Envision the value, Empower the change

April 2024

Respect Circulates

Hirotoshi Kishi, ICT Media & Service Industry Consulting Department
Juri Yanagisawa & Yuka Shimizu, Corporate Innovation Consulting Department
Takeshi Mori & Hiroaki Kumakiri, Center for Strategic Management & Innovation

> What will follow the achievement of efficiency improvement and optimization through DX? Probably, something that cannot be expressed in terms of GDP, i.e., hope and empathy, or the very act of creating them, will become important. Those would be the type of fulfillment that will be demanded in the next era.
>
> *Nomura Research Institute, "Exploration of Fulfillment Beyond the Digital Society," July 2023*

In the previous article[1], we presented a hypothesis that the respect economy should follow the attention economy. In this article, we will deepen the discussion on what is a system in which the economy is moved by respect from people, or paying respect, and what is necessary to realize it.

GDP measures everything except that which makes life worthwhile. -Robert Kennedy

Robert Kennedy, brother of former U.S. President J. F. Kennedy and the Attorney General for his administration, said "GDP measures everything except that which makes life worthwhile." Citing this, economist Joseph Stiglitz said "GDP does not measure health, education, equality of opportunity, the state of the environment or many other indicators of the quality of life. It does not even measure crucial aspects of the economy such as its sustainability: whether or not it is headed for a crash. What we measure matters, though, because it guides what we do." He pointed out, at the same time, how acting on a single indicator has led to foolish decisions about conflicts and the pandemic[2].

There have been many studies on initiatives to measure fulfillment other than GDP. It is true that growth after the World War II was driven by GDP, the indicator of production (mainly of goods), and the increase in goods also meant the improvement of the welfare level for people. After the information revolution in the 20th century, however, as the focus of industry shifted from production to goods and services and intangible assets became more important, the correction of uneven distribution of wealth has become a major issue. In addition, the recovery of natural capital has been increasingly demanded year by year due to global warming. This is the current society that was brought about by "optimization" (DX) and dominated by the attention economy.

NRI attempted to express fulfillment in the next era with GDP+i by introducing "i," which represents imaginary numbers, in addition to GDP, which is numerical. Such kinds of new indicators have been actively discussed both in Japan and overseas to explore well-being indicators. Some countries including Finland, Iceland, Scotland, New Zealand, Wales, and Canada, in particular, are

---

[1] Nomura Research Institute (2023), "Exploration of Fulfillment Beyond the Digital Society" (https://www.nri.com/jp/knowledge/report/lst/2023/cc/0725_1, accessed in January 2024)
[2] GDP Is the Wrong Tool for Measuring What Matters (https://www.scientificamerican.com/article/gdp-is-the-wrong-tool-for-measuring-what-matters, accessed in January 2024)

actually incorporating the perspective of well-being into their policies, with the goal of building a healthy society, and introducing new indicators in place of GDP based on the idea that the economy acts as a catalyst in achieving it[3]. In Japan, the Commission on Measuring Well-being published a report in 2012, which designed and proposed specific indicators based on three domains: socio-economic conditions, health and relatedness, although they have not been used as indicators for evaluating policies and projects[4]. Regarding "relatedness," the report explains that it includes the relationship with natural capital, such as links with biodiversity, global warming, and water and air environments, as well as family ties and bonding with community, which are known as social capital.

Studies on such relatedness (of social capital with respect to ties among individuals) and economic growth are summarized in a report published by OECD[5]. This report shows positive correlation between inter-personal trust and average income, life expectancy, and life satisfaction, respectively[6]. It considers the causal relationship that trust in others shapes the capacity to achieve common goals from the perspective of resources and costs, ensures the establishment of financial and labor markets, and contributes to the creation of innovation. The report also says that trust in governments, businesses and other organizations or institutions (institutional trust) works in the same way as inter-personal trust. A study focused on Japan by labor economist Hiroshi Ono suggests that both economic growth and well-being may be achieved through policies to increase social capital, provide social safety nets for economically vulnerable people, and reduce income inequality[7].

By positioning the relatedness and trust or respect in it as KPIs, we will move toward realizing a fulfilled society that is catalyzed by, but not limited to, economy. This is the idea of a society in which respect circulates.

A specific effort to attempt a society in which respect circulates is a demonstration in Kamakura City using digital community currency led by KAYAC Inc. and Keio Kamakura Lab[8]. This attempts to create value through value-added exchange instead of equivalent exchange by encouraging two-way communication of points (community currency). Suppose, for example, that when a bartender staff member is suddenly unable to come to work, the bar recruits a part-timer from the community to make up for it. The bar gives 300 points in return, while the part-timer also gives 300 points, saying "I have always wanted to be a bartender. Thanks for the opportunity." In real currency, if 3,000 yen is paid as compensation for labor, the circulation amount is 3,000 (1 time). If 300 points move in both directions, the circulation amount is 600 (2 times). This is a mechanism to circulate respect by promoting gratitude as a two-way communication. Hiroya Tanaka, the project leader at Keio Kamakura Lab, calls this mechanism of mutual communication of gratitude "respect economy."

This demonstration intentionally avoided connecting the digital currency (points) to the real currency (yen). This is because if behavior is driven by selfish motivation to collect points connected to material value for monetary benefit, it negatively affects the improvement of well-being in both the short and long term. The demonstration also has a feature that the value of unused points is lost (perishable money, or so-called Gesell-style free money) to encourage active circulation. The digital

[3] Wellbeing Economy Governments partnership (WEGo)
[4] The Commission on Measuring Well-being, the Cabinet Office (https://www5.cao.go.jp/keizai2/koufukudo/koufukudo.html, accessed in January 2024)
[5] OECD (2018) Advancing Research on Well-being Metrics Beyond GDP, Chapter 10. Trust and social capital.
[6] However, the correlation between GDP and subjective well-being disappears after reaching a certain economic level. This is known as the Easterlin paradox of happiness.
[7] Sarracino, F., K. J. O'Connor, and H. Ono. (2022). "Are economic growth and well-being compatible? Welfare reform and life satisfaction in Japan" Oxford Economic Papers, 74 (3)
[8] Co-creation Base of "Symbiotic Upcycle Society" Connected through Respect, https://coinext.sfc.keio.ac.jp/, accessed in January 2024

currency enables detection of the circulation amount and usage. Based on data of actual circulation, the team is studying the impact on the local community from the perspective of behavioral economics and sociology.

While visualizing the accumulation of respect, it is difficult to resolve the issue of how to realize the connection to economic benefits. In open source communities that realize a society where work and achievements of individuals are visualized and respect circulates on a platform[9], there is a challenge in how to reward individuals' contributions that depend on their voluntary behavior. As sufficient funding and support have currently not been provided for the development of digital public goods such as open source software and open data, some argue that a mechanism should be built to provide financial returns, or at least appropriate evaluation. Hal Seki, the representative of the CivicTech community Code for Japan, has called for the establishment of a fund for digital public capital, and provoked discussion on building a mechanism to raise and appropriately distribute funds[10].

On the other hand, important issues in measuring gratitude and respect and connecting them to the real economy include measurement of wrong indicators, and an argument that we will face a dystopian society that rates each individual. In Denmark, which is a welfare state, the progress of digitization in its public services has resulted in a tide of public opinion that all data should be digitized, including personal mobile phone usage history and water and electricity bills. Some have also criticized that it would lead to a society in which citizens monitor each other and the government rates people[11]. Respect would not circulate without information to evaluate what an individual has achieved and contributed in a point-addition manner, instead of information to classify individuals.

The Kyoto University Institute for the Future of Human Society, focusing on well-being of "space," has been studying the mechanism of interaction between the conditions of communities, workplaces and other "space" and the subjective well-being of individuals. Previous studies on well-being have mainly examined how to maximize or optimize the well-being of individuals. In the social life of humans, however, the thorough optimization for individuals would result in a conflict and stalemate somewhere. With the concept of well-being of "space" instead of individuals as its research subject, therefore, the institute explores how well-being for each individual is affected by human links in the space (relationships, including respect) and the space as an environment, as well as individuals as nodes (points).

One example of changing a space is the attempt to create a "Dejima" organization outside existing decision-making or evaluation frameworks in order to promote corporate innovation, for example. Another example is whether meetings are held in a conference room, outdoors with greenery, or online. Data on these changes of the space is generated, and the quantity and quality of communication in the space is evaluated. If it is possible here to reveal their interaction with individuals' behavior, thoughts, emotion, and other factors, it is also possible to generate suggestions for the concerns mentioned earlier.

---

[9] Examples include GitHub, a software development platform, and Open Street Map, a project to produce free map data.
[10] JOI ITO Road to Transformation: Digital Public Capital Fund (https://joi.ito.com/jp/archives/2023/09/05/005911.html, accessed in January 2024)
[11] How Denmark's Welfare State Became a Surveillance Nightmare, WIRED (https://wired.jp/membership/2023/05/23/algorithms-welfare-state-politics/, accessed in January 2024)

There is a hypothesis that fulfillment beyond digital society is "the hope in life, the empathy of delight, and the creation of new culture." Oriental philosopher Takahiro Nakajima called it a "flowering moment." Yukiko Uchida, a social psychologist who promotes studies on the well-being of "space," attempted to use a different word to mean well-being leading to fulfillment, and used the expression "shiawase (happiness)," which she wrote in Japanese hiragana to give it its unique softness. Rob Nail, American entrepreneur and associate founder and first CEO of Singularity University, said "The richness we are exploring might not be happiness or affluence, but fulfillment that also means to be spiritually fulfilled." Fulfillment of people is realized by capturing, measuring and distributing the flowering moment or "shiawase" through the economy as a catalyst --- such a model would be the respect economy.

So, how can we realize it?

The value that DX has realized and the value that many previous well-being studies have aimed at are efficiency improvement or optimization in certain units such as individuals, individual companies, and individual operations. As its outcome, they are seeking indicators of economic growth with respect to GDP or individuals' well-being. In this context, it seems that both of them have pursued similar values. Conversely, the key to fulfilment beyond them would be to create hope, empathy, and "shiawase" at a phase beyond optimization in each unit.

J. C. R. Licklider, a psychologist and founder of the origin of the Internet ARPANET, used the word "symbiosis" to describe the relationship between humans and machines as intimate association and coexistence of different species of organisms. The fig tree, for example, cannot be pollinated without insects, and insects cannot survive without fig fruits. He argues that such interaction and interdependence should also be part of the relationship between humans and machines[12]. Junichi Rekimoto, an information scientist, mentions an interesting point in this paper that describes a "non-symbiotic relationship.[13]"

"Mechanically Extended Man" This means something like artificial legs and glasses, for example. If it is interpreted in a modern sense, it would be the relationship between technology and humans that leads to cyborgs. "Humanly Extended Machines" This assumes something like a scene where a human participates in an automation factory as an operator. This is the relationship of giving human capabilities to robots, and may include systems that improve performance by learning from humans through collective intelligence, such as recommendation systems.

Explanation of the "non-symbiotic" relationship between humans and machines (Rekimoto, 2021)

He points out that both of those "non-symbiotic relationships" are the relationship of humans and machines that complements their capabilities with each other, but they are still a division of roles rather than the relationship of living together in a coordinated relationship. For example, the arms

[12] J. C. R. Licklider (1960) Man-Computer Symbiosis. (https://groups.csail.mit.edu/medg/people/psz/Licklider.html, accessed in January 2024)
[13] Junichi Rekimoto (2021), "The Prospect for Human Augmentation Technologies," *Journal of Information Studies*, No. 100

of a palletizer that stacks packages in a logistics warehouse mechanically extends or replaces humans, and a system in which an automated transport robot carries packages and a human finally takes a shipment procedure can be described as a humanly extended machine. They serve as effective means to achieve certain objectives. They are, however, merely relationships that improve efficiency through division of roles. The article seems to argue that symbiosis requires each person to play a role of the person themselves, in other words, each person to have dignity and take a role in which the person is positioned as themselves without being alienated from the system. When, for example, a powered exoskeleton supports the muscle strength or the range of motion and assists roles of humans in the field of nursing care, the coordination between humans and machines could assist in building a fulfilling human-human relationship, while it is still "mechanically extended humans." This might have something more than achieving objectives through simple division of roles.

In order for an entity to move beyond optimization through division of roles toward the creation of fulfillment through symbiosis, it is necessary to create natural coordination between entities by designing the relationship between them. It would also include the relationship between humans, the relationship with machines, and the relationship with the natural environment. We believe that it will be desirable in the next era to encourage such relationships with all kinds of entities to move toward symbiosis beyond division of roles. The relationships in this case need to be distinct from the world that is brought about by "mechanistically extended humans" and "humanly extended machines." In the context of technological extension, positioning each person as themselves would lead to an argument about "how to create hope and empathy," which has been a key question in the exploration of fulfillment.

What should corporate activities be in such a case?

In the context of Licklider's argument that it is important for humans and machines to interact with each other while exercising their respective different capabilities, suppose replacing the relationship between "humans and machines" with the relationship between "companies and technology." Symbiosis, then, would be the establishment of a relationship in which relating entities (individuals, society, nature, etc.) naturally coordinate and coexist with each other through interaction between companies and technologies exercising their respective different capabilities, rather than "mechanically extended companies" or "technologically extended companies." In other words, this is the idea that companies' activities are connected not only to optimization (DX), which accelerates division of roles and efficiency improvement through the development and deployment of technology, but also to the creation of hope and empathy among entities.

Companies' DX, which has been promoted so far, has expanded from back-office operational reform to front-office operations for businesses and functions such as production, sales, and marketing, and even to business model transformation. This transformation has been an effort to increase productivity and value added in the unit of a single company, and contributed to raising GDP. As an attitude of companies that will open up the next era, the perspective of technological extension aiming at symbiosis would be one possible direction.

Technology will keep advancing. Quantum technology, for example, will further expand the world of digital twins, and the vast amount of new data generated there will be distributed through block chains --- such a world is unlikely to be realized by a single company. The world of cyber-physical

space such as smart cities and smart life described in Society 5.0 is unlikely to be realized without a relationship in which different entities naturally interact and coexist with each other using new technologies, as seen in mobility, for example, where autonomy is a major issue in social implementation[14].

The individual as a way of being a human will also be redefined. Humans connected to machines through a brain-machine interface (BMI), humans that freely use robotic arms as their own limbs, humans as another self that acts in virtual space, humans that were modified with genetic engineering so that they can operate in outer space --- how should we prepare for the advent of entities that are newly generated through those technologies and sometimes difficult to distinguish from humans or machines, in order for each of us to be positioned as "myself" within the society?

The study of human augmentation is said to be the study to pursue the image of humans redefined by technology. Masahiko Inami, who is studying information somatics, pointed out that the word "ningen" (human) in Japanese contains in the term "human augmentation," consisting of "nin," which means Homo sapiens, and "gen," which means society. The redefinition of this "gen," or society, in technology means the exploration of fulfillment. Applying it to companies' activities again, he argues that it might be considered as extension and redefinition of companies (businesses) and socio-economy through new technologies.

From now on, we will need to consider what will happen to technologies that bring about social transformation, not limited to digital technologies (DeepTech). New technologies are regarded as realities that do not come from another world but exist right in front of us, and industry and life keep changing as something real --- this is the meaning of "Realities[15]" expressed in the plural form. Given the image of symbiotic industry where diverse entities, extended by technologies, naturally coordinate with each other and mutually supplement their business and services to increase the total amount of value added, the concept of industrial classification might disappear in the near future.

In other words, companies' activities from now on should be businesses that extend the companies' own capabilities through technologies that bring about diverse social transformations not limited to IT, and reconstruct their value chains and supply chains by going beyond individuals and individual companies, to create value that leads to fulfillment. As those transformations cascade, every stakeholder will be circulating respect. We want to draw up and realize such a society.

This is a hypothesis for thinking about the world beyond the digital society and making it fulfilled. If you have a close awareness of the issues, we would like to discuss them together in order to further deepen our thoughts.

[Inquiry about This Report]
Corporate Communications Department, Nomura Research Institute, Ltd.
TEL: 03-5877-7100 E-mail:kouhou@nri.co.jp

[14] The SINIC theory, which was published by OMRON Corporation in 1970, predicts that the Optimizing Society brought about by electronic control technology (information technology) will be followed by the Autonomous Society based on psycho-physical technology. https://www.omron.com/jp/ja/about/corporate/vision/sinic/theory.html (Accessed in January 2024)

[15] "Realities" were defined in the previous article as change, beyond the means by which digital technologies make society better, into an era in which the digital itself naturally exists and is perceived as reality. In this article, however, the concept of technology is defined more broadly as something that brings about social transformation not limited to the digital (DeepTech). This is a concept based on an argument in David Chalmers' book titled *Reality+*.