

Report on Digital Transformation (DX)

- Overcoming of “2025 Digital Cliff” Involving IT Systems and Full-Fledged Development of Efforts for DX-

(Summary)

2025 Digital Cliff

Many business owners seem to understand the importance of a digital transformation (DX) as a means of creating new business models or modifying existing ones by taking advantage of new digital technologies in order to further grow their business and enhance their competitiveness. However:

- They face difficulties in data utilization across internal departments due to operational department-based construction and excessive customization of existing systems, causing the systems to be overly complex and closed;
- They face challenges in approaches to carrying out DX, since employees affected by DX often reject such business reforms regardless of business owners' decisions to undergo DX, despite the fact that companies that do not solve the challenges mentioned above in the existing systems to allow for better data utilization, or review the entire business systems are less likely to succeed in the long term.

→ If companies cannot overcome these challenges, Japan may suffer an economic loss of up to 12 trillion yen per year after 2025, three times larger than the current loss (“2025 Digital Cliff”) due to the failure to achieve DX.

Scenario for achieving DX

[Scenario for DX] By 2025, Japanese companies should organize existing, closed, overly-specific and outdated systems and determine which systems should be abolished. In parallel with this, they should renovate necessary systems and implement a DX strategy. This is expected to improve Japan's real GDP in 2030 to over 130 trillion yen.

Measures for promoting a DX (1)

Japanese companies, including user companies and vendors, across all industries should share the recognition of the “2025 Digital Cliff” and the “Scenario for achieving a DX,” and they should achieve the scenario in parallel with addressing their challenges, while the government of Japan should develop business environments to support the scenario.

Current situations of and challenges in carrying out a DX

If companies cannot solve the closedness of their existing systems:

- [i] They cannot fully make use of data and will fail to achieve a DX.
- [ii] They may face a surge of maintenance costs for the systems and an increase in technical debt.
- [iii] They may face a higher security risk due to a shortage of personnel trained in the maintenance and operation of the systems.



DX in Companies should upgrade their existing systems by introducing new IT systems to form a base of a DX that addresses changes in the business environment, as a means for developing full-fledged manner.

*In spite of this
problem
awareness...*

A) Many business owners may not fully design their approaches to ascertain problems of their existing systems and overcome them.

B) Stakeholders in charge of the existing systems may not fully support the renovation of such systems.

- Top executives may not strongly support DX, so the company may lack the drive to implement it.
- Information system departments tend to accept the proposals offered by vendors without questioning them.
- Operational departments do not execute ownership, yet complain about the results.

C) Renovation of the existing systems may involve significant costs for a long period of time and this may be a potential risk for business owners.

D) User companies and vendors should construct a new relationship.

- Companies tend to commission all work to vendors, and many such vendors are often forced to take responsibility for these duties.
- If the definitions of requirements in contracts are obscure, companies and vendors tend to encounter problems.
- Roles of user companies and vendors may change through implementing DX.
- Conventional contracts may not cover some items, e.g., agile development.

E) Shortage of human resources trained to undertake DX

- User companies face a shortage of human resources that are able to understand goals that can be achieved by IT.
- Vendors tend to allocate their human resources and funds to maintenance of existing systems and do not fully shift their efforts to a competitive business domain, e.g., application development using cloud computing.

Measures for promoting DX (2)

Measures

1. Establish metrics to make efforts visible and objective analysis schemes

To encourage business owners to ascertain the current situations and their IT system problems and appropriately govern them:

- Formulate metrics to make companies' efforts visible:
 - Current situations of information assets, e.g., levels of technical debt and data user-friendliness;
 - Current frameworks for renovating the existing systems and processes for implementing the frameworks.
- Establish simple and objective analysis schemes

2. Formulation of a “DX Promotion System Guidelines”

- Propose ideal approaches to frameworks for renovating existing systems and processes for implementing the frameworks in advancing such renovation and making use of new digital technologies.
- Utilize the guidelines as a checklist for business owners, boards of directors, shareholders, etc.
 - Ensure the guidelines follow the Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation or the Competitive IT Strategy Company Stock Selection Program.

3. Measures for reducing costs and risk in establishing IT systems to achieve DX

- Share goals for updated IT systems that companies should create, which are able to react changes in business environment.
- Abolish unnecessary systems and simplify the entire system before renovation.
- Demonstrate the benefit of utilization of micro services, etc. in advancing the innovation (including the risks typically associated with updates).
- Establish a common platform for cooperative areas (“cost reduction effect”) (demonstration)
- Tax benefits under the Connected Industries policy (by FY2020)

4. New relationships between user companies and vendors

- Review the contract guidelines to meet system reconstruction and agile development goals.
- Discuss utilization of research and development partnerships (e.g., utilization of such partnerships in creating software applications).
- Promote utilization of ADR to solve problems involving contracts from previous business model.

5. Development and securing of human resources trained in DX

- Move human resources responsible for maintenance of the existing systems to the field of DX.
- Develop human resources in operational departments into those responsible for DX through involving them in agile development.
- Develop human resources by conducting training programs (e.g., skill standardization and certification courses).