

DX Offerings to Support Transformation of Organizations and Human Capital

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Abstract

In response to enormous progress in technology as well as the acceleration of the digital shift and the increase in uncertainty triggered by the novel coronavirus infection (COVID-19) pandemic, digital transformation (DX) is now an urgent matter for companies to tackle. To enable companies to promote DX so that they can increase their cooperate value while keeping a clear eye on the direction in which they should go, the transformation of their human capital and organizations that support their DX strategies is essential. In this paper, we will first discuss the type of human capital and organizations that are regarded as necessary for DX and then we will introduce NEC's DX offerings that support our customers as we accompany them in the digital transformation of their human capital and organizations by leveraging NEC's accumulated experience in the digital transformation of NEC's own human capital and organizations.



DX human capital development, talent management, corporate climate reform, change leader

1. Introduction

In response to the opportunities presented by the novel coronavirus infection (COVID-19) pandemic, the digital shift has accelerated, consumer behaviors and values have become increasingly diversified, and digitalization has progressed more than expected because of the interconnections between people, companies, and society. Companies can no longer delay the promotion of digital transformation (DX) to improve their corporate values and respond quickly to drastic changes in external environments. The obstacle to achieving DX is a shortage of in-house talent. Companies must develop talent who can agilely implement DX throughout the company by incorporating the latest technologies so that they can achieve their goals that were impossible with conventional ways of thinking. Against this backdrop, NEC has started providing DX offerings to support the DX development of human capital and organizational transformation by leveraging our accumulated experiences in NEC's own digital transformation.

The Japan Management Association conducted a survey on DX promotion issues which was given to executive officers of companies. According to the results of the

survey, about 90 percent of the respondents answered that the shortage in DX talent is their main issue — this percentage was much higher than those who said that the inability to draw DX vision roadmaps was an obstacle. This data backs up the fact that there is a shortage of talent regardless of what DX policies are made.

What kind of human capital is needed to become DX talent? NEC defines DX talent as those who can use digital technology to solve social and managerial issues and those who create new values for society. This definition, however, is rather abstract, so we tried to clarify it more as we describe it in section 2.

2. Prerequisites for Talent Required in the DX Era

2.1 What are the behaviors necessary to bring about a digital transformation?

To quickly and accurately cope with drastic changes in external environments, the four behaviors shown in **Fig. 1** are necessary.

(1) Agile promotion of operations

Because of increased uncertainty and the future

being difficult to predict, talent must proceed with a focus on speed and take action as soon as possible even if plans which are incomplete or small-scale. To carry out this series of operations, talent who can lead the project is required.

(2) Data-driven discovery of a means

In the midst of an accelerated digital shift, talent must be able to understand the current conditions and come up with data-driven solutions to accurately grasp changes in customer behavior, business climate, workstyles, and employee expectations.

(3) Cross-departmental promotion

To provide new customer experiences and to promote business reform agilely, companies need to

have talent who are capable of directing and operating company-wide projects by gathering the knowledge beyond the barriers between divisions and departments as well as between business and IT areas.

(4) Practical use of the latest technology

Rapid advances in technology make it more likely that we can do what was previously unachievable. To accomplish business goals and solve a wide variety of issues, talent who can plan how to leverage the latest technology are needed.

2.2 Need for DX talent

The ideal DX talent who demonstrate the desired behaviors described in section 2.1 are defined for general purposes in **Fig. 2**. Customer-specific DX talent is defined in the DX talent reinforcement program’s shared offering, which is described in section 4. The training programs are planned in accordance with those definitions.

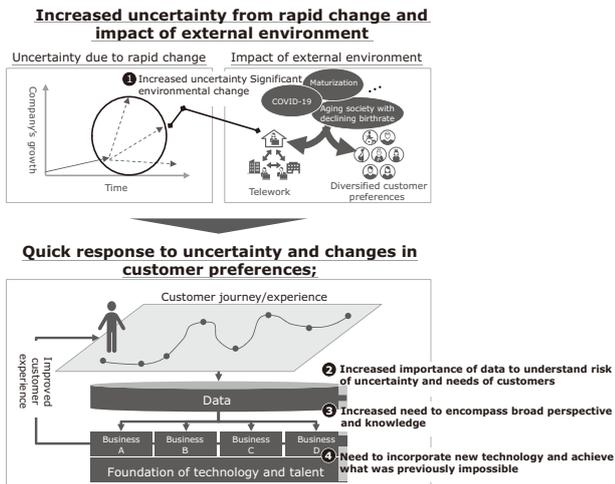


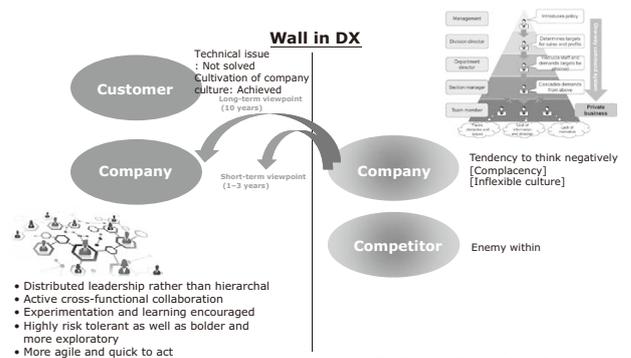
Fig. 1 Environmental changes and required behaviors.

Definition	Main role/outline
1 DX strategist	<ul style="list-style-type: none"> Creates customer value from customer viewpoint Responsible for planning and implementing DX projects
2 DX consultant	<ul style="list-style-type: none"> Identifies and classifies business issues to derive solutions from analysis of the root cause and determine priorities
3 CX designer	<ul style="list-style-type: none"> Seeks to improve customer experiences (CX) by understanding essential issues and improving services so that customers can use them naturally and easily so their quality of life is improved
4 Data scientist	<ul style="list-style-type: none"> Well versed in digital technology (AI, IoT, etc.) and data analysis
5 DX system architect	<ul style="list-style-type: none"> Determines potential system requirements and proposes architecture that addresses them Performs implementation design and sizing
6 Full-stack engineer	<ul style="list-style-type: none"> Has knowledge in multiple fields of technology and can develop services using cloud applications and agile development
7 Security engineer	<ul style="list-style-type: none"> Selects appropriate technology that ensures safety of important information including that of the customers when developing solutions and security
8 SRE engineer	<ul style="list-style-type: none"> Automates construction, operations, and troubleshooting of systems and also improves the quality and reliability of overall service.

Fig. 2 Examples of DX talent.

3. How to make the promotion of DX in an organization

Now let’s take a look at how DX should be promoted in an organization. From the perspective of a model common to companies that have been successful in a digitally competitive environment as shown in **Fig. 3**, we explain it based on the discussions in The Technology Fallacy by Gerald C. Kane, et al.¹⁾. The book argues that “digitally mature organizations are: less hierarchal and more distributed in leadership structure; more collaborative and cross-functional; encouraging of experimentation and learning; more bold and exploratory, with a higher tolerance for risk; and more agile and quick to act.”



Source: The Technology Fallacy, by Gerald C. Kane, et al.

Fig. 3 Common model among successful companies in a digitally competitive environment.

Also required is organizational design that also gives consideration to the securing of trained talent and their retention. In this design it is important that the functions of the organization and the required talent be clarified (organizational design and staffing plans), opportunities for active roles be provided in a planned manner (staff placement plans), skills and career paths be visualized (skill management), and performance targets as well as a fair and equitable assessment system that align with organizational goals be established (target management and performance assessment). All these need to be combined with talent reinforcement and development.

4. DX Offerings for Organizational Reform and Human Capital Provided by NEC

To help customers achieve organizational reform and the human capital necessary for the DX era as we have discussed, NEC provides a wide variety of offerings. This section introduces three major services that NEC has to offer.

4.1 Overview

NEC carries out its shared offerings with customers in two approaches to help them attain the organizational reform and the human capital necessary to promote DX. The first is a “hard” approach for items that can be documented and formalized such as visions, strategies, organizational structures, and operational details and rules. The second is a “soft” approach for items that are difficult to document or to formalize such as skills in terms of personality, interpersonal relationships, leadership, decision-making patterns, and awareness.

Reform is difficult to achieve with one of the two approaches alone. We recommend promoting DX with a combination of both approaches. Some of NEC’s DX



Fig. 4 Two approaches to DX.

offerings for which many inquiries have been made recently are shown in Fig. 4.

4.2 DX offerings for the hard approach

Based on fit-gap analysis of current conditions, NEC offers the following three services targeted at a range of activities from organizational design to talent management (Fig. 5).

(1) Assessment of organizational reform and human capital

The overall picture of the transformation ranging from organizational design and staffing plans to staff placement plans, skill management, and target management are assessed and then the points to be improved and priorities are clarified. Because this assessment is based on a framework resulting from the practical experiences at NEC, the assessment can be completed within the short period of one month.

(2) Support for organizational design and staffing plans

As a follow-up to the assessment described in section 4.2.1, organizational functions, required positions, job descriptions, and staffing plans are determined.

(3) Support for the implementation of talent management

After the planning described in section 4.2.2 has been completed, the details in staffing plans, skill management, and target management are decided. As effective ways to retain existing human capital and obtain new skilled talent, give opportunities to trained talent, show them attractive career paths, and change the assessment system to the one that highly rates challenges.

Offerings	Details
Assessment of organizational reform and human capital	<ul style="list-style-type: none"> Based on NEC’s framework, performs fit-gap analysis to clarify points of reform in existing systems, schedules, and operational systems
Organizational design and staffing plans	<ul style="list-style-type: none"> Clarifies organizational functions and roles of positions required for DX promotion and designs structures to attain reform
Talent management	<ul style="list-style-type: none"> Creates new portfolios of talent required for DX promotion and defines their new career paths, skills, and knowledge
	<ul style="list-style-type: none"> Designs staffing plans for required positions after carefully considering individual experience, skills, career paths, wishes, and circumstances.
	<ul style="list-style-type: none"> Sets goals for capacity building and recommends plans to attend training courses and appropriate assignments while linking organizational goals with personal goals to reflect them in daily operations.

Fig. 5 List of DX offerings for the hard approach.

4.3 DX offerings for the soft approach

In accordance with the issues and needs of customers, NEC provides the following three DX offerings.

(1) DX talent reinforcement program in shared offering

The necessary skills for the DX talent are derived from definitions such as those in the list of examples in Fig. 2, and then the necessary training programs are established in accordance with the gap analysis of those skills that are needed and those skills that the talent currently possess. Also carried out in this offering are investigations into methods of assessing the training results and into the availability of opportunities. This offering flexibly meets customer needs by setting the scope of the talent to be targeted in the members of the DX promotion and IT departments for example (Fig. 6).

(2) Change leader training program

This program trains the leaders who will promote DX, conduct the company-wide transformation, and build comfortable relationships among people in the



Fig. 6 DX Talent reinforcement program — shared offering.

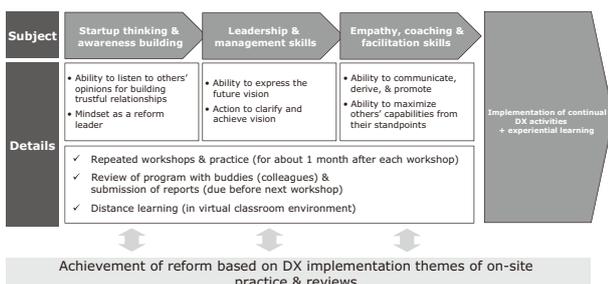


Fig. 7 Change leader training program.



Fig. 8 Support for organizational culture reform.

cross-functional company teams. Not only do they learn methodology from attending lectures, they are also coached in how to apply the DX scheme to practical tasks in their businesses (Fig. 7).

(3) Support for reform of organizational culture

This offering supports our clients as they perform continual activities to realize the ideal form of the organization by examining its strengths, features, concerns, troubles, and obstacles found in the practical activities to bring about the transformation. In many cases, the reforms are first launched in a specific section of the company rather than on a company-wide scale (Fig. 8).

5. Conclusion

In this paper, we first introduced the capabilities of staff and organizations that NEC regards as necessary in the DX era. Then, we discussed the DX offerings that NEC provides for the talent reinforcement and organizational reform needed for digital transformation. These offerings are based on NEC's accumulated experiences in our own organizational reform and talent reinforcement as well as various NEC's assets. These offerings therefore contribute to the realization of speedy and realistic reform. By accumulating more experiences in the provision of such offerings, NEC will enhance our assets to further improve the value provided to customers in the future.

Reference

- 1) Gerald C. Kane, et al.: The Technology Fallacy, The MIT Press, 2019

Author's Profile

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The details about this paper can be seen at the following.

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