

A FRAMEWORK TO GUIDE YOUR DATA STRATEGY

To thrive in today's dynamic environment, organizations need a data strategy that puts data at the forefront – one that is grounded in driving business and mission outcomes and sets a foundation for the effective use of data throughout its lifecycle.

Data is one of an organization's most valuable assets. If managed and used properly, it can help an organization generate insights, advance its business goals, and drive analytics to make informed decisions. In fact, for many organizations, the precise challenge they are grappling with is: "how can we guide our investment in and maximize the use of our data to drive business, mission and analytics-oriented decisions and achieve organizational goals?"

But actually answering this question is easier said than done. Getting your "data house" in order is a key step to becoming data-driven, and that alone can feel like an insurmountable task. Today, we operate in a dynamic and complex environment where data generation, consumption, and distribution are extremely rapid and fluid, where structured and unstructured data is growing at an exponential pace, and where tools and technologies abound, creating an overwhelming set of constantly shifting choices. At the same time, turning inwards, organizations are facing their own set of unique challenges – from determining how to effectively search and share data across the enterprise, to dealing with disconnected and fractured IT systems, or establishing appropriate data quality, privacy and security standards. The business environment itself is highly dynamic as well, meaning the challenges organizations face today could be very different from those they are facing

tomorrow – and organizations need to adapt and prepare for this evolution.

Coming up with a strategy to effectively deal with these challenges and capitalize on the opportunities data presents can feel overwhelming. In fact, we often hear from clients that they know they need a data strategy but aren't sure where to begin, or that they've created a data strategy but it has failed for a number of reasons – whether they weren't able to achieve broad buy-in for their vision, or their strategy was so narrowly focused on one part of the business it failed to achieve the broader outcomes they were seeking. As the environment changes, in terms of the volume of data, number of consumers (people and systems), and pace of technology, traditional ways of developing data strategies won't suffice and for many, those approaches simply aren't delivering the expected return on investment.

Today, organizations must adopt an approach to data strategy that's just as dynamic and active as the environment in which it is operating. This approach must be flexible and connect business goals with the reality of the operational and data environment. It must effectively communicate and engage other parts of the organization and nurture a data-driven culture. Finally, it must be built upon specific outcomes or actions that optimize the value of data throughout its lifecycle and retain as

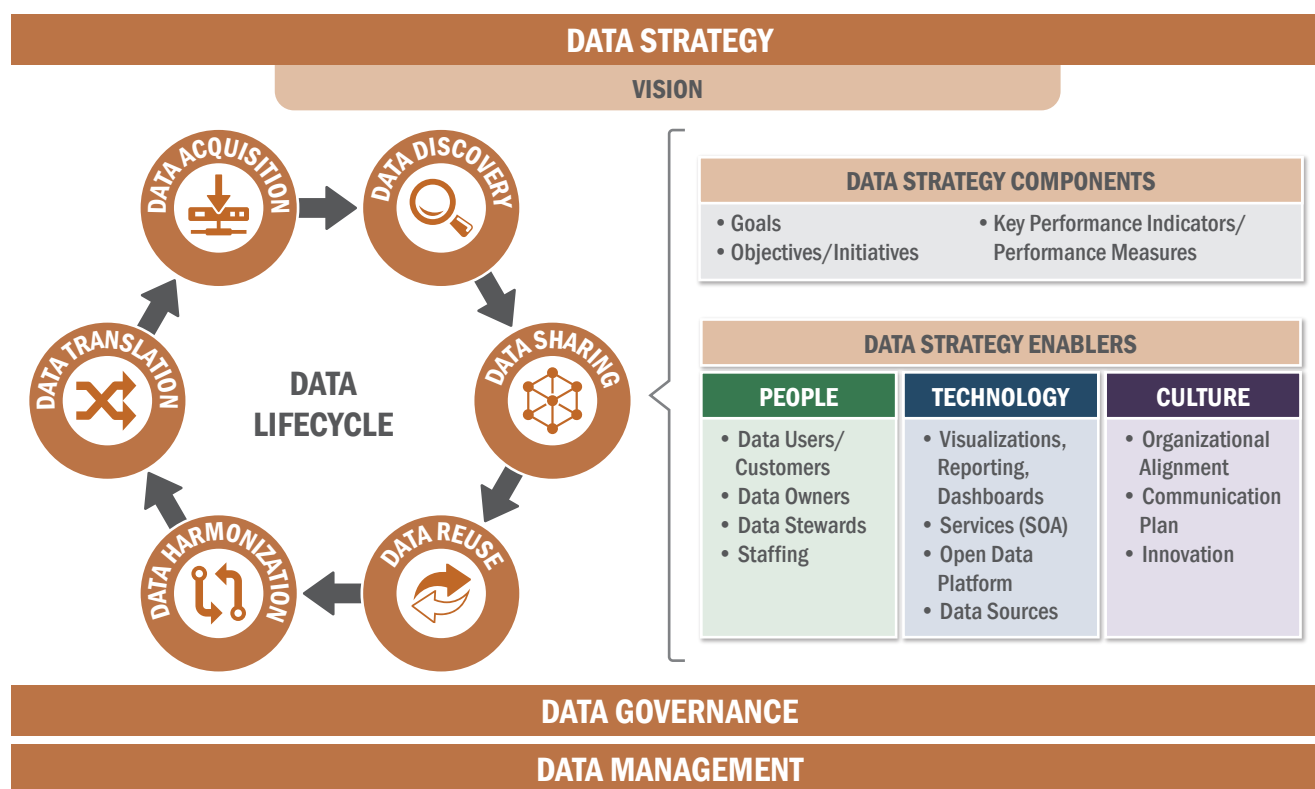
much of the potential returns of that data across the organization.

A New Framework for Data Strategy

Our data strategy framework helps organizations lead through their data to drive business outcomes. This new strategy framework helps organizations realize a quicker, greater return on investment because it is centered around the data lifecycle. It starts with an **organization's data vision** – what it hopes to achieve with its data in support of its broader business and mission needs. It then works across **six unique phases of the data lifecycle** that allow organizations to address all aspects of their data lifecycle, while keeping the strategy "in touch" with on-the-ground operational realities. For each data lifecycle phase, organizations **define clear data goals, identify key people and technology, and consider cultural implications**. Finally, **data governance and data management** underpin the framework and define the functions that ensure oversight, control, and execution of these data activities.

The core of our framework encourages organizations to structure and develop their data strategy around six data lifecycle phases, putting data at the forefront and ensuring it is being shepherd through its lifecycle in a way that enables broader business objectives. Taking this approach allows organizations to ensure it is considering the unique nuances of the data lifecycle

FIGURE 1. DATA STRATEGY FRAMEWORK



required to treat data as a true asset. It also provides an organization with a certain level of flexibility as they can freely tailor their approach to match the realities that exists within their data environment.

The data strategy is formulated around these 6 data lifecycle phases as defined below:

- **Acquisition** – Describes how data is acquired, generated, and procured, either internally or externally, to support organizational business needs; this may include a consideration of preparing (e.g., processes for requesting new or additional data).
- **Discovery** – Describes how the organization explores, identifies, and finds unique data elements that can translate into actionable insights (e.g., data labeling to support machine learning).
- **Sharing** – Describes how the organization manages the visibility, accessibility, and awareness of data assets among multiple parties (e.g., data ownership channels; automating the distribution and dissemination of data).

- **Reuse** – Describes how to support multiple methods of effective and targeted data use and consumption (e.g., allows for new analysis without impacting current production systems and performance; links data across multiple systems for easy storing, retrieval and reuse).
- **Harmonization** – Describes how to identify and combine multiple data assets for easy-to-consume outputs that are greater than the sum of their parts (e.g., deconflicting different data feeds with the same information to ensure a single authoritative source of information; create and associate a timeline with data).
- **Translation** – Describes how to enable multiple systems and people to exchange, communicate, and interpret data and translate it to value for unique business lines (e.g., ability to define and tag (meta tag) data; transforming data into data products that can support various business needs).

Depending on how an organization sets its data vision and where it is on its data journey, it may wish to put more emphasis on certain phases than

others. However, considering all phases in some capacity helps to ensure consistency across the lifecycle, while also allowing the realities of each organization's environment to help shape and inform its data strategy.

PUTTING THE FRAMEWORK INTO ACTION

The purpose of any data strategy is maximizing the value that data delivers to an organization. That value translates to something different for each organization whether it be actionable insights that drive decisions to influence the bottom line, or something as direct as the monetization of the data as an actual commodity sold. The common thread to optimizing the value of data lies in extracting as much of its potential as possible as it progresses through the unique data lifecycle that exists in each organization.

Establish a Vision

When developing a data strategy, every organization must start with its vision: what it wants to achieve with its data in support of its underlying mission. The vision is meant to provide a starting place to describe the future state the

organization plans to build. Stakeholders across the organization should use the vision to understand and communicate how data will advance organization goals.

In considering how to develop a vision, organizations must strive towards one that is aspirational, yet attainable, and it needs to be put in the context of the broader organizational vision and the core problem the organization wants to solve with data. For example, an organizational vision might be to create the best delivery service in the world. The core problem the organization wants to solve with data is to optimize our transportation networks. The data vision to support this problem includes a single authoritative, integrated source that includes a full suite of information on transportation suppliers, deliveries, road networks, that can seamlessly feed real time information to our fleet of drivers. This data vision influences all other areas of the strategy to ensure that an organization's data supports its business needs.

Develop Goals

Goals are short objective statements that describe specific achievements the organization would like to meet for each data phase. For example, transforming data sharing processes by reducing limitations to data so analysts can uncover new opportunities for analytic insights. It is also important to set measures for each goal; those measures should be quantifiable and relevant to convey progress toward the specific goals, as well as the overall status of the data strategy. Specifically, organizations should consider establishing both outcome and progress oriented measures: outcome measures relate to an organization's ability to achieve its end goals (e.g., the percent of users with access to data, decreasing lag time between systems, and increasing data access and transparency to inform marketing decisions), while progress measures will assess interim progress toward achieving data strategy goals (e.g., hitting major milestones such as the socialization of the strategy itself with key executives).

Enable the Strategy

People, technology and culture are the backbone to, and the enablers for a successful data strategy. Without the right resources at the right place and the right time, an organization will only be able to implement a temporary fix in an increasingly complex operating environment. For example, limits on technology can put strategy implementation at risk; or a failure to include individuals with the right technical skillsets can result in costly decisions or missteps. As organizations continue to optimize and "do more with less" (for the foreseeable future), they cannot risk wasting budgets, manpower or challenges with legacy or inoperable systems.

Engage People

To be successful, organizations must identify and engage stakeholders throughout the data strategy development process as well as each phase of the data lifecycle. Identifying the right people early encourages organizations to think beyond just data owners, users and stewards. It helps define roles and responsibilities, identify data handoff points, and provides the guidance for communication and awareness of new data initiatives throughout the organization. Identifying and engaging these stakeholders may also provide additional insights and value that an organization may not typically uncover. It's also critical that organizations consider the technical roles and skills as well, including data engineers, technologists, business and technical architects, governance specialists and data science teams.

It is important to keep in mind, similar to the goals, each data lifecycle phase will include many different people across the organization. And within each element itself, may have various people or engagement points throughout the stages of development and execution. As the data strategy development and implementation progresses, follow-up may focus on status updates and participatory stakeholder meetings based on the input gathered throughout the engagement process. Such feedback helps to foster ownership and buy-in amongst stakeholder groups.

DATA STRATEGY IN ACTION

A major commercial airline wanted to become a data-driven organization and it needed help getting its data in order. The enterprise was composed of many disparate data sources and systems and lacked key data principles and processes to effectively use its data. Recognizing its data's increasing importance, the airline asked Booz Allen to help determine how to make data a competitive resource and extract actionable business insights to drive step-change performance across the enterprise.

Booz Allen took a new and forward-leaning approach to data strategy by exploring data disciplines relevant to the business users and aligning those with the airline's unique needs, vision and goals. Booz Allen used design thinking principles to conduct 16 interactive workshops with business and data users to uncover and define enterprise data actions, including: data discovery, data sharing, data reuse, data harmonization, and data translation. Booz Allen also assessed the current state of the airline's data which helped to establish the business case and funding for the implementation of those data actions.

Booz Allen positioned the client to avoid common data strategy pitfalls by providing a flexible, iterative, and empowered approach to make data strategy relevant to data users as well as the organization as a whole. As a result, the client has a common definition and understanding of data needs, an understanding of current maturity and a roadmap to accelerate maturity, and the foundational resources (e.g., team, technology, and executive buy-in) to be successful – all of which provide a newfound capacity to meet increased analytics demand.

Improve Technology

It's important to keep in mind that while organizations do not have to throw away their current infrastructures to have a robust data strategy, they need to ensure they have the tools and technology to make their strategy real. Organizations need to consider tools and technology that work within the current infrastructure to support operations such as identification, searching, tagging, cataloging, and managing data. For example, this may require investment in open data platforms, or development of immersive technologies, such as visualizations. It may also require the organization to set aside funds to help modernize existing infrastructure.

It is important for an organization to define (or identify) an anticipated state for its data technology needs, from development through implementation. This approach can fundamentally transform the way an organization implements its data strategy. It allows people to be more efficient, allocates funding for anticipated projects, and provides the tools and technology to be more effective.

Evolve the Culture

Cultural change can be one of the most difficult aspects of implementing a data strategy. Without active participation from business units, IT organizations and executive leadership, the data strategy is destined to fail because results are only achieved when employees are involved and participating in the change.

Effective change management practices can help organizations simultaneously evolve their culture as they shape their data strategies. For example, proactive communication throughout the process, both with those developing the strategy, and those affected by the strategy (e.g., businesses), stakeholder workshops and design sessions, as well as strong executive sponsorship are all critical success factors. Bringing each stakeholder to the table early not only facilitates buy-in, but also provides insight into the organization's current state of data management, challenges, and opportunities as the organization

operationalizes its data. Iterative input and validation from across the organization must be deliberate, structured and ongoing to maintain ownership and behavior change of your data strategy.

Data Governance and Data Management

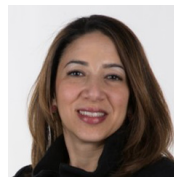
Any discussion about data strategy leads to questions about data management and governance. The answers are largely dependent on the strategy but documenting and implementing data governance and management plans along the way is an important step. Once the data strategy is developed, an organization will need to turn to its data governance and data management plans to implement the strategy through each phase of the data lifecycle.

Data governance and management keep things on track by providing guidelines to implement new tools and technology, develop and standardize data practices while allowing for individual ideation and flexibility, and manage the new data operations. The lower level, tactical efforts of data governance (the processes to ensure data is formally managed throughout the organization) and data management (the processes for developing, strengthening and enhancing data practices) – underpin and solidify the strategy by ensuring oversight, control, and execution of day-to-day data activities.

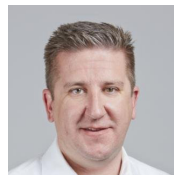
THE BOTTOM LINE

The complexity and breadth of data will only continue to grow and strain organizations' ability to derive value from their data. But by using this framework, organizations can avoid the problems associated with patchwork data strategies, and allow the realities of their particular data environment to shape and inform their vision.

Booz Allen Hamilton has extensive experience helping organizations create and implement powerful and effective data strategies. We can help define a data vision, develop performance measures, execute the strategy through tactical data management and governance activities, and foster a culture that allows data to thrive.



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