timelines of actions taken, measured against the results to be achieved. By ensuring data, VAULT provides the means to make informed decisions that capitalize on opportunities to actualize the organization's competitive strategic advantage. Thus, the CDO must actively engage in a multitude of roles: data strategist, adviser, and architect to ensure coordination, collaboration, and communication in an effort to synchronize and synergize a team-focused effort.

As it becomes increasingly necessary to realize the value of data assets and deliver data as a service, establishing an effective data governance program is a crucial early step. Beyond helping business leaders align objectives and support and serve the organization's goals, data governance enhances data quality, which in turn assures operational excellence, empowers business intelligence, and extracts additional value. Thus, a data-driven analysis can unleash the power of information by identifying risks and illustrating opportunities. To actualize the strategic value inherent in data, we must organize, structure, and mature it.

Considering the staggering accumulation and increasingly complex nature of data, and the growing reliance upon it by business leaders to make informed decisions, we must recognize its importance. It is through these endeavors that they become equipped and build confidence in the quality, reliability, and timeliness metrics that are essential to their work. The necessity to align, inform, and contribute to the body of knowledge that will facilitate the accomplishment of organizational goals and objectives is directly determined by their ability to effectively collect, catalog, correlate, and put into context data that identifies the implications of information to the knowledge base that enlightens cognitive understanding.

