

“AGE TECH” IN AN AGING SOCIETY

— INITIATIVES FOR ECONOMIC INDEPENDENCE OF THE ELDERLY —

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SUMMARY

- The aging population problem is expected to become more serious going forward, not only in Japan but also in other countries.
- Japan's elderly people have ample financial resources, longer and healthier life expectancies, a stronger sense of independence, and are becoming more digitally literate. Independence of the elderly is beneficial for both the elderly themselves and public finances, but there are barriers to its realization. The use of Age Tech is attracting attention as a solution.
- In recent years, a variety of services have been developed using Age Tech to help seniors become more self-reliant, including in the areas of finance, housing, and work. If companies continue to update their image of the elderly and provide services that answer to the needs of older people, they can expect to see expansion in the scale of their business. The know-how accumulated in Japan can also be applied overseas.

The progressive aging of the global population is giving rise to increasing concerns about the associated problems. Further aging of the population is inevitable. In attempting to find solutions to the issues, this report discusses the use of Age Tech (technology services for the elderly), focusing mainly on the economic aspects, after first describing the reality of an aging society and the characteristics of the elderly in contemporary Japan.

1. REALITIES AND PROBLEMS OF AN AGING SOCIETY

1-1. Aging in Japan

Japan's total population peaked at 128.06 million in 2010 and has been declining ever since, and stood at 124.09 million as of January 2024¹. The percentage of the population age 65 and over has been on the rise, growing from less than 5% of the total population in 1950 to 7% in 1970, then to over 14% in 1994, further to nearly 30% today, and is expected to exceed 37% by 2050².

1-2. Aging populations in other countries

The aging of society is not limited to Japan. The world's population of people 65 years and older is estimated to reach 1.6 billion by 2050³, up from 761 million in 2021. Looking at the trend by country by applying the traditional definition of the speed of aging, “the number of years it takes for the percentage of the population age 65 and over to increase from 7% to 14%,” the transition took 24 years in Japan, where 7% of its population

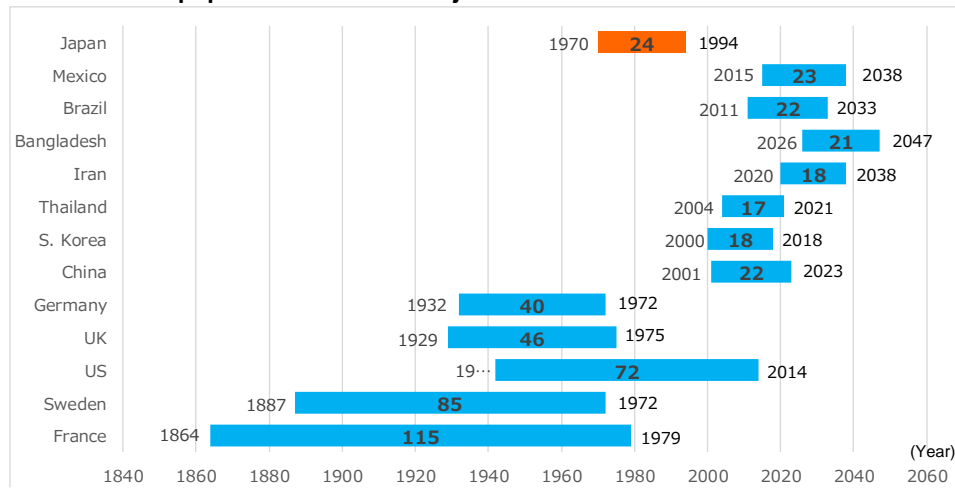
¹ Estimates published by the Statistics Bureau of Japan's Ministry of Internal Affairs and Communications on January 22, 2024

² Japan's National Institute of Population and Social Security Research, “Population Projections for Japan” (2023 estimate)

³ United Nations Department of Economic and Social Affairs, “World Social Report 2023”

was 65 and older in 1970. The transition took 22 years in China, slightly shorter than in Japan, and a very short 18 years in South Korea. Rapid aging is also expected in emerging economies in the future, including Thailand, where the transition took 17 years, Iran 18 years, Bangladesh 21 years, Brazil 22 years, and Mexico 23 years (Figure 1). Moreover, these estimates are based on current projections, and if the level of education improves and if there are more opportunities for women to play active roles in society, the birthrate will decline faster than expected, and the aging of society may accelerate.

Figure 1: Number of years it takes for the percentage of the elderly to increase from 7% of the total population to 14% in major countries



Note: For the years before 1950, the data is from the United Nations, The Aging Population and Its Economic and Social Implications (Population Studies, No. 26, 1956) and Demographic Yearbook. After 1950, data is from the United Nations, World Population Prospects 2022 (median estimates). For Japan, figures are based on the national census report by the Statistics Bureau of the Ministry of Internal Affairs and Communications and the Population Projections for 2023 by the National Institute of Population and Social Security Research ([median birth (median death)] estimates). For the years before 1950, estimates are interpolated based on data from known years. Source: Compiled by MGSSI based on the National Institute of Population and Social Security Research, Population Statistics (2023 revision) and the Cabinet Office's Annual Report on the Aging Society (2023)

1-3. The problem of the financial burden of an aging population

One of the problems associated with an aging population is the increasing burden it places on public finances. Japan's social security benefit costs⁴ are 134.3 trillion yen (based on the FY 2023 budget), or 23% of GDP. Of the total, the proportion of elderly-related benefits⁵ accounted for 63%, down 3.4 percentage points from the previous year due in part to the government's call for exercising restraint on expenditures, but the burden is still heavy.

The same is true for many other countries as well. In the US, for example, the current situation is that the Old-Age and Survivors Insurance Trust Fund is expected to pay out only 77% of projected benefits in 2034⁶. Expenditures continue to exceed revenues due to the aging population, making social security financing difficult.

2. CHARACTERISTICS OF THE ELDERLY IN CONTEMPORARY JAPAN

The following are five characteristics of today's elderly in Japan.

2-1. Increasing digital literacy

According to NTT DoCoMo's Mobile Society Research Institute, the smartphone ownership rate among the elderly is 93% for those in their 60s and 79% for those in their 70s, of which 40% and 24%, respectively, have

⁴ Total of pension, medical, welfare, and other benefits

⁵ Total of pension insurance benefit expenses, medical care benefit expenses for the elderly, welfare service benefit expenses for the elderly, and continued employment benefits for the elderly

⁶ US Social Security Administration, Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, "2023 OASDI Trustees Report"

owned their phones for 10 years or more. This suggests that today's elderly people are becoming more digitally literate. However, about 50% of those in their 60s and 70% of those in their 70s spend less than one hour a day on the internet, including through the use of PCs, and connect online mainly to search for information, obtain disaster information, and send and receive e-mails. For QR code payments, 46% of those in their 60s use online services, but only 23% of those in their 70s do so. For making investments, the figures are a mere 12% and 6%, respectively⁷.

2-2. Sizeable economic resources

Today, the number of elderly people with ample economic resources is increasing. As the population of people 65 years and older rises, the share of Japan's personal financial assets held by the elderly is expected to continue to expand, and at a faster pace than the aging of the population. The percentage of personal financial assets held by age group in 2015 was 22% for those age 75 and over, but that figure is projected to reach more than 30% by 2030 (Figure 2).

Figure 2: Percentage of financial assets held by age group

Age	2015	2020	2025	2030	2035	2040
Under 35	4%	4%	4%	3%	3%	3%
35-44	9%	8%	7%	7%	6%	6%
45-54	15%	16%	16%	14%	12%	11%
55-64	23%	21%	22%	25%	25%	23%
65-74	27%	26%	22%	21%	23%	26%
75+	22%	25%	29%	31%	30%	30%

Source: Compiled by MGSSI based on "Financial Gerontology and Asset Longevity" [in Japanese] by Kohei Komamura, Director, Research Center for Financial Gerontology, Keio University

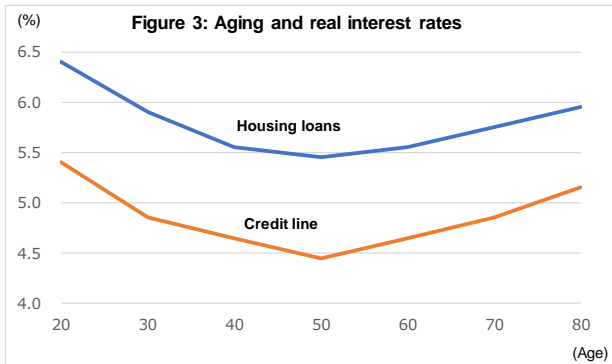
2-3. High encounter rate as victims of bank transfer scams

According to a survey conducted in the US, the average interest rate for borrowing from financial institutions by age group is higher for younger populations and gradually declines as age increases but tends to bottom out around age 50 and then begins to rise again (Figure 3). This tendency is influenced by financial institutions' assessment of a borrower's ability to manage finances, measured as credit risk. Reasons for higher interest rates borne by the elderly include not only reduced income owing to retirement, but also perceptions of reduced ability to manage financial assets due to changes in cognitive capabilities.

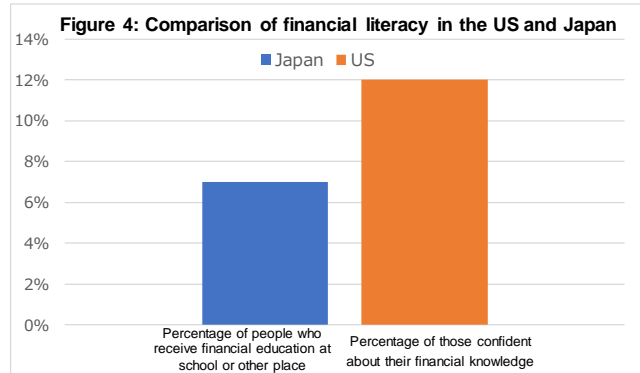
According to the National Police Agency, in Japan, where the financial literacy rate is lower than in the US (Figure 4), about 80% of victims of bank transfer scams⁸ are aged 65 or older. With the increasing sophistication of financial fraud schemes, the rate of such victimization among the elderly is likely to increase in the future.

⁷ NTT DoCoMo Mobile Society Research Institute, "Mobile Society White Paper 2023 Edition"

⁸ A general term for crimes of defrauding a person of cash, etc. (including extortion to extort cash, etc.) when the perpetrator makes the victim believe he/she is an employee of a public institution, etc. and has the victim transfer money to a designated account, etc., without meeting face-to-face but contacting the victim by telephone or other means.



Note: Agarwal et al. (2009) collected about 14,800 data items on individual mortgage real interest rates (APR = Annual Percentage Rate) and credit history from financial institutions between 2000 and 2002, and analyzed how mortgage real interest rates vary with age, while taking into account various factors.
 Source: Compiled by MGSSI based on "Financial Gerontology and Asset Longevity" (in Japanese) by Kohei Komamura, Director, Center for Financial Gerontology, Keio University



Notes: The survey in the US was conducted in 2018, and the results were published in 2019. The survey in Japan covered 30,000 individuals age 18-79 (expanded from 25,000 in the two previous surveys). Respondents were assigned to age groups by prefecture based on the 2020 Population Census, and to a population composition nearly identical to that of the male and female population. The survey method was an online survey. (FINRA Investor Education Foundation, "The State of US Financial Capability: The 2018 National Financial Capability Study")
 Source: Compiled by MGSSI based on the Financial Literacy Survey 2022, conducted by Japan's Central Council for Financial Services Information

2-4. High level of self-reliance

According to a McKinsey study⁹, 80% of the world's elderly want to continue living in their own homes. In Kamikatsu, Tokushima Prefecture, a town known for its "leaf business,"¹⁰ elderly people are encouraged to become more self-reliant, to prevent them from becoming bedridden, and to increase their income, with some earning more than 10 million yen a year. The annual medical expenses of the town's residents are nearly 300,000 yen lower per person than for residents in surrounding towns. For the elderly, working independently not only contributes to maintaining their health, but also to supporting their well-being. This also creates a virtuous cycle that leads to a reduction in the weight placed on public finances.

2-5. Extension of healthy life expectancy

Accompanying the aging of the population has been a trend of the elderly maintaining strong physical capabilities longer in life, compared to earlier generations. There have been reports indicating that older adults were walking faster in 2002 than in 1992, and that both men and women were 11 years younger in terms of physical ability¹¹. With the extension of healthy life expectancies, the number of "active seniors" who actively go out and make the effort to get involved in society is growing.

3. EXPANSION OF AGE TECH DEMAND AND SPECIFIC EXAMPLES

3-1. Growing demand for Age Tech services

To live independently, seniors need not only good health, but also sufficient economic power. Although the number of elderly people with ample economic resources is increasing, many elderly people are still concerned about insufficient funds for their daily needs. As discussed in association with the issue of "20 million yen needed after retirement," the reality now is that there is an increasing "risk of living longer". Age Tech is attracting attention as a solution to various challenges that elderly people face. As outlined above, today's older adults are more digitally literate and have more opportunities to use digital technology. With Age Tech, services

⁹ McKinsey Health Institute, "Age is just a number: How older adults view healthy aging". The survey found that of the 80% who want to continue living in their own homes, 41% are currently living in their own homes and would like to continue to do so, and 39% are currently living outside of their own homes but would prefer to live in their own homes.

¹⁰ A business that grows, ships, and sells seasonal leaves and flowers used to add color to dishes, known as "tsumamono." Irodori Corporation, headquartered in Kamikatsu, a town that has become depopulated and has the highest percentage of elderly people in Tokushima Prefecture, hires elderly people to grow, ship, and sell these leaves, thereby helping the elderly stay healthy, prevent them from becoming bedridden, slow the onset of dementia, and increase their income, and as a result, the business contributes to reducing medical costs.

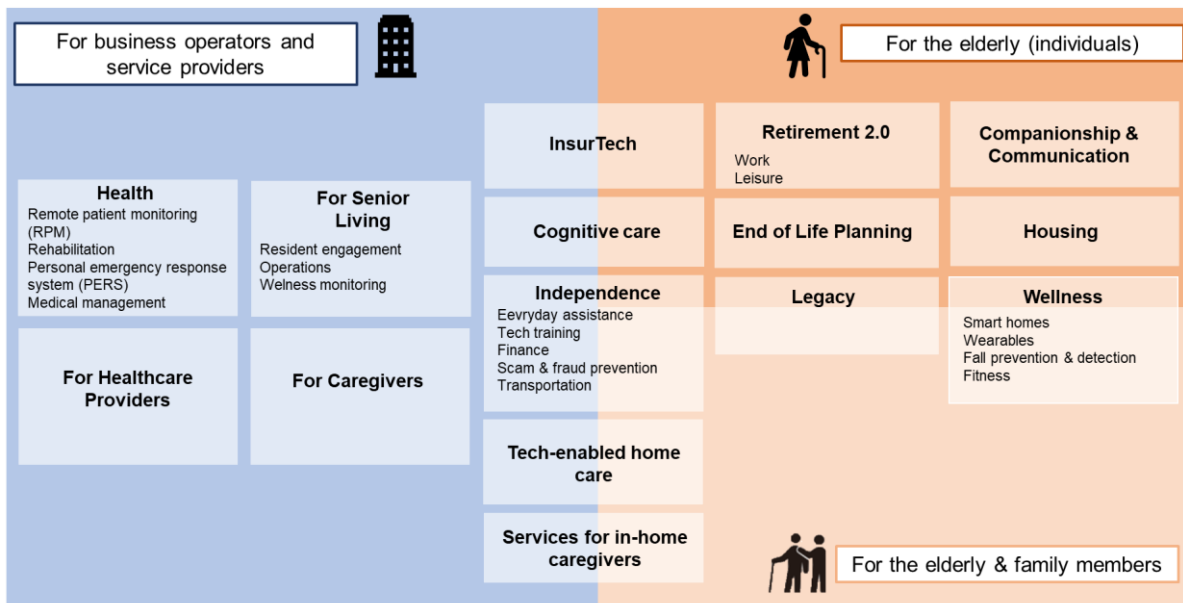
¹¹ Suzuki, Takao, et al. "Study on Longitudinal and Cross-sectional Changes in Physical Functioning among Japanese Elderly People" [in Japanese] (Vol. 53, No. 4, Index of Health, April 2006, p1-10)

previously limited to the wealthy can be offered to a wider range of people at low cost. This means more opportunities for new companies to enter the market. What is more, Age Tech-related activities and trends¹² are also capturing greater interest in the US as well as in other countries. For instance, the AARP, which is the world’s largest elderly people’s organization, has created a booth titled “AgeTech Collaborative” at the CES, a trade show held in the US, introducing related start-ups.

3-2. Examples of services using Age Tech

Keren Etkin, author of a book on Age Tech¹³, summarizes the main areas where Age Tech can benefit the elderly, as shown in Figure 5. Most of the areas are those related to medical care and wellness/healthcare, but there are also a few directly or indirectly related to finance, asset management, etc.

Figure 5: Main areas where Age Tech can make a difference



Source: Compiled by MGSSI based on information on TheGerontechnologist website

Of these areas, the most relevant to economic independence, which is the focus of this report, are Independence (financial, fraud prevention), Legacy, Housing, InsurTech, and Retirement 2.0 (work). An overview of each and examples of the companies active in the fields are shown in Figure 6.

Figure 6: Main service areas for Age Tech related to economic independence of the elderly and examples of companies active in each field

Area	Overview (examples)	Companies
Independence (finance)	Asset management using smartphones, etc.	silvur
Independence (scam & fraud prevention)	Monitoring for fraud prevention, etc.	True Link
Legacy	Inexpensive and simple inheritance and trust services, etc.	STORYFILE
Housing	Sale-leasebacks, shared housing, etc.	EasyKnock
Insurtech	Mutual aid insurance for the elderly, etc.	Trusty.care
Retirement 2.0 (work)	Online job marketplace for seniors, etc.	seniors@work

Note: Kyoto Solidaire is a municipal (Kyoto Prefecture) initiative.

Source: Compiled by MGSSI based on information from TheGerontechnologist, Pitchbook, and the websites of each company

¹² In addition to these activities in industry, there is a field in academia called gerontology, which deals with issues of old age. In addition, a new research field called financial gerontology has emerged to study and analyze economic issues that arise with longevity and aging, such as the economic activities and asset choices of the elderly. Such studies are carried out in collaboration with related fields, mainly economics, to find solutions.

¹³ “The AgeTech Revolution”, New Degree Press (January 11, 2022)

In addition to areas related to the management and administration of assets, there are a variety of other new service areas, such as low-cost online trust services and home sharing (roommate matching) services, in which a portion of a residence is rented out. User demand for these services is relatively modest and represents niche markets, so the services are more conveniently used if they can be bundled rather than provided individually. If service providers take this route, it is conceivable that a service could develop into a super app like Alipay, which started as a payment service and has evolved into a multi-digital service platform. Currently, there is no gateway to digital services for the elderly that stands out, but like Facebook, which started as a social networking service for students, there is a possibility that a platform will be created from among Age Tech services that will become a major hit with the elderly. Such a platform would not be provided by an existing entity such as a traditional financial institution, but possibly another entity that can provide advanced digital services with a high level of trust.

4. BUSINESS OPPORTUNITIES AND POINTS TO KEEP IN MIND

Even though digital literacy is improving among the elderly, it is still a big hassle for them to switch from one service to another once they have started using a certain service. Switching to another service can also be costly, except for payment services with low migration costs, and in the case of some services, there may not be many options for changing to another provider. Therefore, for service providers, unlike services for young people, first-mover advantages can be significant. In other words, early entry into the market is the key to success. However, this is not necessarily the case for services with expensive and sensitive content, which require advanced technologies to ensure excellent user interface and user experience (UI/UX), as well as a high level of trust. In particular, financial services require localization in each country due to differences in regulations, and simply porting a business model to another country will not work as a method of expansion into overseas markets. This aspect differs from the platform services that are currently popular globally.

Despite these points to bear in mind, there are elements of the know-how accumulated in Japan, a country with an advanced aging population, that can be applied to overseas markets that are expected to see their populations grow older going forward. The difficulty in providing services to the elderly is that older people have more diverse backgrounds and preferences in terms of health status, financial resources, social experiences, etc. than younger people. In addition, because elderly people are not easily influenced by trends, it is difficult to create a particular platform or service with a strong enough appeal to attract users in great numbers. This is in contrast to the mass adoption of TikTok by young people. However, this can be explained by the fact that companies do not have a sufficiently updated image of today's elderly. Although the elderly may have different backgrounds and preferences, they share a common sense of belonging to society, independence, and health maintenance that does not diminish even after retirement. If companies can attract a certain number of customers by focusing on this point and providing services that meet the needs of the elderly population, the network effect that is characteristic of digital services should begin to work, and they can then expect to further expand the scale of their business. The efforts of Japanese companies to bring Age Tech services to the global market are attracting a great deal of interest.