

Paving the Way to the Future with Digital Utilization

Having witnessed the measures taken to slow the spread of the novel coronavirus (COVID-19) pandemic, a harsh reality has become clear to me. For all its advanced technology, Japan is digitally backwards. I am convinced that effective utilization of digital technology—both to slow the spread of infection and to bring about a high-quality future—is something that is desperately needed right now. What is required for digital implementation is to think outside the box—to come up with ideas that are not inherent to the conventional economical and industrial framework.

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Discovery of what it means to be a digitally advanced nation

When I visited Denmark in May 2019, I felt a mixture of both disappointment and incredulity. I had heard that Denmark was a digitally advanced country, yet I could find no trace of digital utilization in the capital city, Copenhagen. It was nothing like what I had imagined from their digital technology. Instead, what impressed me most was that by about 5 o'clock in the evening people were already gathering on the banks of the canals to enjoy the cool Scandinavian summer each in their own way.

However, when I visited the headquarters of KMD, one of Denmark's leading IT companies which joined the NEC Group in February 2019, I gradually came to the realization that what I saw at the canals—people enjoying the summer—was one of the things the utilization of digital technology made possible. After all, it was digital technology that made it possible for a country with few natural resources to increase its productivity and achieve a society affluent enough and free enough to focus on people's mental wellbeing.

I was also surprised to see that Denmark has achieved

eco-economic decoupling—breaking the link between economic development and resource consumption. According to State of Green, which is a not-for-profit, public-private partnership that carries out Denmark's innovative climate change measures, Denmark's GDP in 2018 was twice that of 1980, while its CO₂ emissions and water use had been reduced by about 40 percent. And while the efforts of its citizens to change their lifestyles certainly contributed to Denmark's success, the utilization of digital technology played a significant role by facilitating, for example, increased usage of alternative energy based on data forecasting of energy consumption.

Japan – a digitally underdeveloped country

When compared to other countries, Japan largely failed to utilize digital tools when undertaking measures against the novel coronavirus (COVID-19) pandemic. Now it must face the reality that it is a digitally backward nation.

According to the Japan Productivity Center's "International Comparison of Labor Productivity" report¹⁾, Japan ranks twenty-first in labor productivity among the 36 na-

tions of the Organization for Economic Cooperation and Development (OECD) and comes in last among the Group of Seven (G7) nations based on the OECD data for 2018.

While European countries assessed as digitally developed countries—such as Denmark, Norway, and Switzerland—have increased their labor productivity since the 1990s, Japan’s productivity has been on a steady decline. Among the G7 countries such as the United States and Germany, Japan’s per-capita GDP has floundered around the bottom together with Italy since the 2000s. Although Japan’s nominal GDP has increased by 22 percent between 2010 and 2018, Japan’s productivity has not increased compared to other countries.

“Digital New Deal”

In the draft on the Basic Policy on Economic and Fiscal Management and Reform approved by the Cabinet on July 17, 2020, the Japanese government pledged to aim at the achievement of a new future in the post-COVID-19 era, that is to say, a high-quality economic society through the “new normal.” This policy defines a high-quality economic society as one where a country is regarded as an indispensable international player while inviting trust and respect from the international community, as well as a country where each individual can maximize their potential and experience prosperity no matter who they are or where they live, and where no one is excluded or left behind.

The policy goes on to state that the government will at once push forward reforms that would normally take a decade and calls the measures pertaining to digital technology—that will be the motive force for those measures—the “Digital New Deal”⁽²⁾. The original New Deal, as is well known, was a series of programs enacted by President Franklin D. Roosevelt in the 1930s in the United States to recover from the Great Depression. By building new public works such as roads and automobiles, it propelled economic recovery.

In his two books, *The Zero Marginal Cost Society* and *The Green New Deal: Why the Fossil Fuel Civilization Will Collapse by 2028*, and the *Bold Economic Plan to Save Life on Earth*, Jeremy Rifkin argues that historical economic transformations have one thing in common—this is that the changes in the means of communications, sources of power, and mechanisms of transportation all occur simultaneously, feeding off one another and exerting mutual changes. When the construction of public works such as the expansion of telephone networks under the New Deal was combined with innovation in fossil fuel technologies and mass production of automobiles, these new infrastructures interacted with one another

and propelled the industrial revolution of the period.

Industrial revolution now in progress

The information revolution powered by the Internet and other technologies which began in the 1990s is now evolving to the next stage. Remarkable advances in the speed of data communication coupled with an equally rapid decline in the cost of computer resources has brought us to the threshold of another great transformation—what we may call the fourth industrial revolution.

And right in the middle of this radical transformation, came the black swan event no one was expecting—the COVID-19 pandemic. I strongly believe what is required now more than ever is the full utilization of digital technology which can help us most effectively address both of these issues: creation of measures to control the pandemic and creation of a high-quality economy and future.

Future-oriented implementation

To enable Japan to become a digitally advanced nation and lead the world into a new future, it is important that we move forward with the digital tools we have created so far while being future-oriented and not being bound by conventional thinking.

As telework becomes the norm, there is no reason for us to concentrate in crowded Tokyo and work there. Freed from geographical restrictions, we may be able to help revitalize communities throughout Japan. For example, local financial institutions are committed to revitalizing local industries by creating new business ecosystems through faster and more diverse linkage of services with local governments and industries, which can be achieved by digitalizing their banking functions. The logistics industry is attempting to solve labor shortages by optimizing overall systems through the utilization of digital technology. And, of course, the retail industry is trying to reinvent itself by using digital technology to transform the shopping experience with remote and touchless services.

An American media theorist, Douglas Rushkoff calls the economic activities which have made headway since the 1990s “digital industrialism,” which he sees transforming itself in the future into what he calls “digital distributism.” Digital industrialism is on the extension of the era of mass production and consumption which has been advanced since the New Deal. It is an industrial form that aims at exponential growth centered on algorithms represented by digital advertisements and gigantic digital platforms in order to shorten the distance between the producers and consumers. Rushkoff argues

that digital distributism, on the other hand, will aim towards sustainable prosperity where communities and individuals will leverage digital infrastructure to solve their respective issues while being free from physical restrictions so that they can be independent and coexist with one another.

Digital infrastructure that can be utilized by industries and even beyond industries

I think it is critical that industries and governmental agencies abandon their adherence to conventional frameworks. And the only way to do this, I believe, is by leveraging digital technology. This should be done with a view to achieving a society that embodies abundant and yet sustainable lifestyles that enrich both the environment and each individual.

We should transcend the traditional boundaries. We should share whatever functions are necessary as long as they are in non-competitive areas. We should build digital infrastructure under one architecture through new active collaborations to improve the productivity of all industries. That is what I believe we should do.

In addition, I think that we should stand on the assumption that digital infrastructure is something that needs to be connected globally. Thus, in order for Japan to become an indispensable country in the global supply chain of a digital economic society, I think that it will be important that we be committed to helping shape international rules such as interoperability and principles pertaining to the construction of digital infrastructure.

The “NEC Way” in the New Era

On April 1, 2020, NEC announced the revised version of the “NEC Way” as part of its celebration of the company’s 120th anniversary. By aligning our purpose with our brand statement “Orchestrating a brighter world,” NEC aims to create the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has chance to reach their full potential.

I believe that this is what I witnessed in Copenhagen—where people enjoy an abundant lifestyle together with eco-friendly economic development.

This special issue of NEC Technical Journal highlights several case studies where our digital technologies have been put to work helping our customers across a range of industries to meet today’s challenges. The NEC Value Chain Innovation is a systemized conceptual architecture designed to foster innovation through a future-oriented approach that fully utilizes digital technology to free both ourselves and our customers from the conven-

tional frameworks of governmental agencies and industrial constraints, while helping to better understand and solve the challenges our customers face.

At NEC, we hope that these co-creation activities will serve as a motive force to achieve a brighter and smarter future.

Reference

- 1) Japan Productivity Center’s “International Comparison of Labor Productivity” report
<https://www.nippon.com/en/japan-data/h00619/japan%E2%80%99s-labor-productivity-lowest-in-g7.html>
- 2) Basic Policy on Economic and Fiscal Management and Reform approved by the Cabinet
https://japan.kantei.go.jp/98_abe/actions/202007/_00019.html

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

Related URL:

NEC Value Chain Innovation (Japanese)
<https://jpn.nec.com/nvci/index.html>

NEC Way
<https://www.nec.com/en/global/about/the-nec-way.html>

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Vol.15 No.1 NEC Value Chain Innovation

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AI-Based Fraud and Risk Detection Service Ensures Transparency While Improving Operational Efficiency and Performance

Paving the Way to the Future with Digital Utilization

General Papers

Development of Neoantigen – Targeted Cancer Vaccine Therapy

NEC Information

2019 C&C Prize Ceremony



Vol.15 No.1
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[Special Issue TOP](#)