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Sustainability Transformation for **people**

What is holistic well-being and how will it enrich our society?

By Naoko Otsuka, SVP and Head of Social Solution Business Unit at Fujitsu

Digitalization is unlocking new business models and value streams, bringing big benefits for organizations worldwide. But it also has the power to transform the individual experience and enhance society on a fundamental level.

Societal well-being cannot be measured in economic growth alone. A healthy and sustainable society is one in which people can satisfy their full hierarchy of needs – from the foundational, such as public safety and healthcare, to everyday convenience, such as the ease of accessing goods and services.

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Meeting this full spectrum of needs is central to the concept of holistic well-being. Ultimately, well-being isn't just about staying healthy and productive; it also means achieving a sustained level of personal contentment. Although physical well-being is a primary imperative, this cannot be separated from emotional and social well-being, both of which are essential to creating and maintaining a healthy working society.

Sadly, holistic well-being is still out of reach for many. To get the most from our longer lifespans, we must set new standards for quality of life. There is continued disparity both within and between countries, with developing nations in particular facing the challenges of forced labor, inadequate access to education and healthcare, and the ever-growing impact of climate change. Living longer doesn't necessarily mean living better. Even developed countries experience challenges associated with an aging population, labor shortages and risks to public safety.

For businesses, the task of addressing these issues is both an obligation and an opportunity. Improving the well-being of everyone in society is more than just a moral responsibility – it is a strategic imperative. Companies that integrate social well-being into their business models will find the rewards extend far beyond revenue. Demonstrating their commitment to global prosperity will strengthen bonds of trust and loyalty with employees and customers, sparking new growth opportunities and ensuring long-term profitability. This creates mutual benefits for both the company and the communities it serves. The good news is that technology is helping many organizations find their role in driving holistic well-being. Exciting advances in digitalization are providing new ways for us to meet society's needs while achieving business results at the same time. From personalized healthcare to intuitive retail and security systems, digital innovation is paving the way for healthier, happier communities.

So, how exactly is technology meeting societal needs - and what does the future look like?

Delivering high-quality healthcare

The prevalence of chronic conditions among an aging population is driving an evolution in healthcare, characterized by a shift from reactive to proactive approaches to treatment. Individuals are increasingly making positive lifestyle changes to help prevent or delay the onset of ill health, while healthcare professionals are seeking to detect or prevent diseases before patients become symptomatic.

The role of healthcare is changing, as healthcare professionals recognize the importance of mental health in the broader sense of general well-being. The best outcomes arise when medical services are tailored to patients' individual needs, and new technologies are the key to achieving this.

Advances in artificial intelligence (AI) and machine learning (ML) have enabled doctors to collect, aggregate and analyze large amounts of patient data, facilitating an optimized level of care that fits in with the patient's daily routine. Real-time data from wearable devices, such as biosensors and smart watches, generates further insights into the progression of a disease, for instance, or can identify triggers before the symptoms occur.

This level of technology-driven healthcare planning and attention will benefit the individual, by ensuring their needs are met in a manner that enhances, rather than restricts their personal lifestyle choices. For businesses, the benefits of being able to provide such an offering are manifold in terms of stronger customer loyalty and enhanced reputation in the marketplace.

When these devices are connected to the internet of things (IoT), they add another dimension to healthcare. Updates can be sent directly to the doctor, who can monitor patients' health more effectively, with data gathering no longer limited to the hospital or clinic environment. Doctors can then provide long-term remote care to patients in their own homes, where they can continue to benefit from the support of their family and community, and the comfort of a familiar environment.

Perfecting personalized healthcare

At Fujitsu, we are applying our proprietary technology to boosting holistic well-being with a new cloud-based platform for the Japanese healthcare sector. Created in partnership with Sapporo Medical University, this platform securely stores and anonymizes patient data taken from medical records and uses it to support the development of individualized healthcare and drugs discovery programs. Further, we plan to use this platform to launch a data-portability service with which patients can view their medical data via their smartphones and share with healthcare providers for analysis, as required.

Enhancing community safety
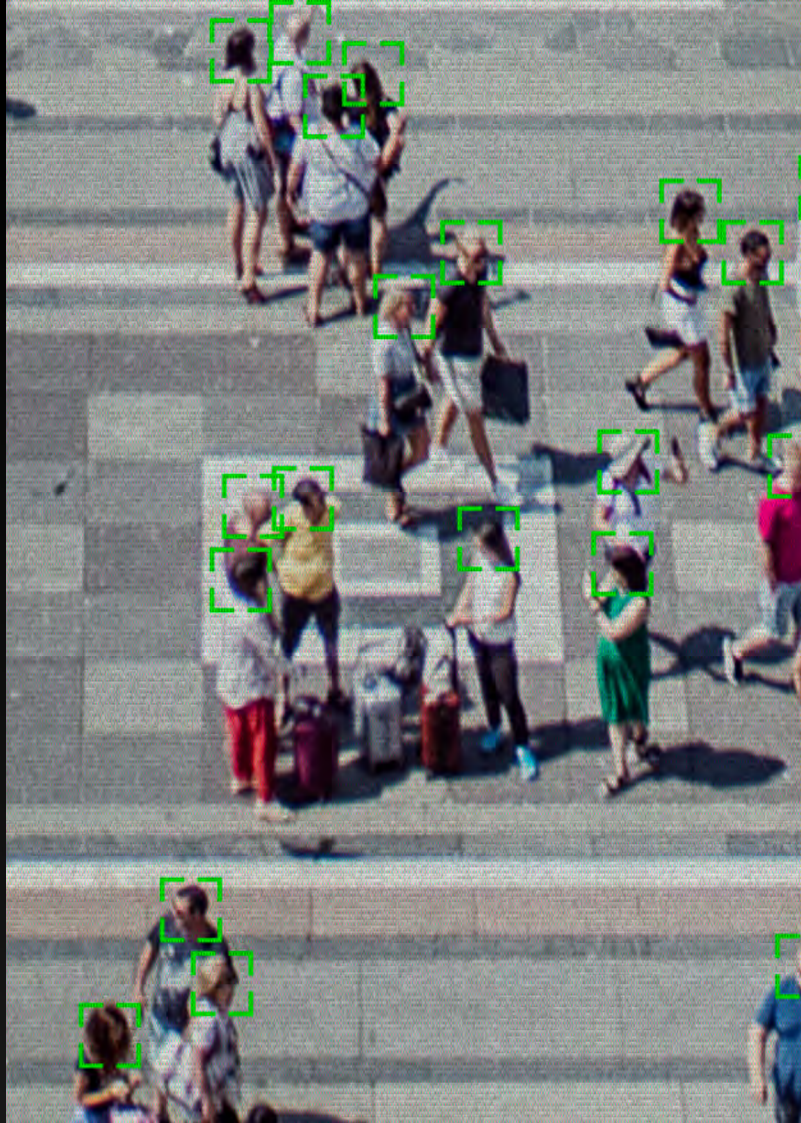
A sense of security, both in the home and in the community more widely, is a big factor in maintaining societal well-being. Anxiety related to threats to public safety, whether from crime, terrorism, or human-caused or natural disasters, can damage individual health as well as broader social cohesion. These disruptions have a serious impact on the ability of a community to thrive, both socially and economically.

AI and data analytics can be harnessed to support public safety, particularly when camera networks are linked to behavioral analytics. Whereas footage from traditional surveillance cameras is usually reviewed only after a crime has been committed, AI-linked surveillance cameras can pair footage with behavior-analysis models to alert law-enforcement officials to incidents in real time, or even detect threats before an incident occurs.

The fire and rescue services can also benefit from such technologies. For example, AI analytics can optimize emergency responses by predicting the path of wildfires and anticipating public response to emergency alarms, considering past behavior and current conditions. Going forward, the ability to capture and analyze human behavior at a high level could feed into social-infrastructure systems for national governments and local authorities. If conducted in a transparent, non-invasive manner, in which the public understands these methods and why authorities are employing them, it could significantly enhance the level of public trust, bringing benefits for social cohesion and governance.

Improving society's resistance and resilience to external shocks is more than just a matter of convenience. Public safety is directly linked to health and well-being. Individuals are unlikely to put down roots and contribute to a society in which they feel unsafe. A sense of confidence in one's environment is an essential foundation of a strong, thriving community, where all members feel they belong and have an interest in strengthening social cohesion.
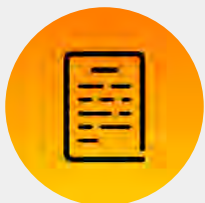
Strengthening social safety

The range of behavioral-analysis technology is expanding rapidly. Fujitsu is using a new AI model, Actlyzer, which can sense a variety of behaviors and facial expressions and contextualize this information, replicating instinctive human assessment of others. Some cities have already incorporated Actlyzer into their crime-prevention surveillance systems to facilitate identification of suspects. We're in the process of adding an extra layer of sophistication to the technology by combining it with criminal psychology to detect and prevent fraud targeting the elderly.

Providing frictionless services

While health and safety are clear imperatives for society, digital technology can also drive improvement in areas that, while less critical, also contribute meaningfully to holistic well-being, such as the retail experience. Whether shopping for essentials or luxuries, there are many ways in which the customer journey can be improved to make life easier in small but measurable ways.

For example, scan-and-go technology[1] makes it possible to pay for supermarket products via palm-recognition technology. These automated, cashier-free stores use cameras and weight sensors that register products as they are taken off the shelves, and customers check out automatically as they exit the store.

1   Scan & Go Technology: System that allows customers to use their own smartphones or special scanners to scan barcodes and complete payment on the spot when purchasing products in stores.

This innovation represents a simple yet significant way of enhancing well-being by reducing the friction that people experience in their everyday lives. The quick and seamless queue-free experience frees up precious time for busy customers; the cashier-free model also supports stores that are struggling with labor shortages, while freeing workers to focus on more interesting or strategic tasks.

Retail data collection brings further benefits. Companies can analyze shopping data to better understand their customers' habits, which helps them to forecast demand and plan inventory accordingly. It also allows them to create personalized customer journeys that are tailored to each person. Shoppers can be directed to products that match their needs and preferences, while dynamic pricing integrates promotions or discounts on certain items.

Brands that create a unique retail experience with personalized touchpoints ultimately generate better customer outcomes. By making their customers feel valued and understood, these brands create a level of trust that will be rewarded with long-term loyalty.

Transforming the retail experience

The value of contactless shopping came to the fore in the COVID-19 pandemic, as retailers sought to limit human contact during transactions. With mask-wearing preventing conventional facial recognition, this was an opportune moment to introduce and promote Fujitsu's multi-factor biometric authentication technology. This was successfully introduced in a demonstration project at Japanese convenience store chain Lawson, where a palm-recognition system was combined with a new ML technique that could generate an accurate image of the customer's face.

Trust is the key

It's clear that digital technologies have huge potential to drive enhancements in many areas of society. However, they do not constitute a magic bullet. Without properly obtained consent, data-sharing technologies can impede personal freedoms, rather than enhancing well-being. All of the scenarios we have explored depend upon the willingness of individuals to share their data. To win this consent, brands will need to provide them with the assurance that their data will be used responsibly. This is particularly important when dealing with highly personal, sensitive data, such as patient health records.

Establishing proper cyber security and data-protection mechanisms is a critical step in building confidence in this technology. It's also possible to build trust over time by showing people the benefits of sharing their data with analysts. For example, customers who share retail data will enjoy greater convenience and personalization, while patients who offer their health data may benefit from lower insurance premiums.

But it's vital to understand that applying technology in this way doesn't negate the importance of human influence and skill. In healthcare, AI may be able to provide direction on diagnosis and treatment, but healthcare professionals will still be required to make the ultimate decisions, in consultation with the patient. Similarly, for many shoppers, the retail experience is more comfortable with human workers who can offer advice and build relationships with customers.

As society becomes increasingly digitalized, we must apply human insight before we embrace the changes to come. Ultimately, the success of new technologies will lie in finding the right balance between digital and human, with well-being as the key objective. Technology should never go further than the benefit of society. Nevertheless, when driven by the correct principles, it can offer a great deal.

Key takeaways

1. To integrate societal well-being into your company's business model, you must embrace the shift from mass production and marketing to individual customization. The first step on this journey is harnessing data for personalization. To do this, you must build a strong foundation of data collection, storage and analytics, which will enable you to unlock personalized insights that are unique to each customer, consumer, client or supplier.

2. As societies continue to grow and gain complexity, we will see technologies such as AI surveillance cameras and behavior-analysis models entering the mainstream. These tools will become increasingly central to public safety – but they need not be limited to the public domain. Private companies should take full advantage of emerging technologies to protect their people, premises and assets. This will encourage market growth in the digital security industry, which in turn drives further innovation.

3. When it comes to making lives better, businesses are stronger together than alone. Forming collaborations or partnerships with other organizations (whether businesses or government agencies) across sectors will enable the creation of new products and services that enrich the experience of customers, employees and patients. Having the right technology and data infrastructure in place – as well as a clear framework for collaboration – will provide the right foundation for your business to unlock value from such initiatives.

Find out more about our work on Sustainability Transformation and explore how your business can improve societal well-being.

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After joining Fujitsu Limited, Naoko Otsuka began her career as a sales representative for retail businesses, engaging in solution proposals for information services and telecommunication carriers. She subsequently served in marketing and business strategy departments. In 2015, she took on the challenge of creating new businesses in the Social Innovation Division of the Innovative Services Business Unit. Since then, she has been involved in Agricultural ICT business and Smart Agriculture initiatives. After her tenure in the Social Design Business Division, she served as the Deputy Head of the Digital Solution Division in 2022. She assumed her current position in April 2023.

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