Fujitsu's Vision of an Ideal DX Company
–Value of DX in the words of the head of the department of data utilization–

As cutting-edge IT such as AI, IoT, and 5G become more prevalent in society, digital transformation (DX)—which transforms business by applying these technologies to utilize data in more sophisticated way—is making progress. If developed in wide-ranging industrial fields to realize a data-driven society, DX is expected to contribute to the resolution of various social issues and the achievement of Sustainable Development Goals (SDGs), in addition to the growth of individual companies. Against this backdrop, Fujitsu has established a policy of strengthening its DX business to promote its transformation from an IT company to a DX company. In this article, Corporate Executive Officer Izumi Nagahori, who supervises Fujitsu's DX and data utilization businesses as the Head of the Digital Software & Solutions Business Group, is interviewed about his view on the value brought by Fujitsu's idea of DX, Fujitsu's concept of an ideal DX company and the vision for realizing that ideal. (Interview conducted in March 2020)

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[Part 1]
What are the values brought by DX?

The essence of DX is to achieve business transformation that is not limited to the improvement of operations

—In the Management Direction announced in September 2019, Fujitsu laid out a "transformation from an IT company to a DX company" and has been moving ahead with specific measures such as the establishment of [Ridgelinez Limited](#), a new company specialized in DX, in January 2020. As a premise for discussing the aim and significance of these activities, what is DX in the first place? And how does Fujitsu define DX?

Nagahori: DX, or digital transformation, is a concept first proposed by Professor Erik Stolterman of Umeå University in 2004. He described it as the "changes that the digital technology causes or influences in all aspects of human life [1]."

The definition by the Ministry of Economy, Trade and Industry (METI) offers a more specific image [2]. They define DX as "a situation where a company deals with dramatic changes in business environments, changes its products, services and business models so as to meet the demands of customers and society by taking advantage of data and digital technologies and changes its services per se, organizations, processes, corporate and business culture so that it can establish competitive advantages," which is a little circuitous (laughs). We at Fujitsu generally describe it as "utilizing digital technologies and data

to deliver innovative services and transform business processes."

—It now sounds so much simpler, but can you explain it in even plainer language by using specific examples?

Nagahori: Let me take an example of a trend in the financial industry, in which I have long been engaged. I don't think Internet banking can adequately be called DX. Simply making transactions available online does not change the business model itself from the conventional way of doing things.

Unlike this, virtual currencies such as Bitcoin attempt to change the structure of currency itself by using blockchain or other advanced technologies as a trigger, which I think can be called DX.

—I see. A change cannot be called DX unless it creates an unprecedented business model or value by making use of digital technologies.

Nagahori: That's right. Simply improving the efficiency of an existing business model or lowering the price through cost reduction is no more than an example of the improvement of operations. Moving one step beyond this to change the trade itself, or what value is provided to whom for what reward, is what I think embodies the idea of business transformation, which is the essence of DX.

The abbreviation DX consists of D for digital and X for transformation. Digital refers to just a methodology and the critical point is whether or not a transformation can be made. In my mind, something not at the level of business transformation cannot be called DX, even if it makes use of advanced digital technology.

—Now I understand that the essence of DX is in business transformation. Could you explain what is behind the demand for these transformations?

Nagahori: We see demand for various transformations in today's industrial society, and what lies at the root I think is the redefinition of corporate activities.

Let me take an example from the financial industry again. As Bill Gates once said, "Banking is necessary,

banks are not," users have begun to ask basic questions about the conventional business models of banks such as, "Why are bank tellers only open until a given hour?" and "Why does withdrawing my own money cost a fee?" Advanced fintech companies working to resolving these issues have caused an argument to be raised that banks are unnecessary. This is how a disruption of the business structure has occurred.

Redefinition of existing services from the perspective of users in this way is called democratization. We're seeing this progress not only in the financial industry but also in various other industrial fields. This, in a sense, may be the essence of DX.

—I see. So, DX is an approach to solving problems with existing business models that have been regarded as "matters of course" by reconsidering them from the perspective of users and making use of digital technologies to reshape them from their fundamental structure.

Vision of a more affluent society achieved by a data-driven society

—There are expectations that the progress of DX in various industrial fields and its permeation in wider society will realize a so-called data-driven society, which may resolve many social issues to create a more affluent society. What do you think this will look like?

Nagahori: The concept of a data-driven society remains a little elusive. I personally see it as taking advantage of the progress of digital technology to utilize data as information unavailable in the past, thereby changing the society.

Representative examples of data utilization in business are the three data known as economic source data, namely search data, purchase data, and settlement data. By gathering these data, companies can grasp what product information consumers sought, what products they actually bought, and how much and where they paid.

If used for business to offer product information that suits consumers' taste as in the recommendation function of online shops, for example, this can lead to

expanded business opportunities for companies and improvements in customer satisfaction. This is a creative example of a data-driven society might look like.

—So, by utilizing various data, more efficient marketing can be achieved and more appropriate management decisions can be made.

Nagahori: The advent of the IoT society has tremendously increased the volume of data that can be obtained, which has raised expectations for advances of AI in particular.

In the sphere of biology, there is a theory that development of the eye resulted in a tremendous increase in the number of species of living things. If the past AI was fumbling in the dark, then AI in the future, with the development of the IoT as the eye, will undergo dramatic evolution. AI evolved through IoT will utilize vast quantities of data to resolve various issues. This may be another way a data-driven society takes shape.

—Now that we are beginning to see how a data-driven society might look, what examples do you think are possible considering the resolution of social issues through the utilization of data?

Nagahori: Social issues include a wide range of themes, but I think that, after all, our contributions will take place mainly in fields related to economic transactions.

For example, Mr. Naoki Tanaka, an economist who was an adviser to Fujitsu Research Institute, says, "The advantage of DX from the perspective of economics is in the elimination of transaction costs." This means that economic transactions are prone to unnecessary costs due to excessive intermediaries, which should be eliminated by making the most of digital technology.

In fact, the movement toward the elimination of unnecessary transaction costs by not using intermediaries, exemplified by the existence of Amazon in the retail industry and crowdfunding in the financial industry, is creating socially significant value. This may be where Fujitsu aims to achieve the SDGs and resolve social issues.

—*The example you have just mentioned can certainly be regarded as a change in society brought by DX.*

Nagahori: Eliminating unnecessary intermediaries leads not only to a reduction in costs and accelerated transactions but also to the prevention of alteration, theft, and unauthorized use of data.

The Internet is convenient, but there is an aspect to it of only spreading copied information, in a sense. Even so, the large amount of information provides an asset value and a business model has been established that makes use of information asymmetry. Specifically, those with an advantage of having a multitude of information do business with those without. However, this involves a risk of misuse of data. I consider the reduction of risks like this through digital technology to be one role of DX.

—*In other words, for us to enjoy the advantages of a data-driven society, how we ensure trustworthiness of data is critical.*

Nagahori: For information to be utilized as data rather than having copied information spread around, a framework for ensuring reliability must be in place.

For example, technologies to ensure reliability of data such as blockchains in financial transactions and the building of an infrastructure such as Data Free Flow with Trust (DFFT) proposed by the Japanese government will be important as well.

At Fujitsu, we intend to make solid contributions in terms of the building of social infrastructure like this to support DX, while giving support to the achievement of DX of customer companies.

[Part 2]
Fujitsu's journey toward becoming a DX company

Behind Fujitsu's intention to become a DX company is a sense of urgency regarding recent environmental changes

—*Now, let me ask you about Fujitsu's specific policies and strategies. Fujitsu has set up a policy of transformation from an IT company to a DX company. What is the aim behind this?*

Nagahori: There are various factors such as customer needs and the government's economic policies, but the most significant is the sense of urgency about our current status. We are aware that we are in an age when the phrase "IT is necessary, IT vendors are not" may apply, to parody the words of Bill Gates mentioned earlier.

There are various reasons for this. One problem is pricing structure, for example. Up until now, prices for constructing IT systems were calculated by "person-month rate," or how many people worked for how many months. How much value was created by the system was never questioned but the prices depended on the person-hours taken. This idea will no longer hold water in the future.

—*Do you mean that estimates will change to being based on the value created, rather than the labor incurred?*

Nagahori: That's right. Recently, business models such as revenue sharing and subscription have emerged, and cost-effectiveness is pursued more than ever.

As pointed out in the 2025 Digital Cliff report by the METI, past investment in IT tended to be allocated to budgets for purposes such as maintenance of existing systems [3]. In my mind, defensive investment in IT like that must be reduced as much as possible by making use of cloud computing, for example. We must shift to proposals for aggressive investment in IT, which will lead to improvements in the top line (sales).

—*What is required to realize those changes?*

Nagahori: That is exactly where DX should be put into practice to change Fujitsu's business model itself.

Fujitsu's business up until now, if compared to the world of architecture, might be likened to constructing an apartment building as ordered by the customer. Instead, we need to be a developer who proposes what building should be constructed where to create more profits.

If compared to the food service industry, Fujitsu currently only offers recipe ingredients and kitchen instruments and leaves customers to cook the dishes they want by themselves. Fujitsu in the future should become a restaurant capable of offering the dishes desired by customers.

In this way, the value desired by customers must be properly taken into consideration to offer the value itself in its entirety as well as the process that creates the value. To do business like this, Fujitsu itself first needs to implement DX and business transformation.

—I see. Fujitsu itself must first achieve DX before it can support DX for customers.

The point in aiming to be a DX company is to be completely purpose-oriented

—Now I understand that your business policy of aiming to be a DX company has the dual meaning of putting to practice DX for yourself in addition to focusing on a DX business. What activities are required to put this into practice?

Nagahori: Changing the business structure from the ground up is no ordinary affair and I think there will be many challenges to overcome.

For example, conversion into an investment-effectiveness type of pricing structure involves more business risks than ever. Up until now, we were paid for a system that was delivered as long as it functioned normally. However, this will no longer apply if how much value is created by the system is pursued. To accommodate those risks, capabilities and human resources completely different from those in the past will be required.

—So, changing a business model necessitates changes in human resources.

Nagahori: In terms of data utilization, there is the issue of how data can be effectively utilized. As the volume of data to be handled has dramatically increased, it has become difficult to know where in that enormous amount of data the value is. There is a limit to the value that can be offered with a business model that only makes use of information asymmetry. Going forward, expertise and know-how for identifying which data are truly valuable to customers will be important.

At the same time, a framework must be built that allows Fujitsu itself to utilize data. In fact, Fujitsu at present only offers an infrastructure for distribution of data and has no rights to the data themselves that are distributed in the infrastructure. How to clear this hurdle is another issue.

—It is said that putting DX into practice requires changing corporate culture in addition to changing the organization and business model. What do you think on that point?

Nagahori: In terms of corporate culture, or approach, I think that a purpose-oriented approach will be important. What should be made clear first is why the transformation is necessary and for what purpose it is implemented.

This also applies to supporting customers' DX. There used to be demand for AI without a clear purpose. The idea was, there must be something that can be done by introducing AI. But that will bring no value.

—The purpose, or what the DX is intended to do, must be clearly identified before starting. Otherwise, it will make no sense.

Nagahori: We're not saying the "call us when you have decided on the purpose" attitude is good enough. We must become capable of making proposals that recommend such purposes. That is why we established Ridgelinez. I think that the attitude required is to share the current status and issues of the customer business from further upstream of the IT system requirement definition in a consulting type of position.

—I have an impression that there is a mountain of issues and that achieving DX takes a lot of time.

Nagahori: Certainly, it is not the kind of thing that can be completed in two or three years. But, I believe firmly that Fujitsu can accomplish it. The reason for this is that Fujitsu has built up a lot for achieving DX in terms of elemental technologies, including AI, IoT, and cloud and quantum computers in addition to the know-how developed in many industrial fields. Furthermore, our experience of already having achieved DX is a great asset.

Fujitsu, originally named Fuji Telecommunications Equipment Manufacturing, was a subcontract manufacturer making telephones and communication devices. In the 1950s, we developed a computer that used relays to switch telephone lines and started to follow the path of a computer manufacturer and in turn of an IT company. This was business transformation, changing the trade itself, or DX put into practice.

—That is precisely a business transformation using digital technologies, so a DX ahead of its time.

Nagahori: Naturally, the corporate scale is now incomparably larger than those days and our business covers various categories. Transformation may be difficult in some aspects.

That is likely why President Tokita says that "each and every person should consider how a DX company should be defined." The DX that I have described may not necessarily be the same as their own respective DX.

I would like to tell people inside and outside the company that we have a clear awareness of the difficulty and will work to accomplish our purpose in earnest.

—Lastly, do you have a message for the readers of this article?

Nagahori: Antoine de Saint-Exupéry, who is known for his work The Little Prince, said, "If you want to build a ship, don't drum up the men to gather wood, divide the work and give orders. Instead, teach them to yearn for the vast and endless sea." This epitomizes a purpose-oriented approach. It shows the importance of providing a clear vision, the purpose of building the ship and the destination of the journey to be made by the ship built.

We need to clearly show the vision of Fujitsu as a DX company to employees and partners of Fujitsu aiming to be a DX company. To customer companies desiring to achieve DX, we intend to offer support starting by thinking together until a clear vision is developed of what they aim for through DX.

I hope you will watch Fujitsu going forward as we strive to become a DX company.

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