

Despite the abundance of data, many corporations struggle to establish a pervasive, data-driven culture within their organizations. The challenge lies not in technical aspects but in the cultural shift required to make data-based decision-making the norm for employees. To address this, there are 10 data commandments (**Waller, D. (2020, February 10)**) aimed at fostering and sustaining a culture centered around data within companies. *1. Data-driven culture starts at the (very) top. 2. Choose metrics with care 3. Don't pigeonhole your data scientists. 4. Fix basic data-access issues quickly. 5. Quantify uncertainty. 6. Make proofs of concept simple and robust, not fancy and brittle. 7. Specialized training should be offered just in time. 8. Use analytics to help employees, not just customers. 9. Be willing to trade flexibility for consistency — at least in the short term 10. Get in the habit of explaining analytical choices.* Now as per the first commandment, the initial changes begin with the top management being adaptable and ready to learn.

A clearly defined role of CDO (Chief Data Officer) is needed, and eventually a common language or a holistic vision of data is recommended. This new paradigm employs a more pervasive and integrated approach to using data, analytics and AI. The following three inter-connected steps are the stepping stones towards a data-driven organization.

**1. Use of digital native firms as guidance:** Google stands as a prime example of a data-driven company, where data is fundamental to decision-making without the need for a Chief Data or Analytics Officer. The company integrates analytics and AI extensively across its products and services, pioneering approaches used in generative AI systems. Other digital native firms like Meta/Facebook and Amazon also prioritize data and AI seamlessly, contrasting with some traditional companies. Legacy businesses like DBS Bank are adapting by investing in training, hiring data scientists, and fostering AI adoption across all business functions to compete with digital-native counterparts like Alibaba and Tencent.

**2.Learning from other mainstream business functions:** The finance organization serves as a viable role model for mainstreaming data within organizations. Similar to finance, integrating data into the mainstream means being fully integrated across the organization, rather than functioning in silos. Key attributes of mainstream finance operations include strategic importance, direct involvement in major decisions, long-standing tenure of CFOs, widespread knowledge of financial tasks among managers, and rigorous adherence to high-quality data standards. Emulating these practices can help organizations elevate the role of data, ensuring it becomes fully integrated and strategically valuable across all aspects of the business.

**3.Get everyone involved:** Senior managers face challenges in navigating complex data technologies amid growing urgency to implement them. While the prospect of data-driven transformation is promising, the fear of job displacement persists. To address these concerns, senior leaders should acknowledge the fear and involve regular employees in small-scale data efforts. Involving everyone in basic analytics not only builds confidence and skills but also lays the foundation for more advanced techniques, fostering a collective, empowered approach to utilizing data within the organization. The data commandments #3 and 8 (Waller, D. (2020, February 10)) state, *don't pigeonhole your data scientists and Use analytics to help employees, not just customers* emphasis on getting everyone involved in the data strategy.

According Mr.Kiyoshi Sazaki (Tableau Software. (n.d.). **Data Culture. Tableau**), Group CDO, Z holdings– parent company of Yahoo Japan which uses data intensively, the most important step to implementing a data culture is commitment from the top management- ensuring a continuous leadership towards using data, with proper budgets, infrastructure, operations and policies to support this culture. He also explains what data culture looks like in their organization: Any service that uses data starts out as a request for data. People naturally come looking for data they can use for different purposes. He addresses the important aspect in building a successful data-driven organization: **making the data readily available** and keeping it **user-friendly**. This is to prevent the task of looking for data, a tiresome task. **Data preparation and data access** are critical elements of a data strategy.

## **The role of CDO:**

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Chief data officer (CDO) or a similar data-centric role (**Amazon Web Services. (2023); Pratt, M. K., Wigmore, I., & Karjian, R. (2022, June)**) is crucial in organizations for several reasons such as:

**1.Developing a data strategy:** The CDO and their team are responsible for defining the data strategy: A long-term plan that defines the technology, processes, people, and rules required to manage an organization's information assets. All types of businesses collect large amounts of raw data today. However, they need a well-thought-out data management and analysis plan if they want to use this information to make informed decisions. A data strategy outlines an organization's long-term vision for collecting, storing, sharing, and usage of its data. A successful data strategy includes:

- overseeing the management and flow of data throughout its lifecycle;
- designing, developing and maintaining data warehouses/ lake houses and other repositories
- ensuring business intelligence systems meet organizational requirements
- Ensuring easily accessible data environment or a data ecosystem
- Monetize the organization's data assets, turning raw data into actionable insights that can lead to new revenue streams or improved operational efficiency

**2.Implementing data governance:** CDOs ensure data quality, consistency, privacy and compliance with regulations. This enables trustworthy data for reliable decision making.

**3.Collaboration and data integration:** Data-centric roles facilitate collaboration between different departments. They bridge the gap between technical and non-technical teams, ensuring that data insights are effectively communicated and utilized across the organization. This includes liberating siloed data that hinders intradepartmental business initiatives.

**4.Innovation and Adaptation to Technology:** CDOs drive innovation by exploring new data sources, technologies, and analytical methods. They identify trends, patterns, and insights from data, enabling the organization to innovate products, services, and processes. In the era of rapid technological

advancements, CDOs help organizations adapt to new tools, platforms, and data processing techniques. They ensure that the organization remains technologically up-to-date and utilizes the latest advancements for strategic advantage.

**5.Data driven decision making:** CDOs promote a data-driven culture, where decisions are based on data-driven insights rather than intuition. This leads to more informed and effective decision-making at all levels of the organization. They establish key performance indicators (KPIs) and metrics to measure the outcomes of data initiatives, ensuring that the organization can assess the impact of its data-driven strategies.

**6.Customer Focus and Insights:** CDOs help in analyzing customer data to gain insights into preferences and behavior. This understanding allows the organization to tailor products and services to customer needs, enhancing customer satisfaction and loyalty.

According to Mr. Sazaki, (**Tableau Software. (n.d.). Data Culture. Tableau**) the role of a CDO can be very diverse. But in his organization, it involves setting up a **data ecosystem**, and implementing a data strategy. This involves creating an accessible data environment by creating a dedicated system. A data culture can't build itself, thus the CDO builds such a strategy and culture. Thus, data is woven into the culture, mindset and identity of the organization.

There are 2 specific points from the article **Davenport T., et al., (2021, August 18)**, that I could reflect more. Firstly, **“what’s the problem?** Why is the CDO job so problematic? There are many reasons, unfortunately, but the most important one might be that the job is often poorly defined.” I could easily comprehend this as in my personal job search for data analyst/ data engineering roles, there wasn't a succinct description of what actually the job role expects. Data roles cannot be clearly defined across organizations, as the important tasks involving data such as data collection, cleansing, transformation and reporting are deeply inter-related and organization-specific. The roles description highly depends on factors such as:

- How much of data-driven culture is practically implemented in the organization
- The nature of data used in the organization
- The performance indicators used in measuring the performance of the organization

Secondly, some of the important aspects pointed out by **Mr. Guy Peri of P and G**. He emphasized the important points such as:

- Start with a clear connection of data to business strategy and tangible outcomes: Ultimately, the goal is to monetize the data and improve operational excellence.
- Lead with a small number of forward-thinking business partners to demonstrate what is possible. Change begins from the top of the organization, and their mindset towards data culture defines the success of data goals.

### **Why do organizations fail to achieve the data goals in the organization?**

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Organizations can face several challenges when it comes to achieving their data goals (**Davenport T., et al., (2021, August 18)**). While each case can be unique, several common factors impact data initiatives across different organizations. Here are the top three factors:

1. **Cultural and Organizational Challenges.** The first step of data-driven organizations requires an entire shift in mindset, culture and commitment from the top management. Organizations fail to create a data environment because of the presence of legacy systems and large-scale change is expensive. Very few companies can afford this massive change. Employees and stakeholders might resist the shift toward a data-driven culture due to fear of job displacement, lack of understanding, or simply being comfortable with traditional methods. Resistance hampers the adoption of new technologies and analytical approaches. Data initiatives require skilled professionals who can analyze data, derive insights, and implement solutions. Shortages in data science, analytics, and IT skills can hinder the effective execution of data goals.
2. **Unclear definition for the CDO and other data roles.** This includes factors like

organizations expecting too much from the CDO while having unclear priorities for them.

Lack of a clear data strategy and direction result in CDOs finding it difficult to sell their achievements to business audience. Despite improvements in data, it's difficult to explain them to internal users in business terms. CDOs roles tend to be tenuous, lasting somewhere between 2 to 3 years and within such a short tenure, they are expected to bring out a culture change accompanied by implementing a serious set of technical changes too.

3. **Data Quality and Governance Issues:** With the abundance of raw data and the lack of adequate policies to consume the data properly, issues like data inaccuracies, inconsistencies, incompleteness, data breaches and misuse of data are likely to crop up. Organizations need to invest a lot more in this aspect and hence they stay hesitant for large changes.

Addressing these challenges requires a holistic approach, including developing a clear data strategy, investing in data quality and governance practices, fostering a data-centric culture, and ensuring effective communication and collaboration between all stakeholders within the organization. Organizations that successfully navigate these challenges are better positioned to achieve their data goals and derive meaningful insights from their data initiatives.

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