

The Present State and Future of Well-being × Innovation

— An Approach to Creating a Positive Cycle of Happiness —

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Summary

- In response to the contemporary challenge of the disconnect between economic growth and individual well-being, in this report, we propose the creation of a "well-being cycle" in which the three elements of "health, social connections, and income & wealth" interact with one another.
 - We will explain initiatives involving the food as/is medicine and the use of artificial intelligence (AI) for personalized nutrition and prediction of disease risk in the "Health" section; advancements in social participation through robotics and lifestyle, physical capabilities, and expansion of emotional connections in the "Social Connection" section; and the redesign of money transfer and payment infrastructure and financial access using blockchain and digital IDs in the "Income & Wealth" section.
 - These technologies expand individual potential and foster a true sense of prosperity that cannot be measured by economic indicators alone. We envisage a future in which this trend spreads and circulates from the individual to the whole, thereby realizing a truly well-being society.
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1. Introduction

Thanks to global economic growth and advances in digital technology and artificial intelligence (AI), our lives have become richer and more convenient than ever before. However, these benefits are not equally distributed among everyone.¹ Actually, there is a growing sense of being left behind, which cannot be measured by economic indicators, such as rising living costs², increasing feelings of isolation and anxiety about the future across all age groups³, and stagnating levels of happiness⁴. Furthermore, the rapid expansion of AI and automation in recent years is forcing us to redefine the roles and value of humans, raising questions such as "Who will benefit from these advancements?" and "What value can humans add?" Against this backdrop, we have decided to accurately assess the disconnect between the good performance of economic indicators observed in modern society and people's actual experiences, and to explore the approaches necessary to achieve a "well-being society."

The Organisation for Economic Co-operation and Development (OECD) defines well-being in terms of 11 key elements.⁵ Among these, we focused on three key elements: "Health (physical well-being)," "Social Connections (social well-being)," and "Income and Wealth (economic well-being)." "Health" is the foundation for learning and employment, and a prerequisite for all endeavors. Furthermore, under "Social Connections," we can create the room needed to support people in their daily challenges through initiatives that expand opportunities for mobility, interpersonal relationships, dialogue, and independence. Finally, we considered "Income and Wealth" to be crucial for accessing essential services such as food, education, and healthcare, and to serve as the foundation for sustaining the outcomes of "Health" and "Social Connections" (Figure 1).

This report focuses on initiatives, technologies, and services that enhance the quality of people's lives, not limited to mere economic growth, from three perspectives: "Health," "Social Connections," and "Income and Wealth," and presents specific examples of these.

Figure 1: Three key elements underpinning a "well-being society"



Source: Compiled by MGSSI based on various sources

2. Health: A New Era of Health Made Possible by Dietary Interventions and Digital Technology

Despite advances in medical technology extending average life expectancy, issues that threaten people's lives, such as widening health disparities, the prevalence of obesity, and the rise in lifestyle-related diseases, are becoming increasingly apparent around the world. In this chapter, we examine three key concepts: (1) "Food as/is Medicine," which aims to prevent and manage diseases through dietary interventions; (2) "Personalized Nutrition,"

¹ [Global Internet use continues to rise but disparities remain | United Nations](#)

² [Affordable housing | OECD](#)

³ [Social Isolation and Loneliness | WHO](#)

⁴ [Happiness of the younger, the older, and those in between | The World Happiness Report](#)

⁵ [In Brief: How's Life? 2024 | OECD](#)

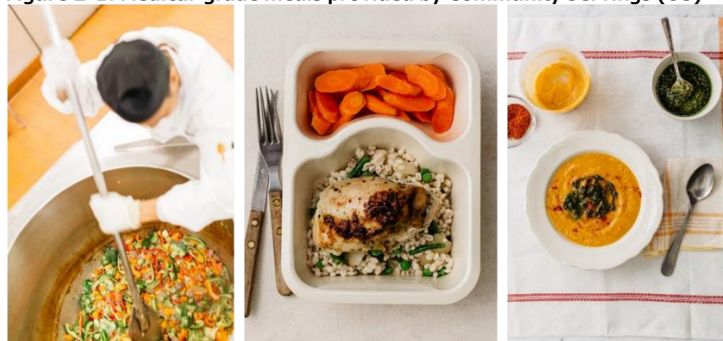
which designs optimal diets based on an individual’s biological data; and (3) “Prediction of Disease Risk,” which leverages AI and data. It illustrates how health management is shifting from a “passive and formulaic” approach to a “proactive and individually optimized” model.

2-1. Food as/is Medicine

There is a problem in which economic and social factors limit access to fresh, healthy foods, resulting in widespread reliance on inexpensive processed foods that are low in nutritional value. As part of the effort to address this issue, the “Food as/is Medicine” initiative has been gaining attention in recent years. “Food as/is Medicine” is a framework aimed at improving access to nutrient-rich foods and preventing and managing diseases through healthy dietary interventions. In recent years, in addition to public assistance programs designed to meet basic nutritional needs (such as SNAP⁶ and WIC⁷), doctors have been prescribing nutritional interventions for patients with dietary concerns or medical conditions. These interventions include ready-to-eat meals designed by registered dietitians to address individual health conditions (Medically Tailored Meals), ingredient kits aligned with nutritional guidelines for specific diseases (Medically Tailored Groceries), and coupons for purchasing fruits and vegetables (Produce Prescriptions).⁸

For example, Community Servings, a nonprofit organization based in Boston, Massachusetts, prepares medically tailored meals for patients with chronic conditions such as diabetes, and directly delivers them to their homes (Figure 2-1). It has been reported that this initiative has improved participants’ nutritional status and led to a reduction in monthly medical costs (by an average of 16%) as well as lower hospitalization rates and emergency department utilization rates.^{9,10}

Figure 2-1: Medical-grade meals provided by Community Servings (US)



Source: Community Servings website (<https://www.servings.org/food-health-policy/health-insurance-claims-data-study/>): Last accessed November 27, 2025)

In addition, Feeding America, the largest hunger relief nonprofit network in the US, is implementing the “Food as Medicine” program in collaboration with 21 food banks and medical institutions across the country. The program provides comprehensive support to approximately 140,000 people who have visited affiliated medical institutions, combining services such as dedicated pantries within hospitals, home delivery of ingredients, distribution of coupons for purchasing fruits and vegetables, and nutritional guidance. The interim report indicates positive results, including improvements in participants’ dietary habits and mental health indicators, as well as an average 1.5% decrease in HbA1c¹¹, one of the diagnostic criteria for diabetes.¹²

In addition to these, several other initiatives (Figure 2-2) have emerged, and the “Food as/is Medicine” initiative is beginning to function as a comprehensive approach that goes beyond mere financial support to help address health disparities through the prevention and management of lifestyle-related diseases and the containment of healthcare costs.

⁶ SNAP : Supplemental Nutrition Assistance Program

⁷ WIC : Women, Infants, and Children (The Special Supplemental Nutrition Program for Women, Infants, and Children)

⁸ [About Food Is Medicine](#) | Food Is Medicine Institute

⁹ [Association Between Receipt of a Medically Tailored Meal Program and Health Care Use](#) | PMC

¹⁰ [RWJF Community-Servings-White-Paper-2019_SP_web.pdf](#)

¹¹ HbA1c: An indicator reflecting average blood glucose levels over the past 2 to 3 months. As a general guideline, normal is <5.7%, prediabetes is 5.7–6.4%, and diabetes is ≥6.5% ([Diabetes Testing](#) | [Diabetes](#) | [CDC](#))

¹² Food as Medicine 3.0 (FAM3) program Year 2 | Feeding America

Figure 2-2: Examples of food as/is medicine initiatives

Country	Company/organization	Overview
US	Community Servings	An NPO that provides free "medically tailored meals" overseen by registered dietitians for patients with chronic illnesses. In addition to improved nutritional status, effects such as a reduction in hospitalizations and medical costs (a decrease of approximately 16% per month) have been reported.
US	Feeding America	The largest anti-hunger NPO in the US. In collaboration with medical institutions, it is implementing a "Food as Medicine" program that combines the establishment of food pantries, food delivery, vouchers for fruits and vegetables, and nutritional counseling. Improvements, such as an average 1.5% decrease in participants' HbA1c levels, have been reported.
US	Mom's Meals	A leading provider of home-delivered meals supervised by registered dietitians for seniors and patients with chronic conditions through Medicare Advantage and Medicaid. Through insurance coordination, readmission rates have decreased and medication adherence (the extent to which patients continue to take their medications in accordance with the treatment plans agreed upon with their doctors and pharmacists) has improved, contributing to reduced healthcare costs.
US	Season Health	Offers an integrated solution for patients with chronic conditions such as diabetes and kidney disease, featuring meal plans developed by clinical dietitians who are registered dietitians in the US, along with nutrition education and meal delivery. It is expanding services by providing ongoing support for meals as a "prescription" and collaborating with health insurance providers.
US	FoodHealth Company (formerly Bitewell)	A platform for visualizing the impact of dietary choices on health and suggesting foods and menus that support disease prevention and health management. Its adoption is also gaining momentum in corporate wellness programs for employees (with a track record of financing).

Source: Compiled by MGSSI

2-2. Personalized Nutrition

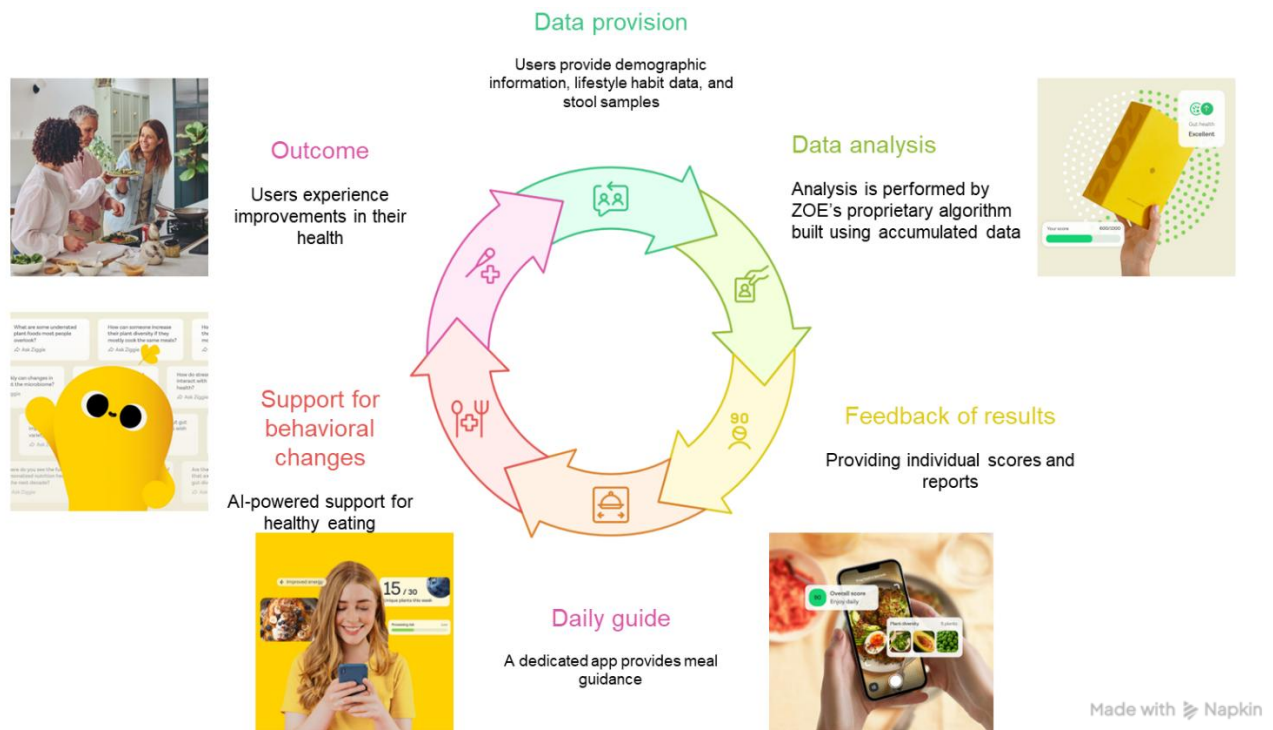
Meanwhile, the challenges facing people's health in modern society include lifestyle issues such as irregular and unbalanced diets and a lack of exercise. Conventional dietary guidelines are based on average standards, but in reality, individual responses to food vary greatly. Accordingly, the "personalized nutrition" approach, which tailors diets to an individual's genetic information, composition of gut microbiota, and lifestyle habits to optimize health management, is currently gaining attention.

For example, ZOE (UK) provides personalized nutrition services based on a vast dataset, including information on diet, blood glucose, blood lipids and gut microbiota, collected through PREDICT, the world's largest nutritional epidemiology research project. If users undergo a gut microbiome test and a medical consultation in advance, they can simply use a dedicated app to scan photos of their meals or barcodes to instantly view the nutritional profile, processing level, and health risks of foods, enabling them to determine on a daily basis the "eating style that suits them best" (Figure 2-3). Through clinical trials, ZOE has demonstrated that "even when consuming the same meal, postprandial blood glucose and blood lipid responses vary significantly from person to person" and that "AI-driven personalized nutritional support may lead to improvements in cardiovascular risk indicators," and is providing reliable services backed by science.¹³

In addition, Levels Health (US) offers personalized nutrition services using its proprietary database, which integrates hundreds of thousands of continuous glucose monitoring (CGM) data points with lifestyle data. By wearing a dedicated CGM device on the back of the upper arm, users can monitor how their diet, exercise, and sleep affect their blood glucose levels in real time. This allows us to propose "eating habits tailored to each individual's blood sugar management," something that general nutritional guidelines cannot achieve, which is a key strength. Levels Health also utilizes blood test results from its partner medical institutions to precisely assess participants' health status through a comprehensive evaluation of a wide range of blood biomarkers beyond just blood glucose levels, providing evidence-based nutritional guidance and support services for improving lifestyle habits (Figure 2-4).

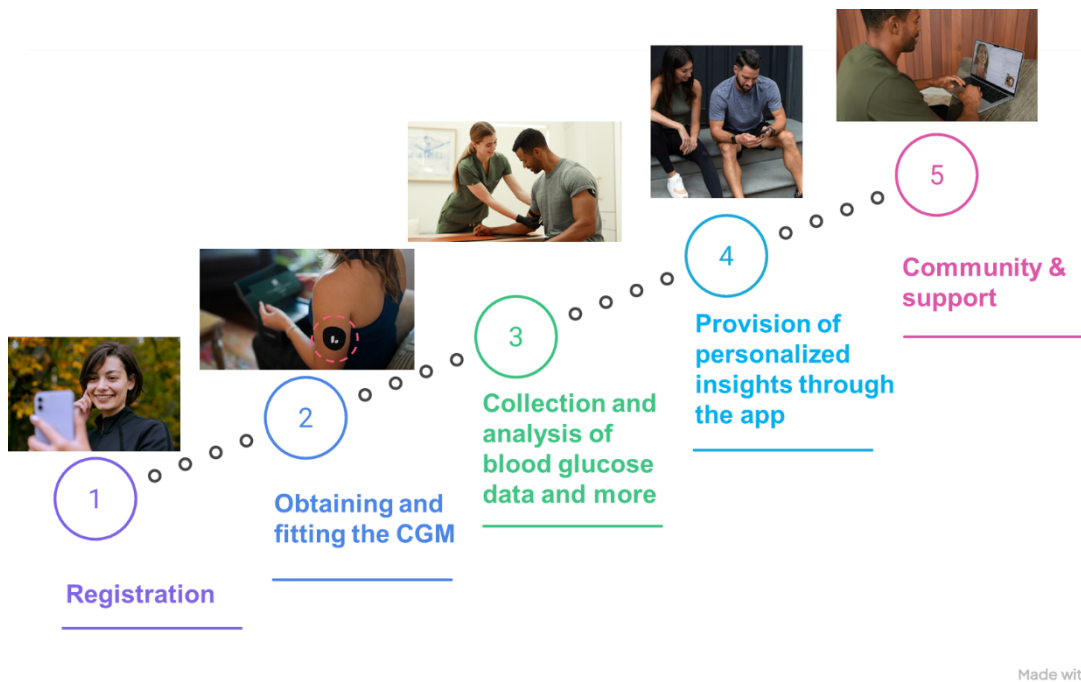
¹³ Our Science | ZOE

Figure 2-3: Personalized nutrition services provided by ZOE (UK)



Source: Compiled by MGSSI based on ZOE website (<https://zoe.com/en-gb/buymembership/>, <https://zoe.com/how-it-works/>; Last accessed January 16, 2026), using Napkin AI

Figure 2-4: Personalized nutrition services provided by Levels Health (US)



Source: Compiled by MGSSI based on Levels Health website (<https://www.levels.com/how-it-works/>; Last accessed November 27, 2025), using Napkin AI

In addition to the companies mentioned above, several other companies offer personalized nutrition services tailored to individuals' physical constitutions and lifestyle habits (Figure 2-5). These services have evolved beyond mere dietary management to become a next-generation healthcare infrastructure that contributes to maintaining and improving people's quality of life.

Figure 2-5: Case studies of companies in the "personalized nutrition" area

Country	Company	Overview
UK	ZOE	Recommends personalized meal plans tailored to each user based on data accumulated through "PREDICT," the world's largest nutritional epidemiology study. Record meals using the dedicated app → Receive recommendations. Clinical trials suggest improvements in cardiovascular risk markers.
US	Levels Health	Personalized nutrition management that uses a CGM and app to visualize blood glucose trends in real time and helps provide understanding of the effects of diet, exercise, and sleep. Also provides expert advice. Plans to expand the range of metabolic indicators in the future through the integration of test data.
US	Viome	Analyzes samples such as stool and blood to provide dietary recommendations and supplements based on gut health and metabolic tendencies.
US	January AI	Provides an AI app that creates personalized metabolic models based on CGM, heart rate, and other data to predict blood glucose responses to meals in advance. Predicts blood sugar responses based on uploaded photos of meals → Encourages better meal choices.
US	Persona Nutrition	Uses online consultation to propose personalized supplement combinations tailored to lifestyle habits and goals, and delivers them on a regular basis. Also offers coaching services provided by registered dietitians.
South Korea	Algocare	Analyzes user data to automatically design and provide personalized supplements that address nutritional deficiencies (Nutrition-as-a-Service). In addition to services for households, also offers corporate health support (Algocare at Work).

Source: Compiled by MGSSI based on various sources

2-3. Prediction of Disease Risk

While many people understand the importance of health, it is not uncommon for them to make unhealthy choices due to being busy, sticking to habits, or giving in to temptation. That is precisely why it is important to recognize the risks you face as something that directly affects you and take that as an opportunity to change your behavior. In this context, innovations are advancing that use big data and AI to detect and visualize individual disease risks at an early stage.

For example, Apple (US) has incorporated an arrhythmia detection feature into its Apple Watch (Figure 2-6). According to the "Apple Heart Study" led by Stanford University, 2,161 out of 419,297 participants (0.52%) received notifications; 57% of those notified consulted a healthcare provider, and the positive predictive value was reported to be as high as 84%, suggesting the potential for early detection of patients with asymptomatic atrial fibrillation.¹⁴

Figure 2-6: Apple Watch's arrhythmia detection and notification feature

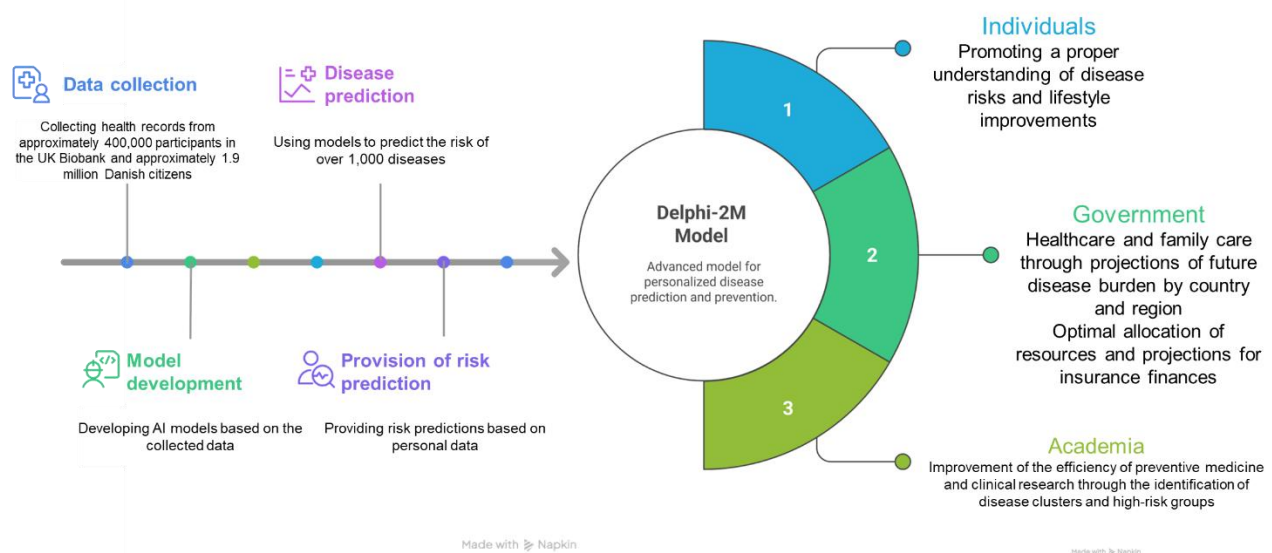


Source: Apple website
(<https://www.apple.com/au/newsroom/2021/05/ecg-app-and-irregular-rhythm-notification-now-available-on-apple-watch/>; Last accessed November 27, 2025)

¹⁴ Large-Scale Assessment of a Smartwatch to Identify Atrial Fibrillation | PMC

In addition, a research team from the European Bioinformatics Institute, the German Cancer Research Center and the University of Copenhagen has developed "Delphi-2M," a generative AI model that predicts the probability of the occurrence of more than 1,000 diseases over the next 10 to 20 years, using health records from approximately 400,000 participants in the UK Biobank and approximately 1.9 million Danish citizens.¹⁵ First, individuals are provided with specific information about their major health risks and how to manage them, making it easier for them to make lifestyle changes such as improving their diet and exercise habits, moderating alcohol consumption, and quitting smoking. Furthermore, in the field of medical research, the identification of disease clusters and high-risk groups is expected to improve the efficiency of preventive medicine and clinical research. Moreover, in the fields of public policy and health insurance, estimates of future disease burdens at the national and regional levels are attracting attention for contributing to the improvement of the accuracy of healthcare/family care resource allocation and insurance premium rate adjustments (Figure 2-7).

Figure 2-7: Overview of Delphi-2M and expected applications

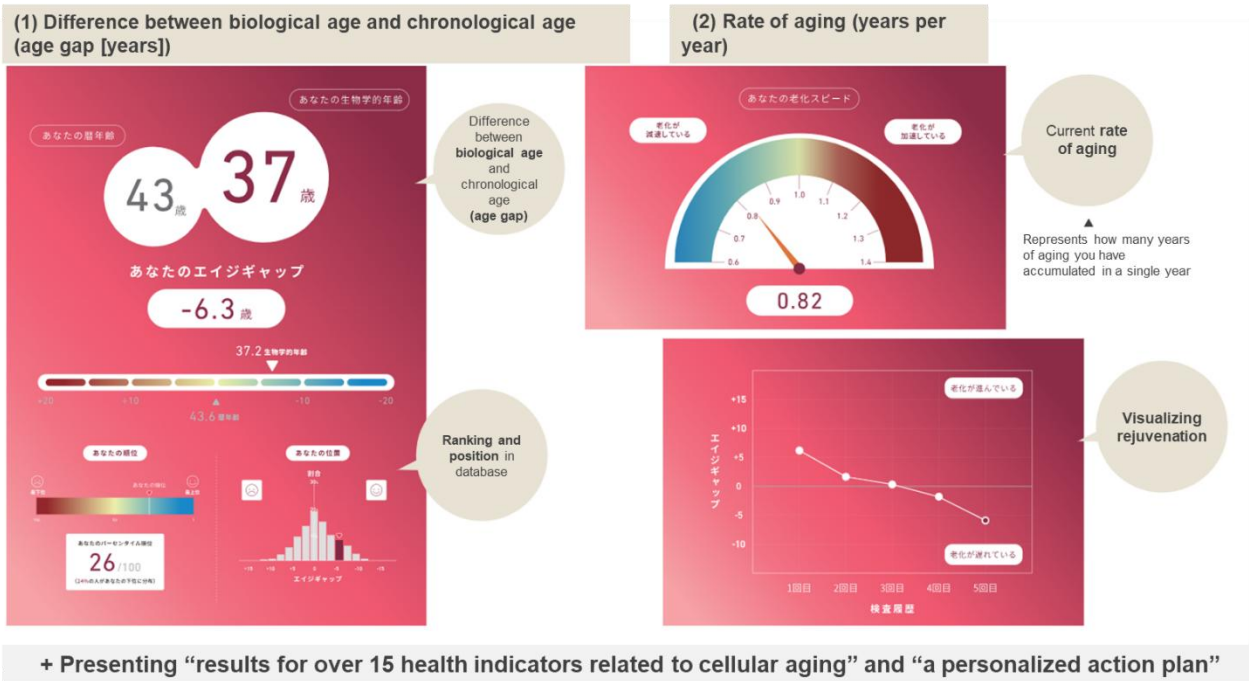


Source: Compiled by MGSSI based on [Nature volume 647, pages248–256 \(2025\)](#), using Napkin AI

In addition, Rhelixa (Japan) offers the "Epi Clock Test," which measures biological age using a small blood sample. Based on the level of DNA methylation, Rhelixa estimates a person's biological age, which differs from their actual chronological age, and quantifies and presents factors such as the rate of aging and the impact of lifestyle habits (Figure 2-8). Furthermore, based on the latest research on longevity, specific advice is provided on what kind of lifestyle improvements are effective in slowing down the aging process. By objectively understanding their biological age, rate of aging, and potential future risks, users can confidently work on improving their daily lifestyle habits.

¹⁵ Learning the natural history of human disease with generative transformers | Nature

Figure 2-8: Rhelixa (Japan)'s Epi Clock Test report (image)



Source: Compiled by MGSSI based on the Rhelixa website (<https://epiclock.jp/test/>: Last accessed November 27, 2025)

In this way, the early detection and visualization of disease risks using AI and biometric data are gaining attention as a "starting point for behavioral change" that enables people to reflect on their own behaviors and take a concrete first step toward improving their health, and research and development in this area are intensifying (Figure 2-9).

Figure 2-9: Examples of companies in the "disease risk prediction" area

Country	Company/project	Overview
US	Apple	Apple Watch features ECG and arrhythmia detection, enabling it to detect signs of atrial fibrillation and other conditions through daily wear. Large-scale studies have shown the validity of notifications and their effectiveness in encouraging people to seek medical care, contributing to the widespread adoption of health risk monitoring.
Europe	Delphi-2M	Using generative AI trained on large-scale health records from the UK and Denmark, predicts the probability of the occurrence of diseases (over 1,000) during the next 10 to 20 years based on medical history, age, and lifestyle habits. It is expected to be applied not only to individual notifications but also to forecasting medical demand.
Japan	Rhelixa	Offers Epi Clock, a service that measures biological age from blood samples. Estimates the degree of aging based on the level of DNA methylation and provides specific advice to help improve lifestyle habits.
US	Freenome	Using multi-omics analysis and machine learning, has developed a liquid biopsy method to detect early signs of cancer in blood. Backed by large-scale clinical trials and funding, is promoting practical implementation and improvement of accuracy.
South Korea	Mediwhale	Developed AI that estimates future risks of cardiovascular and kidney diseases based on a single eye-fundus image. Aims to implement this as a low-cost, simple screening tool in health checkups and primary care settings.

Source: Compiled by MGSSI based on various sources

2-4. Summary

As the initiatives and services described above become more widespread in society, people's health management is likely to shift from a "passive (reacting after becoming ill) and uniform approach" to a "proactive (preventing illnesses before they occur) and individually optimized approach." As a result, they are expected to contribute to addressing social issues such as curbing family care and medical costs and reducing health disparities. Meanwhile, there are numerous challenges to widespread adoption, including "maintaining motivation for health management," "cost burdens," "integration with medical and health insurance systems," "building systems for data utilization," "ensuring privacy and reliability," and even "the possibility that highlighting disease risks could cause excessive anxiety among people." Going forward, the key will be building an ecosystem that encompasses not only the advancement of technology and services, but also the design of social systems based on the premise of disease prevention and mechanisms to support changes in user behavior. We hope this will lead to the creation of social infrastructure that allows everyone to naturally enjoy good health.

3. Social Connections: Robotics Expanding Human Potential

Social well-being, which encompasses positive relationships with others, a sense of belonging to a community, and a sense of purpose in one's social role, is an essential element in helping people find meaning in life.

However, in contemporary society, intractable diseases, disabilities, age-related physical decline, and geographical constraints are depriving people of social connections and roles, leading to severe social isolation. It is this very sense of isolation and loss of purpose that presents an urgent challenge, significantly lowering individuals' quality of life (QOL) and dignity.

In this chapter, we focus on cutting-edge robotics technologies that are being introduced as a means for removing these barriers to enable people to connect with society. These are not merely about automation, but rather represent an approach to "robotics expanding human potential," which extends human capabilities and enables social participation and self-actualization that people had previously given up on. In this chapter, we will examine this from three perspectives: "social participation and expanding lifestyles," "expanding physical capabilities," and "expanding emotional connections."

3-1. Social Participation and Expanding Lifestyles: Overcoming Distance and Barriers to Fulfill Roles

Difficulty going out or functioning due to intractable diseases or disabilities deprives people of contact with society and leads to feelings of isolation and psychological strain. The key here is an approach in which the robot is operated as an extension of one's own limbs, enabling interaction that transcends distance and physical barriers.

First, maintaining equality in daily life is a key issue. When daily living activities decline due to aging or disability, dependence on others increases, and relationships with family and friends tend to become fixed in the roles of "family caregiver" and "family care recipient." In contrast, Labrador Systems (US)'s "Labrador" is a robot that resembles a side table and is capable of autonomous navigation (Figure 3-1). In response to voice commands or app controls, it assists with household chores, such as fetching drinks from the refrigerator or bringing in the laundry. If you can manage your daily affairs on your own, the psychological barrier to asking others for help disappears. Labrador has lowered the barriers to adoption by offering a monthly subscription model with low upfront costs, and is implementing a B2B2C model by partnering with family care insurance providers and others to offer preventive care services.

Next, the avatar robot "OriHime/OriHime-D," developed by OryLab Inc. (Japan) is an approach for direct social participation and the restoration of roles (Figure 3-2). OryLab operates a permanent social experiment called

“Avatar Robot Café DAWN ver.β,” which uses technology that provides the sensation of being physically present through remote control. Here, people who have difficulty leaving their homes, such as those with ALS (amyotrophic lateral sclerosis), operate robots from their homes to provide customer service and other tasks, thereby regaining a sense of social purpose and experiencing the satisfaction of being appreciated through work that involves physical activity. In addition to selling and renting the devices, OryLab offers implementation consulting and job matching services as part of its “Employment Support Services for People with Disabilities” program for businesses and local governments.

These technologies not only help alleviate the burden of family care but also serve as the foundation for individuals to maintain their dignity as independent persons and build relationships with others on an equal footing.

Figure 3-1: Labrador



Source: Labrador Systems website
Introducing the Labrador Retriever Robot at CES 2022
<https://www.youtube.com/watch?v=aTOyXBr9VyU>
(Last accessed on January 21, 2026)

Figure 3-2: Avatar robot OriHime-D



Source: OryLab Inc. website
<https://dawn2021.orylab.com/en/gallery/#gallery-3>
(Last accessed on January 21, 2026)

3-2. Expanding Physical Capabilities: Regaining Voluntary Movement

The loss of mobility resulting from a stroke or spinal cord injury deprives people of opportunities to go out and interact with others in person. The focus here is on wearable robotics technology that compensates for and enhances lost functions, helping people regain the ability to move of their own volition.

CYBERDYNE (Japan)’s “HAL (Hybrid Assistive Limb)” detects the faint bioelectric signals sent from the brain when a person attempts to move their body, and assists movement according to the wearer’s intentions (Figure 3-3). It is crucial that the robot does not move on its own, but rather moves in sync with the user’s intention to move. This approach is also expected to promote the regeneration of neural functions (neuroplasticity). Walking on one’s own feet again is not merely a matter of regaining the ability to get around, but the first step toward regaining the confidence to go out and reconnect with the community. In addition to selling medical devices and expanding its rental services to various facilities, CYBERDYNE operates Robocare Centers, establishing a model that generates recurring revenue.

This field is also advancing rapidly overseas. ReWalk Robotics (now Lifeward) (US/Israel) developed “ReWalk,” a personal exoskeleton robot that enables people with lower-body paralysis due to spinal cord injury to stand up and walk again (Figures 3-4). Approved by the U.S. Food and Drug Administration (FDA) in 2014, it enables users

to move to areas inaccessible by wheelchair and to communicate while standing. Being able to converse while maintaining eye contact directly contributes to greater social confidence and improved psychological well-being. Lifeward focuses primarily on a sales model based on insurance coverage and has established a system for providing its products through public funding and insurance in partnership with the U.S. Department of Veterans Affairs and private insurance companies.

Figure 3-3: HAL



Source: CYBERDYNE website
<https://www.cyberdyne.jp/products/bb04.html>
(Last accessed on January 21, 2026)

Figure 3-4: ReWalk



Source: Lifeward website
<https://golifeward.com/products/rewalkpersonal-exoskeleton/> (Last accessed on January 21, 2026)

3-3. Expanding Emotional Connections: Mental Health Care and Community Renewal

Emotional connections with others and a sense of belonging to a community are essential to social well-being. However, against a backdrop of chronic illnesses, disabilities, the burden of caregiving, and changes in circumstances not limited to the elderly, people may become increasingly isolated as a result of anxiety, depression, or a loss of motivation. Here, we introduce robots designed to engage people's senses and emotions, thereby creating opportunities for conversation and interaction among those at risk of social isolation.

"Paro," a seal-shaped robot developed by the National Institute of Advanced Industrial Science and Technology (AIST) (Japan), uses numerous sensors to respond to human voices and touch, thereby encouraging the formation of emotional bonds (Figure 3-5). Clinical evaluations conducted both in Japan and overseas have reported that, particularly in settings such as elderly care, medical and family care frontlines, in addition to reducing stress and increasing positive emotions, Paro facilitates increased conversation, demonstrating its role as a social mediator. Robots serve as a common topic of conversation, stimulating interaction within the community. Paro is widely recognized as the world's most therapeutically effective robot, having been certified by Guinness World Records, and is sold both in Japan and overseas. It has been certified as a medical device, particularly in Europe and the US, and its adoption as a non-pharmacological treatment is gaining momentum, with post-sales maintenance services also becoming a significant source of revenue.

Meanwhile, overseas, there is "ElliQ" from Intuition Robotics (Israel) as an active approach based on dialogue

(Figure 3-6). This is an AI companion robot designed to combat social isolation among the elderly, and rather than passively waiting for commands, it learns the user’s daily routines and proactively suggests health advice and activities. By offering companionship much like a roommate, it serves as an interface that alleviates the loneliness of elderly people living alone and helps them feel connected to society. The business model is a subscription-based model consisting of an initial hardware cost and ongoing AI service fees. In addition, Intuition Robotics has partnered with US organizations that support the elderly to implement a B2G (Business-to-Government) model, distributing products to the elderly living alone at no cost or at low prices through public assistance programs.

Figure 3-5: Paro



Source: National Institute of Advanced Industrial Science and Technology (AIST) website
https://www.aist.go.jp/aist_j/magazine/20250925.html
(Last accessed on January 21, 2026)

Figure 3-6: ElliQ



Source: Intuition Robotics website
<https://elliq.com/> (Last accessed on January 21, 2026)

3-4. Summary

Robotics has the potential to serve as a means of expanding human possibilities across the layers of social participation, independence, and interaction, thereby contributing to the restoration and creation of connections in response to social isolation and the loss of social roles. The cases introduced in this chapter, as well as those that could not be covered here, are summarized in Figure 3-7.

The cases in this chapter demonstrate that robots are not merely a means for labor-saving or automation, but can also expand people’s agency and capabilities, and contribute to restoring their connections with society and their roles within it. Expanding operations such as remote assistance and daily living support helps overcome distance and physical limitations, augmenting physical capabilities through wearable exoskeletons and similar technologies, which helps restore independent mobility, and engaging in emotional interaction and dialogue as a therapeutic companion helps alleviate feelings of isolation and create opportunities for social interaction. These technologies directly engage with the core elements of social well-being, such as relationships, roles, and creative collaboration, and have the power to rebuild the foundation upon which people can live fulfilling and happy lives.

Figure 3-7: Summary of case studies

Category	Country	Company	Robot	Overview
Social participation and expanding lifestyles	Japan	Ory Laboratory	OriHime / OriHime-D	Uses remote control to overcome physical distance, enabling social participation and employment for people who have difficulty going out.
	US	Labrador Systems	Labrador	Autonomous operation assists with household chores and helps protect the independence and privacy of the elderly and others.
	Japan	avatarin	newme	Users can remotely "inhabit" avatars in public spaces, enabling teleportation-like sightseeing and the provision of skills.
	Israel/US	Temi	temi	Equipped with autonomous operation and AI assistant functions, it supports remote patrols, monitoring of the elderly, and video calls.
	US	Double Robotics	Double 3	A telepresence robot that can be operated in a mixed reality (MR) view. Enables remote participation in offices and schools.
Expanding physical capabilities	Japan	CYBERDYNE	HAL	Supports movement using biosignals, promoting the regeneration of nervous system function and independent movement.
	US/Israel	Lifeward (formerly ReWalk Robotics)	ReWalk	Enables people with spinal cord injuries to stand and walk, restoring dignity and allowing for eye-level communication.
	US	Ekso Bionics	EksoNR	A rehabilitation exoskeleton assisting patients who have suffered strokes or spinal cord injuries to relearn how to walk. Promotes a natural walking pattern.
	France	Wandercraft	Atalante X	An exoskeleton that enables independent walking and rehabilitation without the use of a cane (hands-free) through self-balancing technology.
Expanding emotional connections	Japan	National Institute of Advanced Industrial Science and Technology	Paro	Animal therapy effect reduces stress and stimulates conversation within the community.
	Israel	Intuition Robotics	ElliQ	AI actively engages in conversation to help alleviate loneliness among the elderly and support them in maintaining their daily routines.
	Japan	GROOVE X	LOVOT	Pursuing the idea of "useless yet beloved." It conveys a sense of life through body temperature and eye contact, fostering attachment and providing comfort.
	Japan	CASIO COMPUTER	Moflin	An AI pet with an emotion map. Its personality is shaped by how it is treated, and this approach is utilized in mental health care and character education.

Source: Compiled by MGSSI based on various sources

From top <https://orylab.com/>, <https://labradorsystems.com/>, <https://avatarin.com/>, <https://www.robotemi.com/>, <https://www.doublerobotics.com/>, <https://www.cyberdyne.jp/>, <https://golifeward.com/>, <https://eksobionics.com/>, <https://en.wandercraft.eu/>, <http://paro.jp/>, <https://elliq.com/>, <https://lovot.life/>, <https://www.casio.com/jp/moflin/>

(Last accessed on January 21, 2026)

4. Income & Wealth: Redesigning Financial Access Through Blockchain and Digital ID

Income and Wealth, one of the key components of well-being, rely on money transfer and payment infrastructure as the foundation for people's economic activities.¹⁶ Recently, it has been said that this infrastructure faces three key challenges: cost and efficiency, financial inclusion (access), and security and user experience (UX).

In developed countries, the high costs and delays associated with traditional systems are a challenge, while in emerging economies, access to financial services itself is a challenge. The Financial Stability Board (FSB) is calling for improvements in the cost, speed, and transparency of international money transfers¹⁷, while the World Bank has pointed out that a lack of identification documents is a major factor contributing to the existence of the unbanked (those without bank accounts).^{18,19} In addition, there are challenges in creating a user experience that balances security and convenience for individual consumers who use financial services on a daily basis.

Against this backdrop, there are high expectations for digital technologies such as stablecoins²⁰ as a means of

¹⁶ OECD, 「In Brief: How's Life? 2024」

¹⁷ Financial Stability Board, 「G20 Roadmap for Cross-border Payments: Consolidated progress report for 2025」Published in October 2025

¹⁸ World Bank, "Global FinDEX Database 2021," published in June 2022

¹⁹ World Bank ID4D (Identification for Development) "ID4D Global Dataset" 2021 estimates

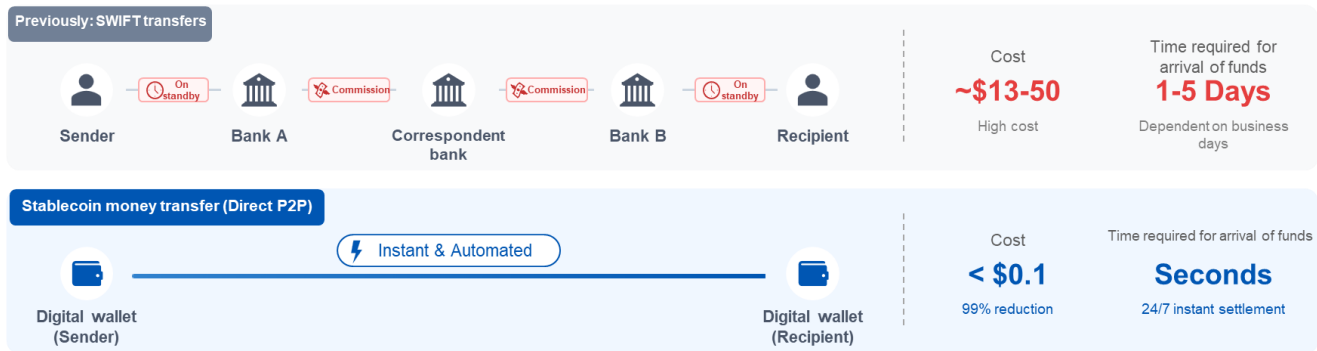
²⁰ Stablecoins: Cryptocurrencies designed to maintain a stable value by being backed by fiat currencies such as the dollar or government bonds

addressing these challenges under appropriate legal and regulatory frameworks. The core technological foundation behind this is blockchain. Given these current conditions, this chapter focuses on three areas based on blockchain technology: (1) redesigning money transfer and payment infrastructure, (2) redesigning credit, and (3) a secure and user-friendly experience.

4-1. Redesigning the Money Transfer and Payment Infrastructure: "Moving Money"

Blockchain-based digital currencies are emerging as a means of fundamentally transforming traditional payment infrastructure. In particular, the practical use of stablecoins, which combine the stability of value with the convenience of digital currency by being backed by assets such as the US dollar and government bonds, is gaining momentum. Stablecoins issued and transferred on the blockchain possess characteristics that address the challenges mentioned above, enabling low-cost money transfers with near-instant settlements 24 hours a day, 365 days a year, without the need for a bank account (Figure 4-1).

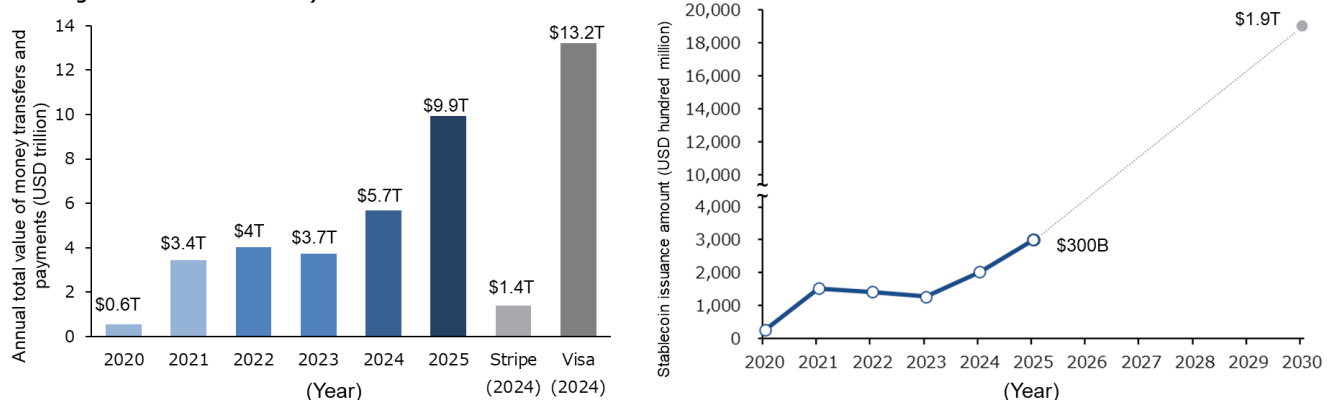
Figure 4-1: Traditional international money transfers (SWIFT) and transfers using stablecoins



Source: Compiled by MGSSI based on various sources

This will give people who previously had limited access to financial services the "freedom to move money." Such trends are rapidly permeating the real economy. The annual volume of money transfers and payments processed using stablecoins has reached USD 9.9 trillion, growing to a scale that rivals major payment networks such as Visa (Figure 4-2).

Figure 4-2: (Left) Growth in actual demand for stablecoins and comparison of payment networks; (Right) Stablecoin issuance amount (actual figures and 2030 forecast)



Note: Stablecoin figures are based on estimated actual demand from Visa Onchain Analytics (excluding round-trip transactions and internal transfers). The figures for 2020 to 2024 are annual totals, and the figure for 2025 is the cumulative total for January to November. The figures for Stripe and Visa are the total annual transaction volume.

Note: Based on data from RWA.xyz, the issuance amounts are as of December 31 for 2020 to 2024 and December 1 for 2025. The 2030 forecast (USD 1.9 trillion) is based on the base case in Citi GPS "Stablecoins 2030."

Source: Compiled by MGSSI based on Visa Onchain Analytics, Visa 2024 Annual Report, Stripe 2024 Annual Report, RWA.xyz, Citi GPS "Stablecoins 2030" (2025)

The underlying issuance volume is also increasing rapidly, and exceeded USD 300 billion in December 2025 and is projected to reach USD 1.9 trillion by 2030, establishing itself as a new, enduring foundation of the financial system. In particular, the integration of infrastructure and the expansion of use cases are progressing beyond just business-to-business applications to include supporting individuals’ economic activities (Figure 4-3).

Figure 4-3: Integration of stablecoin infrastructure and expansion of use cases by major payment and fintech companies

Year	Company/Organization	Overview	Impact
2022			
Apr	Twitter (US) & Stripe (US)	Launched a pilot program to pay Twitter creators in stablecoins (USDC).	Creators without bank accounts can now receive payments instantly, stimulating the global creator economy.
Jun	MoneyGram (US)	Launched a global money transfer service between cash and USDC. Instant money transfers and withdrawals are now available in Canada, Kenya, the Philippines, the US, and other countries.	This enables the sending and receiving of digital dollars without requiring a bank account, promoting financial inclusion and dramatically reducing money transfer costs.
Aug	PicPay (Brazil)	The payment app PicPay launched a cryptocurrency trading service, offering its 30 million users the ability to buy, sell, and hold the stablecoin USDP.	In inflation-stricken Brazil, it provides access to the stable value of the USD and helps individuals protect their assets.
Dec	UNHCR (United Nations High Commissioner for Refugees)	Distributes humanitarian aid funds to Ukrainian refugees using USDC. Payments are received via smartphone wallet.	Even in conflict zones, funds can be safely stored and transferred via smartphone, ensuring the transparency and reliability of aid.
2023			
Mar	Stables (Australia)	Issues virtual cards that allow for direct payments using USDC balances. Can be converted instantly at time of payment.	By integrating digital currencies directly into everyday payments, it significantly enhances convenience for cross-border transactions and travel.
Aug	PayPal (US)	The in-app wallet offers features for managing, sending, and making payments with the proprietary coin PYUSD.	The entry of a major fintech company enhanced the credibility of the digital dollar. Serving as a bridge between VWeb3 and the traditional financial sector to accelerate adoption.
Sep	Visa (US)	Uses USDC to speed up settlement processes with merchant partners. (On Solana)	Reduced international settlement times from several days to just a few seconds, improving cash flow for merchant partners through instant fund transfers.
Oct	Flutterwave (US/Nigeria)	Flutterwave, a leading African fintech company based in Nigeria, integrated the USDC payment network into its payment services across Africa. Integrated with mobile money.	Reduces money transfer costs and processing times to boost economic activity in regions with weak financial infrastructure.
2024			
Apr	PayPal (US)	The international money transfer service Xoom enables money transfers using PYUSD (PayPal USD). It offers instant, low-cost money transfers from the US to overseas without going through the banking network.	It reduces fees and speeds up the arrival of funds to maximize the amount received by recipients of migrant money transfers and other payments.
Aug	Mercado Pago (Argentina)	Mercado Pago, a subsidiary of South American e-commerce giant Mercado Libre, offers in-app trading of “Meli Dólar,” a fee-free USD-pegged digital currency, in Brazil.	By enabling access to US dollar-denominated assets starting with small amounts without going through a bank, it established a means for users in emerging markets to hedge against inflation.
2025			
Feb	Stripe (US)	Acquired Bridge, a stablecoin payment platform, to enhance its implementation APIs for merchants.	Lowered barriers to the adoption of global money transfers and wage payments for businesses, and is promoting the participation of workers in emerging economies in the global market.
Sep	MoneyGram (US)	Launched a wallet for using USDC in Colombia. Funds received can be immediately used as USDC or converted to cash, allowing users to avoid the volatility of local currencies.	Even during currency depreciation, the stable value of the US dollar ensures that living expenses are covered, enhancing household purchasing power and providing peace of mind. Achieving a substantial transfer of value to the local economy.
Nov	Visa (US)	Announced a new service that allows corporate platforms to instantly convert and transfer funds from fiat currency to stablecoins for workers and creators.	Gig workers can receive payments instantly, regardless of bank hours or national borders, improving their cash flow and ensuring fairer compensation. Stabilizes the livelihoods of people in regions with underdeveloped financial infrastructure.

Source: Compiled by MGSSI based on various sources

Stripe (US) and PayPal (US) enable instant payments to freelancers and provide access to digital payment services, and MoneyGram (US) offers a money transfer service that does not require a bank account. The UNHCR (United Nations High Commissioner for Refugees) has achieved rapid and transparent humanitarian aid by providing cash assistance directly to displaced people via digital currency. These examples illustrate that the foundation for financial inclusion, which allows everyone to access the financial system quickly and affordably, is steadily being established.

4-2. Redesigning Credit: “Granting the Right to Use”

Even if the payment infrastructure is renewed, true financial access cannot be achieved unless credit (such as identity verification and payment history), which is a prerequisite for using the service, can be proven. Traditionally, an individual’s credit has relied heavily on bank account histories and official identification documents. Consequently, there has been a challenge in that the unbanked population and people engaged in informal economic activities, who lack access to these, have been unable to fully reap the benefits of technological advancements. The solution to overcoming this barrier lies in redesigning credit through digital ID technology based on blockchain. It will transform individuals’ previously unrecorded activities, achievements, and qualifications into verifiable credit (the right to use) that is difficult to tamper with. Concrete efforts toward social implementation are also accelerating. In developed countries, distributed IDs (DID²¹/VC²²) provided by companies such as Microsoft (US) enable the instant verification of graduation certificates and professional qualifications, thereby reducing the




²¹ DID (Decentralized Identifier)

²² VC (Verifiable Credential)

costs associated with hiring and administrative procedures.

Meanwhile, in emerging markets, global companies such as Binance have leveraged SBT²³ to accumulate and visualize transaction histories on the blockchain as credit scores, thereby enabling people to access loans and services even without a bank account. Furthermore, with the widespread adoption of AI, protocols that provide proof of personhood (PoP²⁴), such as Worldcoin (US), are becoming increasingly important as a foundation for equitable distribution of benefits and access to services (Figure 4-4).

Figure 4-4: Redesigning credit: An approach using digital ID technology

Technology and concepts	Mechanism and features	Value proposition and impact	Major user companies
 DID / VC decentralized ID / verifiable credentials	Digitization of information such as educational background, certifications, and licenses, and presenting it in a format that can be verified instantly without the need for a third-party organization.	Cost reduction and efficiency improvement Dramatically reduces the costs associated with verifying educational backgrounds and certifications during the hiring process.	Microsoft (US)
 Soulbound Token (SBT)	Activity logs and transaction records are permanently stored on the blockchain as tokens that cannot be transferred to others.	Building new "credit" Even people without bank accounts (the unbanked) can obtain loans and other financial services based on their credit history.	Binance
 PoP Proof of Personhood	A platform that uses biometric authentication and other technologies to verify that a user is a "real, unique person" rather than an AI bot.	Ensuring fairness in the age of AI Prevents identity theft and ensures fair distribution of benefits such as basic income.	Worldcoin (US)

Source: Compiled by MGSSI based on various sources

These technologies do not function in isolation but complement each other. PoP serves as the foundation that guarantees the existence of a unique individual, upon which educational background and qualifications (DID/VC) and activity records (SBT) are built. By translating this multi-layered digital credit into a simple user experience that can be presented as a QR code on a smartphone, we can remove barriers to entry for all economic activities and promote seamless social participation.

4-3. "A Secure and User-Friendly Experience" That Is the Key to Widespread Adoption: An Approval System Anyone Can Use

Implementation and widespread adoption are just as important as resolving infrastructure and access issues, and in the exchange of digital information, the security of final payment approval by ensuring that the transaction was authorized by the individual is particularly crucial. It is important to build this secure authentication experience (UX) from both the hardware (device) and software (account) perspectives. An example of hardware-based protection is the Seed Vault function of Solana Mobile (US) (Figure 4-5).

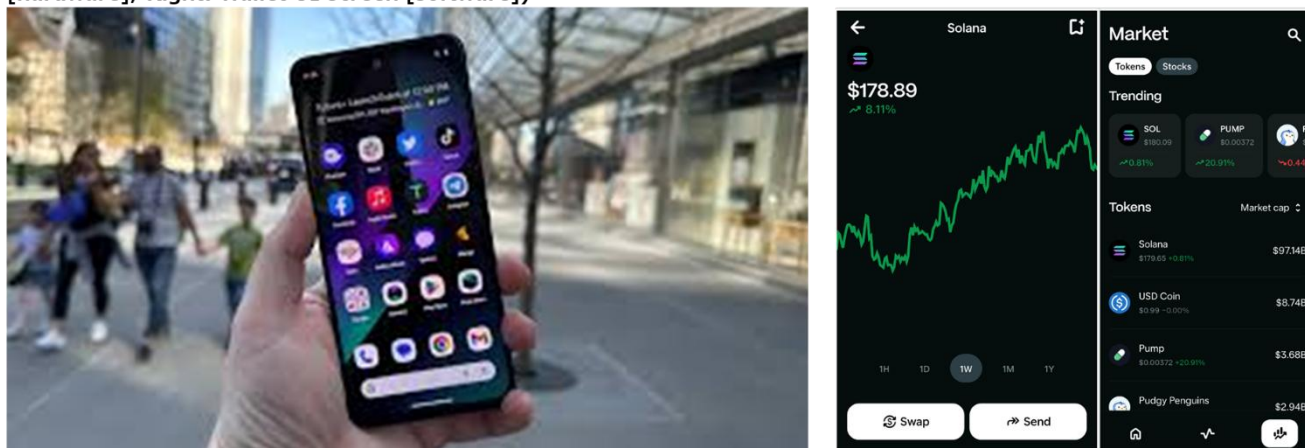
This handles the information required for payments and authorizations within a secure area that is isolated in a device (TEE: Trusted Execution Environment). Users make payments using the same process they use to unlock their devices via facial recognition or fingerprint. This frees users from the burden of managing complex passwords and allows businesses to benefit from the high level of trust provided by user authentication. Another approach is to improve the user experience on the software side, specifically through account abstraction²⁵. This is a technology that lowers the high barrier associated with traditional password management. The technology has been widely

²³ SBT (SoulBound Token)

²⁴ PoP (Proof of Personhood)

²⁵ Account Abstraction (AA): A technology that eliminates the inconvenience inherent in traditional digital assets, where losing your keys means you can never retrieve your assets again. It is a system that can be used by anyone securely and conveniently by enabling features such as password reset and automatic payments, similar to bank accounts and social media.

Figure 4-5: Examples of "a safe and user-friendly UX" enabled by hardware and software (Left: Solana Mobile device [hardware]; Right: Wallet UI screen [software])



Source: Solana Saga Review: The Web3 Smartphone Has Arrived (<https://decrypt.co/126218/solana-saga-review-web3-smartphone-arrived>) , Understanding Solana Seeker's Seed Vault Wallet (<https://solanafloor.com/news/understanding-solana-seeker-s-seed-vault-wallet>) Last accessed February 12, 2026

employed by established major payment companies, such as Visa (US), implementing automated gas bill payments and merchant payment solutions, and Stripe, introducing a wallet for merchants. Furthermore, account abstraction is closely linked to the rapid evolution of AI.

In the future, it is believed that AI agents will conduct economic activities autonomously on behalf of individuals and businesses. To ensure that AI agents function safely, it is essential to design systems that enable automated payments based on predefined conditions, and account abstraction is expected to serve as a core technology in this regard.

4-4. Summary

The three approaches outlined in this chapter will be implemented in society incrementally, in a coordinated manner. First, the adoption of stablecoin transfers and digital IDs in business operations will lead to lower money transfer costs and shorter identity verification times. This will enable a wide range of needs, including daily payments and cross-border money transfers, to be met. In the medium to long term, autonomous economic activities, such as conditional automated payments by AI agents, are becoming a realistic possibility. The convergence of these technologies will transcend mere efficiency gains and pave the way for an inclusive economic foundation that is affordable, accessible, and secure for everyone.

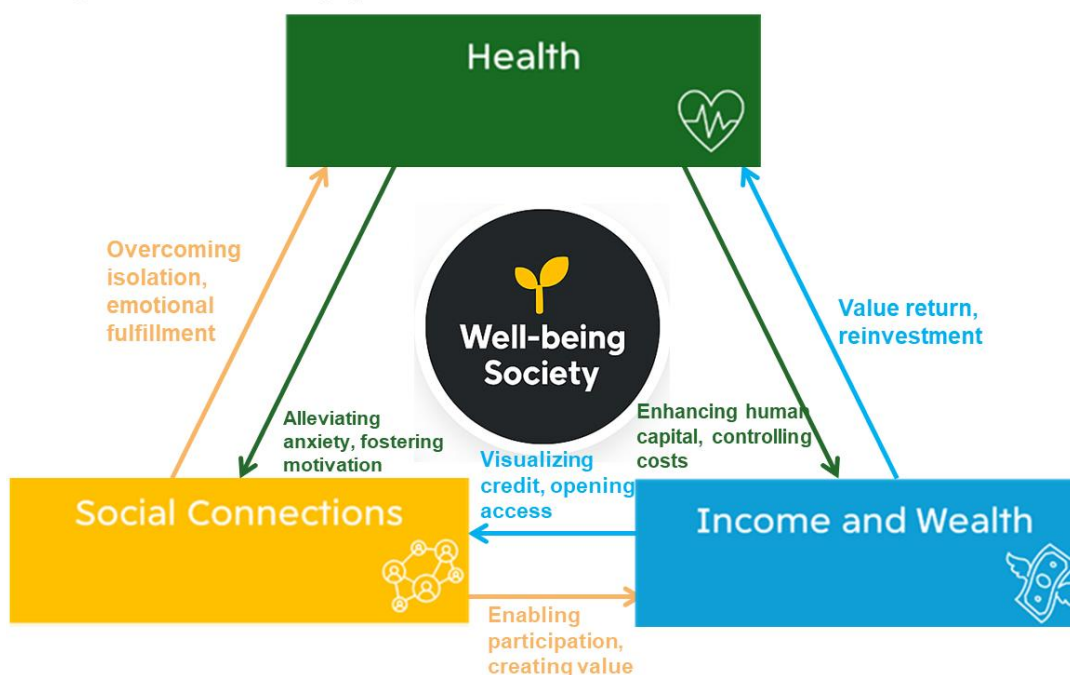
5. Future Prospects

In this report, we have discussed approaches to achieving "true well-being," which cannot be measured by economic indicators alone, from three perspectives of health, social connections, and income & wealth. In the chapter on "Health," we outlined the overall vision of a new health ecosystem, ranging from the use of food as medicine to personalized nutrition and AI-driven disease risk prediction, that empowers consumers to take ownership of their health and take steps toward behavioral change, while also highlighting its potential and challenges. In the chapter on "Social Connections," we demonstrated the potential of robotics to overcome physical and geographical constraints, thereby enabling isolated individuals to reconnect with society and reclaim their "role" and "embodiment." In the chapter on "Income and Wealth," we confirmed that blockchain and digital IDs will serve as a new infrastructure for achieving financial inclusion and transforming individuals' activities and achievements into legitimate credit.

These three areas do not form a hierarchical structure above one another. It is an ecosystem in which each element possesses its own independent value while interacting with others to create a single "cycle" (Figure 5). For example, improvements in health can lead to reduced anxiety and increased motivation, thereby encouraging social participation (Health -> Social Connections). These activities lead to the creation of value (Social Connections -> Income & Wealth), and the resulting economic stability enables reinvestment in better food and preventive healthcare, leading to improved health (Income & Wealth -> Health). In this way, a closed loop is formed in which health drives social connections, social connections generate income & wealth, and income & wealth in turn support health, resulting in well-being evolving into a virtuous cycle where its value continues to grow with each iteration, rather than being transitory. Of course, the reverse of this cycle is also possible, and there may be other ways to keep the cycle going.

Also, this cycle does not end within the individual. When each individual revitalizes their own cycle of health, social connections, and income & wealth, this becomes a source of vitality for the organization and eventually contributes to the well-being of society as a whole. The upward spiral in which the enhancement of individual well-being boosts community resilience, leading to economic growth and increased happiness across the entire nation, is the vision of society we strive to achieve. In this cycle, companies are expected to play a role in designing the interfaces between these areas. Until now, business has primarily focused on optimization within a single area. However, going forward, solutions that seamlessly connect previously fragmented elements and eliminate bottlenecks in the cycle will offer the greatest business opportunities.

Figure 5: The well-being cycle



Source: Compiled by MGSSI

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