

NEC's Digital Workplace – Where New Workstyles and Businesses Are Created

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Abstract

Partly due to the novel coronavirus infection (COVID-19) pandemic, the digital shift is advancing on a global scale and greatly changing social values as well as individual values. To deal with this situation, companies now must acquire agility against change and greater resilience in business. NEC is no exception; the company is also making efforts to maximize the performance of NEC's human capital by providing employees with office environments worth working in that are not only conducive to work but also increase job satisfaction by fully using technology in the corporate infrastructure as well as through cultural and institutional designs. This paper introduces various innovative solutions developed by NEC and also our DX offerings that we provide to our customers by making the best use of those innovations.

Keywords



autonomous, human resource, organization, corporate transformation, data-driven management, agile, AI, Digital Workplace

1. Introduction

Because of the novel coronavirus infection (COVID-19) pandemic, the movement of people and goods continues to be physically blocked on a global scale with restrictions such as stay-at-home orders, city lockdowns, and immigration restrictions on those coming from other countries. On the other hand, the digital shift of society has advanced rapidly as seen in dramatic increases in Internet traffic and in the demand for semiconductor chips for use in data centers, and this shift is bringing great changes to individual lives as well as to society and to the economy.

What is necessary for a company to deal with the digital shift is the agility to adapt to change as well as resilience in business. The means for achieving this is the incorporation of technologies such as artificial intelligence (AI), data utilization, robotics, and 5G into the corporate infrastructure. We also believe that transformations in the work cultures and organizations are critical to enabling employees to manifest their full potential.

In this paper, section 2 introduces workstyle trends and cases in which NEC is endeavoring to embrace the digital shift. Section 3 describes the concept of NEC's

Digital Workplace and the DX offerings available from NEC in accordance with those aforementioned cases.

2. Key Shifts in Workstyle and NEC's Approach

2.1 Key shifts in workstyle

The digital shift of society has exerted a major impact on the way individuals work. Professor Lynda Gratton, who served as an advisor to the Japanese Government's Council for Designing 100-Year Life Society, predicts in her book *The Shift: The Future of Work Is Already Here*¹⁾ that the following three shifts will occur in workstyles as we head toward the year 2025:

- (1) A shift from shallow generalist who knows a little about a lot to serial master who has in-depth knowledge and competences in a number of domains. Individuals are also expected to slip and slide into other areas of expertise throughout their lifetime.
- (2) A shift from isolated competitor who competes for the sake of individual achievement to innovative connector who collaborates with colleagues, part-

ners, and customers.

- (3) A shift from voracious consumer who works in pursuit of consumption to impassioned producer who gets passionate about the work itself or regards the work itself as a great experience.

These shifts will lead to the idea that individuals do not belong to companies and they will not compete with other individuals in any given job as they did in the past. They themselves will instead consider their own careers, develop their own expertise, and collaborate with customers and partners by using that expertise and by connecting with them to inspire innovation and provide value to society. In response to such new workstyles, NEC has developed several approaches.

2.2 NEC's approach

The keys to better coping with the new workstyles are maximizing the use of technologies and transforming the cultural and institutional aspects of organizations. In this section, we will review actual cases showing NEC's approach toward achieving these objectives.

Since 2018, NEC has been transforming the work culture and creating an environment that makes it easier for employees to work by implementing activities such as office reform, the introduction of super flexible work arrangements, and the establishment of telework. As a result, the workstyle of NEC employees has changed drastically as exemplified by a telework rate of up to 85% and by 31,000 web meetings per day being held as of August 2021.

In addition, as one of the key points of the Mid-term Management Plan 2025, activities that can enhance actual job satisfaction while manifesting the maximum potential in the performances of both individuals and organizations will be promoted under the strong commitment and leadership of top management. The following section will outline the concepts behind the application of NEC's approach to the workplace, digital technology, and work principles.

2.2.1 Workplace

Although a hybrid form of work based on the autonomous workstyle of employees can be established with flexible location options in principle, the office has become a communication hub where employees gather. Also, a shared space where employees, guests, and visitors can collaborate in the co-creation of innovations is increasing in importance, and NEC plans to expand such spaces eightfold.

2.2.2 Digital Technology

Beyond the mere framework of IT infrastructure development, NEC uses technology as the driving force for the creation of job satisfaction by having it permeate all aspects of employee workstyles so that both individuals and their teams can be inspired to give their best performances. By eliminating the workstyle restrictions created by location, language, life plans, and other circumstances and by unleashing the power of the wide variety and the large volume of data that exists in the company, NEC can create a workplace that enhances experiences and stimulates productivity so that employees can feel connected to the worlds both inside and outside the company and can experience personal growth. In accordance with the two concepts of well-being by design and security by design, the provision of a client environment with both the security and convenience of the cloud environment for comfort, the simplification of how application forms are used and how inquiries are made by transferring them from multiple locations to a single platform, and the use of robots and AI in jobs that can be standardized enable employees to enhance their work experiences by focusing their business and creative talent on more complex and high value-added tasks. NEC also appreciates the importance of a digital community in which knowledge and best practices can be shared or developed inside and outside the company and in which a variety of data can be analyzed and utilized. Based on this idea, NEC has started the preparation of corporate infrastructure that will enable us to be proactive in making connections to enable data utilization while also taking into consideration possible issues regarding personal information, privacy, and the circumstances of different countries.

2.2.3 Work Principles

Regarding the reform of the organization's culture and systems as well as the people who are supporting new ways of working, in this section we will give some examples of the mindset needed to commit to changes in the relationship between employees and employers, the introduction of job-based management, and how data utilization can enhance team strength.

(1) Commitment to changing the relationship between employees and employers

In the future, the relationship between employees and company will be on a more equal basis in which the two parties select each other. At NEC, as a promise to realize both the career that employees themselves envision and the growth of the company, the NEC Way sets out and clarifies the values

and actions of the company and employees, so the company can commit to the provision of opportunities and discretion to enable employees to make their planned careers come true. The provision of opportunities is based on the idea of career ownership, which is indispensable for the introduction of job-based management. In this way, employees can autonomously design their workstyles so that they can achieve the maximum outcomes with freedom and responsibility and so they can actively develop their careers (**Table**).

(2) Introduction of job-based management

In October 2019, NEC started reforms of its environment and culture under the human resource policy titled "NEC, for Those Who Seek Challenge" so that each employee can be ensured of having a range of opportunities to take on a diversity of challenges and growth and of receiving fair evaluations. Proactive employees who take on these challenges will shine. The introduction of job-based management is one of the reforms that aim to clarify the roles and responsibilities of each person and then reward those who have fulfilled their responsibilities. NEC considers it important to foster a culture in which diverse talents can grow autonomously and take pride in their work by reforming the environment and culture, two areas that are entwined

Table Opportunity and discretion provided by the company.

Opportunity	A situation in which continual growth is possible regardless of age, gender, and nationality so that all employees can realize the careers that they themselves envision
Discretion	Increased freedom in time, location, and workstyle so that employees can design their workstyle under their own leadership (based on gradually introducing remote work, workcations that encompass work and leisure, a four-day work system, side businesses within or outside the company, and other measures)

together, into ones where they can do their best and where career ownership can be fostered.

(3) Data utilization to strengthen teamwork

As a measure for using data to enhance team strength, the degree of job satisfaction, productivity and mental and physical health are the key performance indicators in human resources (HR-KPI) for checking the status of an organization or team. To improve that status, we are also working on being able to diagnose the health of an organization or team in accordance with the information obtained from Microsoft 365, working hours, and personnel data as well as company-wide surveys and stress checks done at regular intervals, so that the results can then be provided to the line managers (**Fig. 1**).

3. NEC's Digital Workplace – Where New Workstyles and Businesses Are Created

3.1 Concept

Based on NEC's approach to maximize the use of technology in corporate infrastructure and to transform individuals, organizations, systems, and culture as described in section 2, this section introduces the concept of the Digital Workplace that NEC provides to our customers.

The Digital Workplace is based on the premise of new ways of working and achieving better results while maintaining overwhelming productivity at the same time as demonstrating creativity through autonomous work in accordance with one's well-being status to promote innovation and to solve social issues (**Fig. 2**).

In addition to the natural consequence of providing an environment where people can work safely and securely even in the COVID-19 pandemic, the Digital Workplace will also enable the realization of workstyles that take into consideration the health and psychological well-being of employees and become a place where both indi-

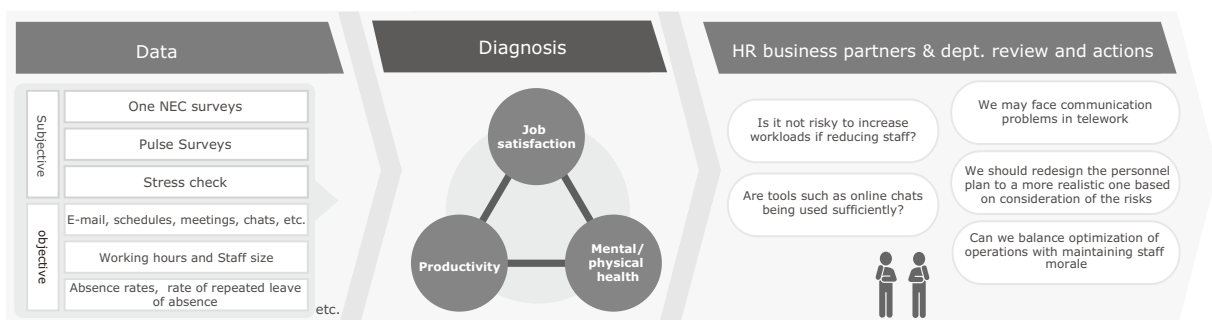


Fig. 1 Diagnosis of team health and productivity (Workstyle analysis platform).



Fig. 2 Concept of NEC's Digital Workplace.

Safe, secure telework <ul style="list-style-type: none"> Virtual Desktop Cloud-based Virtual Desktop 	Workplace with strong teamwork <ul style="list-style-type: none"> Support for workstyle visualization & reform Local 5G managed services Local 5G system integration
Telework Security/Zero Trust <ul style="list-style-type: none"> Security risk assessments Support for development of security policies Support for computer security incident response and procedures Support for maintenance of secure development/operation system and process Support for IoT system security design Cloud security platform Risk hunting Security risk management Cloud security measures for Microsoft 365 NEC Cyber Security Stadium Exercises 	Zero contact to prevent spread of infection and safeguard workplace Digital : identity verification web
Cloud shift <ul style="list-style-type: none"> Multi-cloud operations Public Cloud Connection Development support for cloud-based integrated ID management and planning policy 	Resource visibility and tracking <ul style="list-style-type: none"> Cloud model for body temperature measurement & face recognition and identification
Fusion of real and online <ul style="list-style-type: none"> Business & data-driven agile partner Support for standardization of sales procedures and planning introduction of sales force automation (SFA) 	Transparency and confidentiality in digital society <ul style="list-style-type: none"> Management strategy support based on data utilization Support for planning introduction of data utilization platform
	AI use and automation to focus on complex tasks <ul style="list-style-type: none"> NEC Academy for AI NEC digital assistant
	Diversification of services provided <ul style="list-style-type: none"> Contact center services (Genesys Cloud)
	Autonomy & diversity <ul style="list-style-type: none"> Development programs for human resources Support for workstyle transformation
	Physical/mental support <ul style="list-style-type: none"> Emotion detection

Fig. 3 DX offerings of NEC's Digital Workplace.

viduals and organization can grow significantly.

3.2 DX offerings

To enable our customers to maximize the use of technology in corporate infrastructure and to consider the introduction of and then quickly perform the changes necessary to transform individuals and organizations, systems, and cultures in accordance with the concept described earlier in this paper, NEC has used our wealth of experience and knowledge in the development of our DX offerings shown in **Fig. 3**.

The maximized use of technology includes the use of AI and automation, compatibility with zero trust security and cloud shift, the use of 5G, the provision of a cloud-based virtual desktop, and the use of face recognition.

Strategic consulting services are being deployed to assist with the transformation of systems and cultures in organizations.

Among these DX offerings, we will now focus on those that are particularly important for new workstyles in the future, namely, the use of AI in corporate infrastructure, data utilization, commitment to human resource reform to support the idea of career ownership, and the cultivation of talent.

3.2.1 NEC Digital Assistant – Working with AI

Potential issues

The permeation of telework among businesses has led to the emergence of cases where work involving details has not proceeded smoothly, such as the coordination of

meeting schedules, the settlement of expenses, or the answering of personnel inquiries, resulting in increased pressure being placed on main duties.

Provided value

This DX offering addresses issues that could lead to a decline in productivity for each employee by providing AI Chatbots that immediately respond to requests or questions about detailed procedures using online chats. The AI Chatbots are capable of learning and output optimal personalized recommendations. This improves the productivity of employees and enables them to focus on creative, value-added work that can only be done by humans. By providing employees with a special feeling that comes from working with AI that personalizes responses for them and in a sense understands them, employee engagement would improve.

3.2.2 Business & data-driven agile partners – Data-driven management

Potential issues

In an era of rapid changes where all kinds of data is being used both inside and outside companies, efforts must be made in an agile manner to discover its value and use it in business.

Provided value

This DX offering replaces the conventional methods of waiting to receive the specifications provided by customers before starting development. Instead the project development moves forward in accordance with the key goal indicators (KGI) and the key performance indicators (KPI) of the customers' businesses and we work together with the customers to design and develop the functions necessary to improve the KPIs. For example, to improve a call center's abandonment rate, we utilized the data to identify that the best way would be to reduce the time used to process inquiries and then we developed functions for that purpose.

Advanced IT and business skills are required to determine what functions can help attain the KPIs, and the feature of this DX offering is the provision of talent possessing both of those skills. Various AI technologies are also used in the data utilization. For example, when causal analysis is used, it is possible to analyze the causations that are hidden in the data and that are not identifiable from the correlations, the logic of things, or the mechanisms in context and then present the automatically generated causal mechanisms. This is attracting attention because it can be applied to the analysis of employee engagement as well as in the analysis of products and services.

3.2.3 Commitment to human resource reform

(1) Development programs for human resource reform

Potential issues

To win in a competitive business environment and deal with various changes, companies have an urgent need to adopt measures to remedy their human capital situation, such as securing digital talent and introducing job-based management.

Provided value

This DX offering addresses the aforementioned issues related to human capital. Consultants who are experienced in human resource reforms at NEC or other organizations identify the issues of each customer based on an understanding of the strategies, policies, and other systems used in human resource management and then support the development of roadmaps.

When the skills needed for the jobs are clarified in job descriptions through this service, the customer will not only be capable of securing talent from outside but also of improving the use of the existing talent.

(2) Support for workstyle visualization & reform

Potential issues

Some cases might exist where the current rules do not match the practice of new workstyles. To address issue, supplementation of the rules using quantitative, objective data is necessary.

Provided value

With this DX offering, consultants perform quantitative analysis to solve problems based on a variety of log information related to workstyles and then formulate transformation roadmaps. This offering features the ability to analyze the differences between staff by flagging the talent who are regarded as high performers.

3.2.4 NEC Academy for AI – AI training

Potential issues

Since the beginning of the COVID-19 pandemic, key issues for companies to consider have been the downsizing of existing businesses and the further enhancement of measures taken to shift to digital and online operations. The problems causing these actions to be delayed are the unavailability of highly specialized talent and the lack of know-how.

Provided value

This DX offering is a program for the cultivation of data scientists. NEC is providing the training methodology used by NEC to cultivate large numbers of AI talent as our way of giving back to society. The talents from the customer's company are under assignment at NEC

for a certain period of time so that they not only acquire knowledge but are also able to overcome barriers in practice. One feature is being able to acquire first-hand knowledge by working together with us to tackle issues that might occur in NEC's projects.

4. Conclusion

To become a company or employee capable of providing higher value by transforming dramatic changes occurring on a worldwide scale into opportunities, NEC is making full use of the power of its technologies related to data, AI, and automation, and is also working to transform the culture and systems of organizations and the people in them. At the same time, NEC also provides DX offerings based on that experience and knowledge to support our customers with their new workstyles and expanding businesses.

* Microsoft 365 is a registered trademark or a trademark of Microsoft Corporation in the U.S. and other countries.

* All other company names and product names that appear in this paper are trademarks or registered trademarks of their respective companies.

Reference

- 1) Lynda Gratton: The Shift: The Future of Work is Already Here, Harpercollins Pub Ltd, 2011

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