

D-SAMS



Data a Strategic Asset for Mission Success *By: Nevin “Mustang” Taylor*

PROBLEM STATEMENT

In the early days of IT, most application systems were built as independent data processing engines. Essentially, they performed their assigned duties while sequestered from the rest of the enterprise. However, as organizations entered the knowledge age, dependencies within such systems also demanded that they be adapted for use in today's interlinked information environment to gain and maintain their strategic advantage. As technological tools became increasingly interwoven in a team-of-teams approach, periodic interference also required an integrative process able to keep pace with the speed at which high-performing organizations continued to transform. Since very little complex thought had been given to sharing data across applications, it became imperative to link the interdependencies present throughout the organization. Without such links, data sharing often became an impediment to effective, efficient operations.

To remain competitive, many organizations chose to focus on faster, stronger and more efficient processes, a strategy that has proven to be highly ineffective in the rapidly evolving world market. Thus, a revolutionary approach to achieving transformation among organizations depends on them thinking big, starting small and scaling quickly. Moreover, an interconnected environment that includes a dynamic feedback loop must be instituted.

The intent behind such a system would be to put data into action, thereby boosting the organization's awareness of extant interdependencies. That increased mindfulness would enable key personnel to manage overlapping efforts and costs while coordinating activities to ensure greater collaboration and cohesion.

As data is collected and stored, it must be organized for convenient use by applications that work to unleash the inherent value of information. Traditionally, data has been perceived as just another aspect of a technology project. As a result, its potential has not yet been fully appreciated or utilized to ensure the organization achieves the maximum return on its investments. While previously held views of application and database planning efforts were sufficient to address ongoing issues, there is today an almost insatiable appetite for making fact-based decisions and far less tolerance for risk, which directs stewards, information managers, and analytical assessments to seek to identify and solve organizations' most perplexing challenges as opposed to seeking opportunities.

To manage this rapidly growing and complex environment, the core components of a formalized program must be instituted to identify, store, provide for, integrate with and govern data as an organizational asset. Accordingly, it is essential to establish a well-considered strategy capable of addressing the need to collect, correlate, contextualize and identify the potential consequences of actions taken versus the results to be achieved. Clearly, as the value of data continues to evolve, we must improve the way we capture, share and manage this vital strategic asset.

OVERARCHING OBJECTIVES

Organizations typically have three assets: people, money and data. The people and financial aspects are well organized and generally fall under the aegis of a Chief Human Capital Officer and/or Chief Financial Officer. In the last 20 years, however, the value of data as a strategic asset has increased markedly as volume has grown and analytical tools have become more sophisticated. Demonstrably, today's fast-paced, interlinked and rapidly evolving information environment demands a structured approach that will provide the right information to the right place at the right time to gain and maintain strategic advantage.

Government agencies have long since recognized that data is critical to accomplishing their prescribed missions, and that ultimately, data has emerged as a vital strategic asset. By making data visible, accessible, understandable, linked and trustworthy (VAULT), effective data management and stewardship will ensure that it is fit for its intended purpose. This process ensures we can identify risks while highlighting opportunities to achieve the organization's strategic objectives.

Data-driven analysis can help attain the outcomes mentioned above. To realize the value of data, it must be structured, organized, and managed for it to be usable. Considering the staggering accumulation and increasingly complex nature of data, resource management (DRM) is quickly gaining importance, as it improves business leaders' understanding of what their data is telling them. As it becomes increasingly necessary to appreciate the value of data assets and deliver data as a service, establishing an effective data governance program is an essential early step. Beyond helping business leaders, data governance enhances data quality, provides operational excellence, and enables business intelligence with a focus on extracting more value from organizational data. Hence, an effective DRM effort facilitates the use of data assets to accomplish organizational goals and objectives by integrating data governance, management, and data in a concerted action.

WAY FORWARD

To ensure the most remarkable propensity for mission success, a data strategy must also encompass the development of a plan to improve the many ways in which one acquires, stores, manages, shares and uses data. To ensure data quality, informed decisions made in full consideration of cost-benefit analysis will lead organizations to the right solutions to the problems they face. To that end, organizations must:

- **Assess their *DEPENDENCY* upon *DATA*:** *it must be made visible by collecting, storing and structuring data even as we measure its veracity or trustworthiness.*
- **Characterize our *RELIANCE* upon *INFORMATION*:** *it must be correlated, related and linked to identify its dependencies as well as ensuring its accessibility.*
- **Evolve from sound *ANALYTICS*:** *analyze the cost/benefit of current and future opportunities to fulfill the organization's objectives.*

Creating a roadmap to align efforts across data management disciplines will ensure we capitalize on data, manage information, and inform our analytics. Thus, data must be made available for reference and analysis of the pertinent facts upon which decisions are made. Significant effort is made to store and secure data without consideration of its use. Whether dealing with transactional processing applications, analytical systems or essential dissemination of information pertinent to daily coordination and collaboration within the organization, thought must be given to those dependencies and interdependencies during all phases of operation.

- **Data storage** *is the first and most basic capability in a company's technology portfolio. It serves as the foundation for fact-based decisions.*
- **Information** *is currently controlled and siloed in today's geographically dispersed organizations. The option for central storage repositories is unfeasible. To support effective management, information must be interlinked to foster a collaborative*

environment. This will ensure that VAULT data informs and improves situational awareness.

- **Analytics** *harvest the inherent value in information, manage expectations and predicts consequences. It is therefore essential to capitalize on the inherent value of data and leverage it as a resource. Only then will enough capabilities be produced to meet mission objectives.*

CURRENT CHALLENGES

Today's organizations need to integrate the growing number of siloed systems, which are not only costly, but also instill operational risks. The absence of a thoughtful approach to collecting and storing data and managing and integrating contextually relevant information that will help produce knowledge that truly enhances understanding means that it will remain almost impossible to make informed decisions that fulfill organizational objectives and address mission-related imperatives. This lack of integration logic will continue to decrease exponentially as the number and volume of data sources expand. Accordingly, if data is indeed managed as an organizational asset, it must be viewed and accepted as a core component prerequisite to mission success.

Given the volume of data doubles every two years and the associated complexity of day-to-day interdependencies increases at a similar rate, it is little wonder that integration-related advantages and disadvantages demand that organizations institute holistic, enterprise-level governance to ensure data's VAULT properties throughout the organization. To achieve these objectives, data must be stored and structured in a manner that ensures it is accessible. Information must be linked to provide a complete picture that both informs and enlightens the human cognitive process. Properly accomplished, knowledge professionals will conduct the analysis necessary to inform the decision-making processes that reveal those opportunities critical to mission success.

Since integration initiatives are often spread across multiple organizations, the challenges to establishing logical linkages across disparate systems, particularly in terms of complexity and cost, are significant. Today, the critical need to coordinate and collaborate at the operational level requires access to factual, linked information that illustrates and informs the context of current expectations versus future consequences. Practical battle assessments (situational awareness), adaptive planning (strategic tradeoffs) and tactical engagement (command and control) demand that data not only plays a central role, but also that it matures sufficiently to inform knowledge-based actions. This enlightened understanding derives from data in action that is *VAULT informed by the power of information to ensure VALUE* proposition that assures mission success.

Before the enduring perspective that data is a byproduct of application processes can be changed, a data professional must be incorporated. Such an individual will ensure the accomplishment of the following three objectives:

1. *Access the veracity of data*
2. *Manage information linkages to ensure transparency*
3. *Analyze strategic tradeoffs via the cognitive process*

By suitably applying data resources through sound governance processes, we can benefit tremendously from fact-based decisions informed by analyses conducted by dedicated professionals. Such a situation will help establish a coordinated and collaborative effort that ensures the achievement of organizational goals and objectives by leveraging enterprise data as an asset effectively and efficiently throughout all phases of its application of and use.

Clearly, a formalized structure must be instituted that addresses data accuracy, information linkages and analytics, all of which will yield solutions to many of today's most perplexing problems. Such a structure will facilitate informed solutions to problems, including the growing need within organizations to induce a "work smarter, not harder" mindset. This innovative approach would help propel the organizational culture to act proactively, focusing on opportunities rather than retaining its reactive, risk-avoidant nature. The ensuing *think big, start small and scale quickly* philosophy will become a driver for organizational transformation vis-à-vis our rapidly changing world.

PROPOSED SOLUTION

The crosscutting nature of data utilization becomes less restrictive through an open and transparent shared environment that knows the veracity of data, understands the relationship of information and develops a contextual picture as to illustrate these interdependencies in a way that effectively manages expectations as it assesses current and future consequences. Siloed and disjointed data often distorts, rather than clarifies understanding, particularly when decisions must be made in the face of:

- *Data that lacks structure and precludes accurate assessment of its veracity/quality*
- *Information linkages to illustrate operational dependencies*
- *Analytics manages current expectations/future consequences relative to solutions/opportunities to adapt/overcome current/future problems/challenges*

VAULT data will ensure decision-makers have all the information necessary to make informed decisions. A lack of data sharing, reuse, and economies of scale introduces unnecessary costs associated with data movement/development. These will have short-,

mid-, and long-term effects on our ability to fulfill mission imperatives. Today's interlinked, dynamic, volatile, uncertain, complex, and *ambiguous* (VUCA) information environment becomes even more inconstant when data perishability is introduced as a factor.

The timeliness of data and its effects on informed decision-making require a new approach that prioritizes resilience over reliability. This will ensure the degree of flexibility necessary to facilitate continued evolution within the information environment—one that continues to evolve at a dizzying speed. Thus, understanding linkages within this environment requires a well-defined governance process that embodies a management framework that facilitates collaboration.

Without validation, there can be no confidence in the data presented. The growing demand for data and increasingly complex information require a structured approach to assess and manage this vital strategic resource effectively. To date, no formal process exists to develop data quality and information linkages throughout the organization and among its mission partners. Thus, the need to plan for, produce, and source such an analyst is paramount to the future accomplishment of those organizational goals and objectives that are vital to mission success.

