Leadership for Data Driven Management

CDO Handbook

CDO : Chief Data Officer

Volume 1
The Need for CDO

What is the position and role of CDO?

CDO, or Chief Data Officer, is essential for organizations to navigate the rapidly changing landscape of technology and society.
This book provides a comprehensive overview of this critical role, demonstrating how CDOs ensure a flexible and reliable response to these changes.

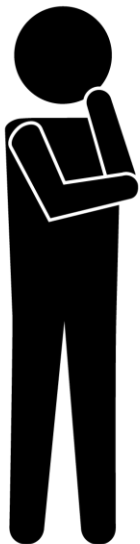*Please also read "Data Driven Management Handbook for Managers"

The Importance of the CDO and the CDO Team

Data has become the infrastructure of social activities, and society is said to be data-driven.

Are you making the most of your data?

Is there a position of the CDO and does the CDO fulfil one's role?

Are you facing challenges such as:

Insufficient data for decision-making?

Unclear data in reports?

Untapped sales potential?

Long lead times?

Inadequate production planning?

Misaligned services with customer needs?

Unfulfilled employee potential?

High data management costs?

Internal restrictions on data utilization?

Poor interdepartmental collaboration?

Time-consuming external partnerships?

Data redundancy within the organization?

Inadequate management of overseas data?

Data breaches and security incidents?

Insufficient personal data protection?

Business continuity risks in the event of a disaster?

The CDO and their team are here to help you overcome these data-related challenges and optimize your business operations.

The Value Created by CDO

CDOs foster a data-driven culture where everyone from executives to frontline employees thinks critically about data, makes data-informed decisions, and continually drives organizational evolution.

- **Data-driven decision-making**
  - Providing timely and accurate data to inform strategic decisions.
  - Leveraging time-series analysis and data-driven simulations to forecast future trends.
- **Adaptability to change**
  - Enabling rapid responses to changing business needs by providing easy access to and integration of necessary data and functionalities.
- **Digital transformation using data**
  - By analyzing data, we discover opportunities and challenges for services and organizations.
  - We review and restructure our business from a data perspective.
- **Revenue growth and customer satisfaction**
  - Improving sales and customer satisfaction through data-driven management, marketing, and operations.
  - Identifying new revenue streams and optimizing existing business models.
- **Improved business and operations**
  - Eliminate manual waste and errors by automating input/output and utilizing APIs.
  - It is commonplace to analyse and utilise data in daily work, improving operational efficiency and services.
- **Ensuring security, safety and trust and avoiding risk**
  - You can detect signs of abnormalities and quickly grasp the situation when a risk becomes apparent.
  - We ensure data security by providing mechanisms such as distributed management and access management.

- **Creating new services and mining data**
  - New combinations, including with external parties, create new services.
  - We mine valuable data from existing resources and make it available to you.
  - Reevaluate data that can only be used for a limited purpose and make it reusable.

Data is essential infrastructure. It takes time for the data to accumulate, become capable of analysis, and for its value to become apparent. Also, it is often taken for granted as infrastructure, and the value of the data environment is not always understood.

There is a need to quantify the value of data, but methods used include estimating the cost of not having an internal infrastructure to manage and utilize data, or calculating it based on sales of data-related products (including internal transactions).In addition, because data is an essential infrastructure for corporate activities, it can also be managed as a fundamental investment.

The Multifaceted Role of a CDO

The CDO is a key member of the management team in the digital age, and along with the CEO , who is in charge of management, the COO , who is in charge of operations , and the CFO, who is in charge of finances , is **responsible for managing the organization's most important asset, data, and maximizing its value** .

A reformer who promotes improvements to management structure and fundamental reforms

Promote data-based decision-making and business operations, and digitally transform operations while deciding on investments to build the infrastructure required for this.

- CDO team results: Visualization through management dashboards, future predictions through simulations, etc.

Strategists and practitioners who maximize business value through data utilization

We will utilize the data held by the organization to maximize the value of the data, and use the data to improve the added value of products and services.

- CDO team results: Review of operations through improved internal data analysis, creation of new services, improvement of service quality, etc.

A visionary with a broad perspective across time and space, and the head of governance

We will create a data system that is consistent across time, global collaboration, and organizations, by utilizing past data assets and predicting the future.

- CDO team achievements: Digitalization of paper, cleansing of old data, data design that can be used 100 years from now and globally, etc.

Coordinator (catalyst) who aims to increase value through inter-organizational collaboration

We collaborate with a variety of internal and external organizations and experts to realize business transformation.

- CDO team achievements: Digital transformation with a bird's-eye view of data from multiple organizations

A resilient and tenacious person

We persistently explain the need for reform to departments that are strongly opposed, clinging to past data and operations, and gain their approval.

- CDO team achievements: Radical reform of legacy systems, integration of multiple systems, etc.

Technical experts who identify and incorporate cutting-edge technologies

We will introduce cutting-edge data-related technologies to promote continuous innovation.

- CDO team achievements: Introduction of advanced technologies such as AI , digital twins, and edge computing

Architects and designers who organize data to make it easy to use and efficient

We visualize data within a company and design a highly reusable, scalable and interoperable management system.

- CDO team results: Internal architecture, management policy, etc.

Data reform specialists for corporate integration and system renewal

When integrating systems in a corporate merger, we integrate different data to maximize the value of the data.

When upgrading your system, we integrate old data into the latest data structure.

- CDO team achievements: Integrated database, etc.

A person in charge of operations of the infrastructure that enables rapid response to changes

In order to rapidly respond to changes in society and technology, we will create a flexible system that allows anyone to obtain the necessary data at any time and enables trials and verifications.

- CDO team achievements: Accurate and rapid implementation of services that respond to changes, etc.

Security experts keep your data safe

We will design and operate the system in a way that reduces data security risks and ensures proper protection of personal information.

- CDO team achievements: intrusion, destruction, ransomware, patch management, privacy information leakage countermeasures, etc.

It is difficult to find and develop such a well-rounded superperson, so the CDO will provide leadership and the entire CDO team will take on this role.
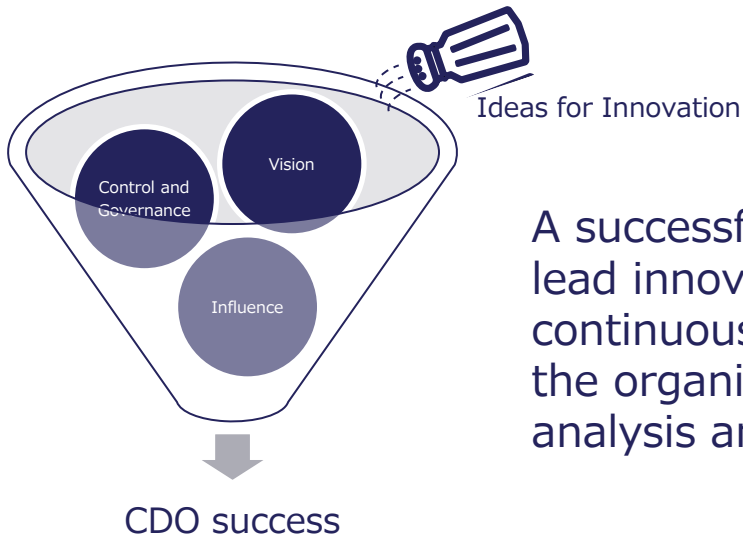
The CDO is best suited to someone who has a holistic view and is quick to try things out. Whether you choose someone who looks at data from a user's perspective or someone who is an expert on data depends on the company's management policy.

Since the role often involves fundamental reforms, it is common for CDOs to bring in suitable candidates from outside the company.

CDO Vision and Responsibilities

The CDO to show the vision and story to be pursued , obtain agreement with the executives, and show the team the direction and path to follow.

In order to realize this vision, we will control the project and ensure governance, while also explaining the importance of data management to each department and working to popularize it so that a culture and infrastructure that values data will take root.

Ideas for Innovation

Vision

Control and Governance

Influence

A successful CDO also needs to lead innovation and drive continuous improvement across the organization through data analysis and utilization.

CDO success

Specifically, the CDO is expected to fulfill the following responsibilities:

Value Creation and Leadership
Creating initiatives such as data infrastructure development

Presentation of a success model (small success)
Use case creation
Monetization

Developing and providing data environments
Achieving data management and governance
Data quality improvement
Maintaining data infrastructure

Improving organizational capabilities
Realizing Capabilities
Improve data maturity

Ensuring safety, security and reliability
Security measures
Sensitive Information Protection
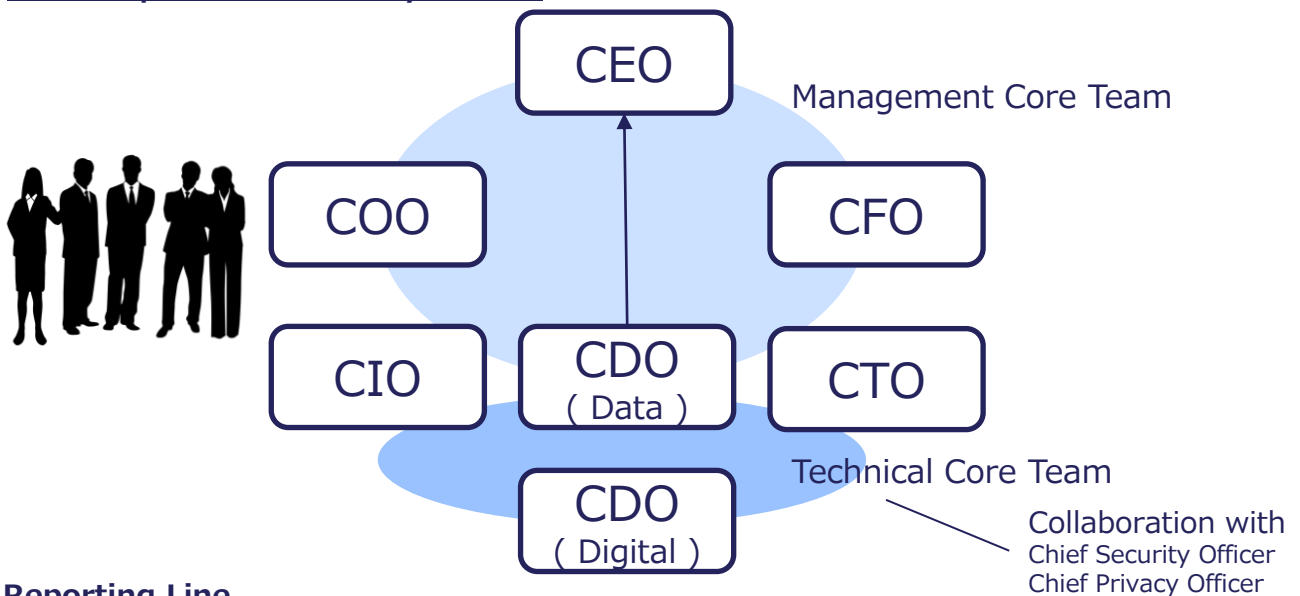Ensuring compliance
Ensuring transparency and accountability

As a data professional, it is also an important role to provide advice to help people in the field find data insights that may not be noticed.

CDO and Organization Relationship

Even if a CDO is suddenly appointed, person may not understand the role and positioning of the CDO, and may have an image of a traditional data management officer. There are many cases that the person who appointed the CDO also appointed the CDO without understanding the importance of data.

On the other hand, data is an important asset and a criterion for making decisions for an organization. For this reason, leading organizations appoint a CDO to the core of management and define person's role.

Example of the system

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                    ┌──────────┐
                    │   CEO    │          Management Core Team
                    └──────────┘
                         ↑
  ┌──────────┐      ┌──────────┐          ┌──────────┐
  │   COO    │      │          │          │   CFO    │
  └──────────┘      │          │          └──────────┘
                    │          │
  ┌──────────┐   ┌──────────┐      ┌──────────┐
  │   CIO    │   │   CDO    │      │   CTO    │
  └──────────┘   │ ( Data ) │      └──────────┘
                 └──────────┘
                 ┌──────────┐              Technical Core Team
                 │   CDO    │
                 │(Digital) │              Collaboration with
                 └──────────┘              Chief Security Officer
                                           Chief Privacy Officer
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Reporting Line

Like the CFO, the Chief Executive Officer handles the assets that are the lifeblood of the organization, so his reporting line is the CEO or COO.

Division of roles between

The CIO is in charge of IT , the CTO is in charge of applying technology to products and services, the CDO (Digital) is in charge of reforms using digital technology, and the CDO (Data) is in charge of data asset management and data-oriented reforms. Because this is a rapidly changing field, a system is needed that allows for close collaboration.

the CDO belongs

A cross-departmental department that includes the corporate planning department and the information systems department.

Does the D in CDO stand for Digital, Data, or Design?

CDO was originally known for its use of digital technology . However, as the essential importance of data as a management resource has increased, data has now become mainstream. Design is rarely used outside of design companies.

What is the Difference Between CIO and CDO

In the 1990s, CIOs were said to deal with information, but in reality they often deal with IT, and now they are the person in charge of IT . Since CDOs deal with data, which is the source of information, CDOs are increasingly taking on the role of person in charge of all information. Also, CIOs mainly deal with information within the organization, but CDOs deal with a wider range of data, including exploring external data.

IPA

Digital Infrastructure Center