

Digital Transformation

**—Opening Up the Future through Co-creation of Values—
(Summary)**

May 19, 2020

Keidanren

Digital Transformation

—Opening Up the Future through Co-creation of Values—

Introduction

Society 5.0

— Image of co-creating future society through digital transformation (DX)

Chapter 1

Industrial structural DX

— Japan-original DX centered on co-creation; Industrial structural reform

Chapter 2

Corporate DX

— Viewpoints in the promotion of corporate DX

Chapter 3

Establishing new rules and governance;
International rollout through co-creation by industry, academia, and government

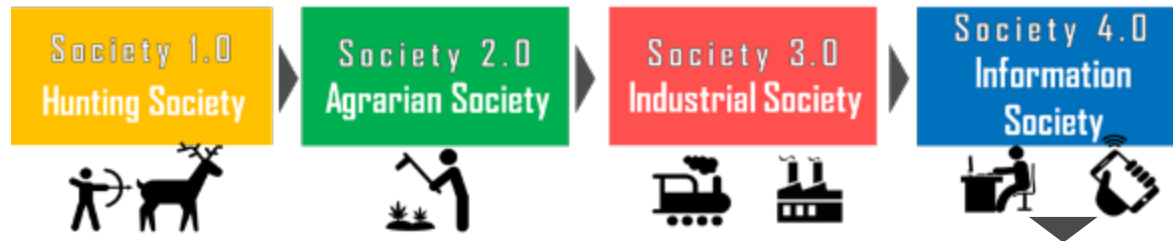
— Rulemaking for data use; Governance innovation

Conclusion

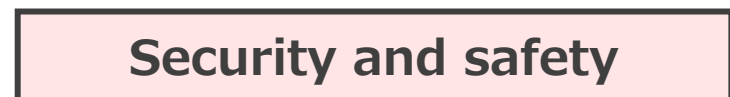
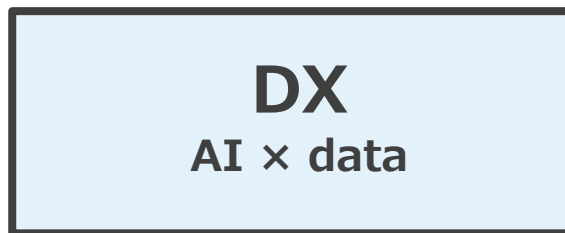
Accelerating Digital Transformation as Reiwa Reformation

- Advancement in digital technology has brought about rapid social transformation—namely, digital transformation (DX). In an era of unpredictable future, now is the time to take up the **challenges of the unknown** in various fields.
- As of May 2020, mankind is facing the crisis of coronavirus disease (COVID-19). There have actually been various attempts to stem the pandemic with digital technology. **COVID-19 has brought about significant changes in the global situation and people’s mentality.**
- In addition to COVID-19, the world faces a mountain of problems. **Striking a balance between economic growth and sustainability is a major social concern.** In this situation, Japan is proposing “Society 5.0” as the concept of a social model that creates values while solving problems.
- In spite of Japan having entered the new Reiwa era, there are still deep-rooted social structures and practices from the preceding Showa and Heisei eras. It is necessary to **achieve Japanese-style DX in order to promote bold changes characterized as Reiwa Reformation and open up a new future.**

The new Society 5.0 (Creative Society) will be a society that we will create ourselves by combining DX with the imagination and creativity of diverse people to create values and solve problems. The viewpoint of building a bright future society through DX is important.



Society 5.0: Creative Society



The change brought about by data and digitalization is not a technological one; it is a major change in the very foundation of society and culture, transforming the value standards and yardsticks of society.

DX is not limited to simple "kaizen", labor saving, automation, greater efficiency, and optimization using digital technology. DX is reform to create new values, which sometimes comes with the destruction of established ideas, in response to fundamental social changes.

Digital Transformation



Definition in this Proposal

Fundamental and revolutionary changes in **society, industry, and life** as a result of advances in the use of digital technology and data; and **radical changes implemented by industries, organizations, and individuals** toward such transformation.

- DX is not simply the modification of IT systems; it is an issue that shakes up the very foundation of society and business. Companies should work proactively and voluntarily on DX as the top priority management issue.

Industries have so far been classified based on types of business and products; but, going forward, they will be classified based on experience value provided to consumers and the problems they solve. The pyramid industrial structure with major companies at its apex will transform into a flat co-creation structure.

Up to Society 4.0

Industries based on product and business types

Electricity, autos, infrastructure, construction, medical equipment, logistics, financial services, etc.

Society 5.0 and thereafter

Industries based on values realized and issues solved

Comfortable mobility, environmentally friendly energy, realization of health, etc.

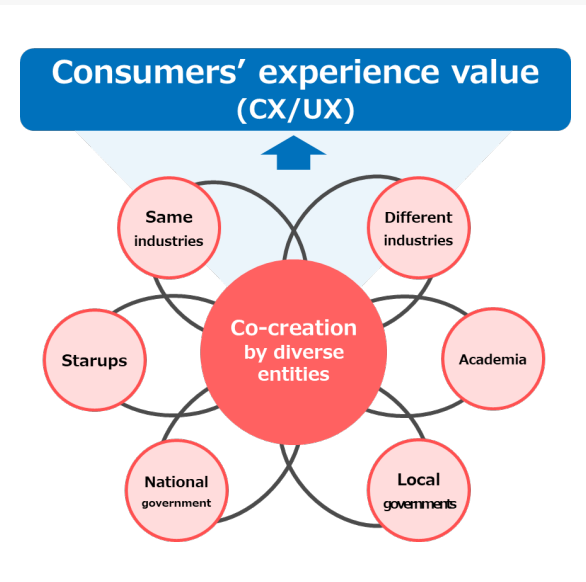
It is necessary to switch to an **autonomous, decentralized co-creation framework** whereby businesses build an industrial structure based on the consumers' values and bring together technologies and channels in their areas of expertise to realize these values.

With DX moving ahead in many countries, it is important for Japan to set its own direction, harnessing its strengths and characteristics while collaborating internationally. Japan-original DX should aim at realizing consumers' values through co-creation by diverse entities.

● Japan-original DX

Value co-creation model: Realizing consumers' values through co-creation by diverse entities

- A model that removes existing divisional and sectoral boundaries for the promotion of organic, autonomous co-creation by various entities sharing the consumers' values—such as companies in the same or different industries, startups, universities, and national and local governments.
- This model goes beyond conventional corporate and business tie-ups; it promotes more fundamental, organic collaboration for the realization of consumers' values.
- Diverse entities work to share trusted data in accordance with consumers' will.



DX originated in other countries



United States

- Tech giants offer a variety of innovative services.
- Conventional industries undergo business conversion through DX.



China

- State spearheads DX. Big technology companies collect massive data.
- Value sharing through the social credit system is expanding.



European Union

- Each member country promotes DX in their areas of expertise.
- The EU pursues a single digital market strategy but prioritizes the protection of individual rights, such as by enforcing the General Data Protection Regulation.

The key element and differentiation factor of corporate DX is **co-creation**. Premised on co-creation, direction in strategy and implementation is determined for each component: **management** in charge of overall direction of the organization; **human resources** model for DX promotion; specific **organizational** structure and culture to be established; and the **technological** foundation, such as data and systems, to be built for DX and legacy transformation (LX).

1 Co-creation



- Organic, autonomous co-creation to realize consumers' values
- Co-creation by diverse entities (in terms of industries, size, history, etc.) in various forms (services, products, data, human resources, etc.) using digital technologies

Promote co-creation to gain profit

2 Management



- Desirable DX vision and qualifications of managers
- Methods for refocusing management, formulating business strategies (for existing, spin-off, and new businesses), and reforming businesses, through DX

3 Human resources



- Human resources model for DX promotion
- Training and personnel systems

4

Organization



- Organizational culture
- Organizational structure (e.g., Dejima units)

5

Technology



- Building data and systems for DX and LX

1 Co-creation



● Co-creation in the Society 5.0 era

Co-creation means an unprecedented dimension of collaboration premised on providing values and solving social problems from the consumers' point of view, going beyond simple corporate or business tie-ups. It aims at building new business models and ecosystems in which diverse entities generate profit by combining a variety of methods to integrate their strengths and compensate for each other's weaknesses.

● Co-creation methods

Entities collaborate with others to build new businesses by adopting one or more methods including those not listed below. The key is to **create mechanisms and venues for diverse entities to participate, clarify the objectives and the consumers' values to be realized, be spearheaded by an entity taking the initiative, ensure multitiered communication, and build governance systems supporting co-creation.**

(1) Co-creation through services and products

Co-creation participant companies with superior or unique services and products provide them as a series of integrated services valuable to clients, utilizing application program interface (API) linkage and other mechanisms. It is also important to develop services and products from scratch through co-creation.

(2) Co-creation using data

Participant companies promote data-driven businesses by sharing the data they own or effectively utilizing data from multiple companies through personal data trust banks.

(3) Co-creation through human resources

Participant companies create services and businesses that provide values and help solve social problems from the clients' standpoint, for example by mutually supporting, and facilitating exchange of, core DX staff members, digital and IT specialists, and other personnel needed by each company.

Requirements for co-creation

- a. Two or more independent entities
- b. Equal partnership
- c. Sharing of resources and risks
- d. Utilization of DX
- e. Creation of consumers' values

2 Management

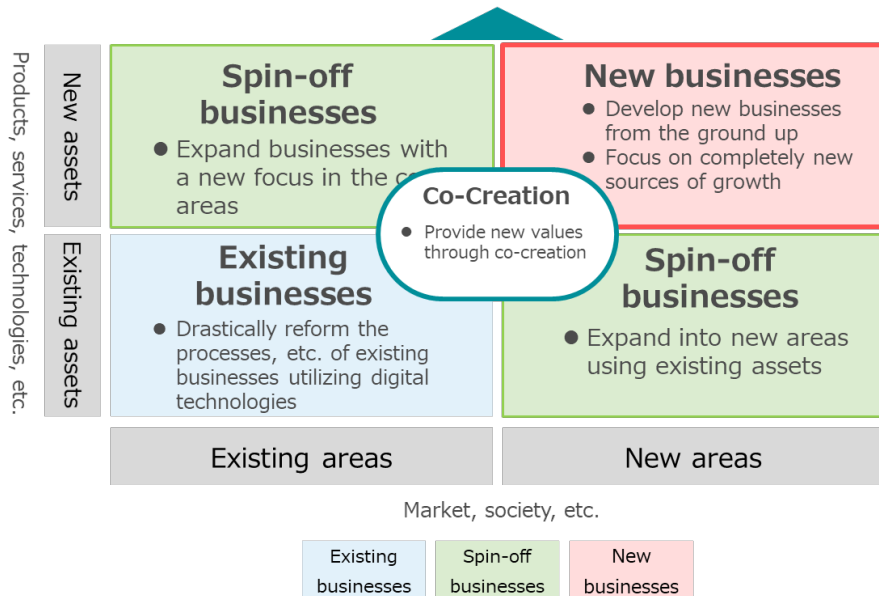
● What is required of managers

- Understanding of and resolve to implement DX
- Clear management vision and leadership in co-creation
- Knowledge of new technologies and businesses
- Refocusing
- Timely decisions and actions

● Business strategy

Formulation of specific strategies for business reform is necessary with the refocusing of management.

Realization of consumers' experience values



Products, services, technologies, etc.

Market, society, etc.

3 Human resources

● Personnel for DX promotion

Promoting DX requires a variety of personnel, and each phase needs different qualifications and abilities: coming up with new ideas, conceptualizing the grand design, and drawing up and executing business plans. These can be summed up in the *kishotenketsu* [introduction, development, denouement, and conclusion] model.

Kishotenketsu human resources model

Ki(Introduction): Personnel for creating 1 from 0

Sho(Development): Personnel for designing structure to increase 0-1 N times

Ten(Denouement): Personnel for enhancing efficiency and minimizing risks in the process of increasing 1 N times

Ketsu(Conclusion): Personnel for meticulously operating the completed mechanisms



Innovation
 Foresight and creativity
 Trial and error
 Aspirations, adventurous spirit, and philosophy

Operation
 Attention to detail and execution ability
 Quality, cost, and delivery
 Calculation and execution ability

Fanciful design	Structural design	Functional design	Detailed design
Creative thinking	Conceptualization ability Mobilization ability	Analytic ability Perseverance	Observation ability
Art	Design	Science	Craft
Artistic thinking	Design mindset	Strategic thinking	Improvement mindset
Personal connections mainly outside the company		Personal connections mainly inside the company	
2030	2025	2022	2020
Community	Conference		Company

Producer-type personnel orchestrating the entire process are also a key factor

4 Organization

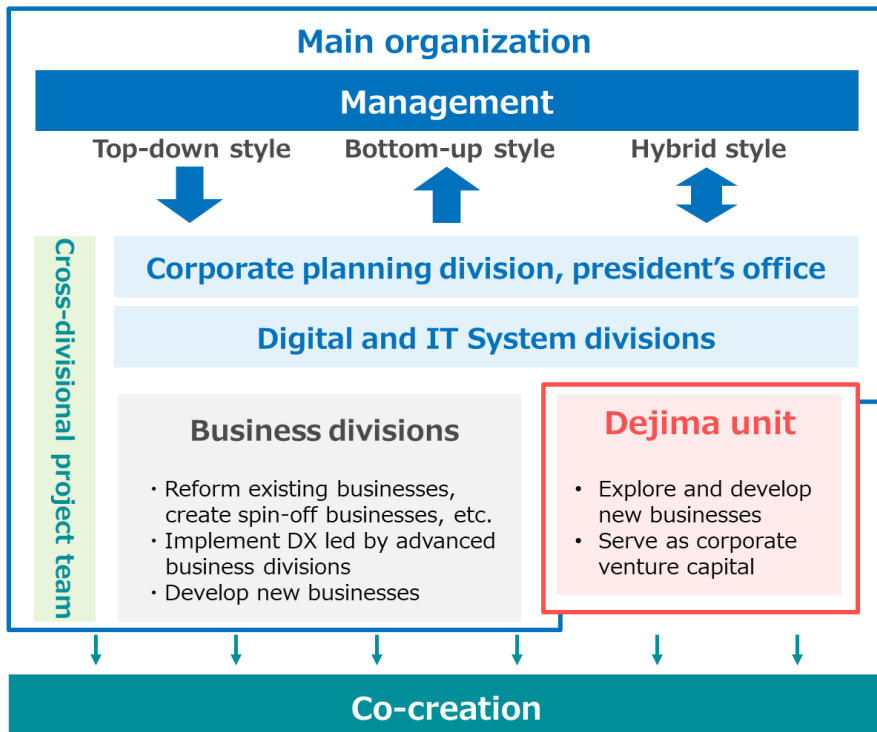
● Organizational culture

The most important organizational culture is to generate new ideas and facilitate change through diversity.

● Organizational structure

Various organizational structures are conceivable in implementing business strategies. Creating a Dejima unit is also effective.

Illustrative example of organizational structure to advance DX



5 Technology

● Technological attributes essential to DX-readiness

To achieve DX-readiness, it is essential to swiftly adopt digital technologies and thereby continue providing systems and services to clients and employees. These require the ability to consistently implement DX while focusing on the latest technological trends.

1. AI-Ready Routinely incorporate AI functions into information systems
2. Cloud-Ready Make it the norm to build and operate systems in public cloud environment
3. Agile-Ready Drastically reform development styles
4. LX-Ready Reform the structure of existing systems (legacy transformation)

These four attributes have been becoming the norm in Europe and the US, where a majority of IT personnel work for the user companies. In Japan, however, greater dependency on IT companies is an obstacle to DX promotion.

A key policy for accelerating DX is for the IT divisions of user companies to regain a certain level of digital and IT capabilities.

● Co-creation of data

To advance co-creation, it is crucial to build a connectable yet autonomous and decentralized architecture as the common infrastructure; define quality criteria for data to be transmitted and linked together so as to avoid factors obstructing data sharing; and ensure that a possible co-creation participant satisfies the criteria.

- We present our Co-creation DX Indices, as examples of qualitative indices for phased improvements in the five factors essential to advancing DX centered on co-creation.
- As a first step, we advise companies to work to reach Level 2, the DX-ready level, before aiming at the achievement of a higher level.

	Co-creation	Management	Human resources	Organization	Technology
Lv5	<ul style="list-style-type: none"> Drive industrial restructuring centered on multiple co-creation projects 	<ul style="list-style-type: none"> A majority of managers lead DX Appoint global talents to the management DX accounts for 30% of profit 	<ul style="list-style-type: none"> Globally roll out <i>kishotenketsu</i> personnel Turn literacy education into assets for marketing 	<ul style="list-style-type: none"> Position DX in the heart of the organization Succeed in transforming into DX-based organization by reorganizing existing divisions 	<ul style="list-style-type: none"> Lead DX implementation projects on its own Fully adopt AI, cloud, Agile, etc. in most DX implementation projects Engage in full-fledged LX
Lv4	<ul style="list-style-type: none"> Drive multiple co-creation projects to create new business areas 	<ul style="list-style-type: none"> Management drives DX Appoint multiple outside talents to the management DX accounts for 10% of profit 	<ul style="list-style-type: none"> Acquire almost sufficient <i>kishotenketsu</i> personnel through outside recruitment and co-creation Provide full-fledged literacy education 	<ul style="list-style-type: none"> Have an independent DX promotion unit Run multiple DX projects launched by existing divisions Have the entire company engage in organizational cultural reform 	<ul style="list-style-type: none"> Undertake majority of DX implementation projects on its own Introduce AI, cloud, Agile, and other major technologies with implementation in progress Partially start LX
Lv3	<ul style="list-style-type: none"> Define co-creation areas and incorporate them in management plans Start co-creation projects that harness the company's strengths 	<ul style="list-style-type: none"> Incorporate DX vision in management plans and announce such vision Appoint an outside talent to the management Make certain amount of profit through DX 	<ul style="list-style-type: none"> Start expansion of human resources through outside recruitment and co-creation Start implementation of literacy education 	<ul style="list-style-type: none"> Pursue multiple new businesses launched by the DX promotion unit Start operational collaboration with existing divisions Engage in full-fledged organizational cultural reform 	<ul style="list-style-type: none"> Introduce AI, cloud, Agile, and other major technologies for DX implementation projects Start LX projects upon plan approval
DX-Ready Lv2	<ul style="list-style-type: none"> Recognize that co-creation is indispensable for DX promotion Identify the company's strengths and weaknesses in undertaking co-creation 	<ul style="list-style-type: none"> Management understands the essence of DX Undertake self-evaluation on DX Appoint technology experts to management Set profit target through DX 	<ul style="list-style-type: none"> Have a recruitment plan in place through assessment of adequacy of <i>kishotenketsu</i> personnel Implementation of literacy education plans in place 	<ul style="list-style-type: none"> Have a DX promotion unit set up Establish collaboration method between DX promotion unit and existing divisions Start organizational cultural reform 	<ul style="list-style-type: none"> Define technical areas of DX implementation projects Assess the need for LX and draw up implementation plan
Lv1	<ul style="list-style-type: none"> Focus on internal efforts 	<ul style="list-style-type: none"> Leave DX examination to individual divisions Fail to recognize DX's impact on the industry and the company's management 	<ul style="list-style-type: none"> Definition of necessary DX personnel pending Implementation of literacy education plans pending 	<ul style="list-style-type: none"> Organizational response to DX promotion pending 	<ul style="list-style-type: none"> Have DX systemic response mostly outsourced Drafting of LX vision pending

To promote DX, it is essential not only to reform the domestic systems and rules through close public-private cooperation but also to formulate global rules in order to roll out Japan-original DX internationally and create values with its partners in the world.

● Rulemaking for data use

- At present, individual jurisdictions adopt their own strategies, systems, and rules for data use, resulting in fierce competition.
- To realize Society 5.0 through the international rollout of value co-creation DX, it is necessary to establish consistent rules backed by a global consensus to enable secure data use across national boundaries.
- The concept of “Data Free Flow with Trust” precisely aims to advance such efforts.
- It is important to establish rules at the World Trade Organization, ensure bilateral or multilateral regulatory cooperation, and utilize private-sector frameworks such as the World Economic Forum.

● Governance innovation

- Flexible risk-based regulation by the government is necessary to encourage the private sector to undertake innovative initiatives. At the same time, the private sector needs to take a disciplined approach, such as through voluntary formulation and announcement of codes of conduct, to supplement government regulations.
- The G20 Ministerial Statement on Trade and Digital Economy of June 2019 called for governance innovation. Various stakeholders should participate in the discourse on a fundamental review of regulations in response to progress made in DX.