Sustainable Business Model for Overcoming Challenges of Super Aging Society

Improving CX for Elderly

Japan faces a variety of societal challenges, not the least of which is concern about the social security system in the face of a declining population, extremely low birthrate, and aging demographics. The need to step up efforts to address these challenges is urgent. With no prospect of improvement in demographics that are heavily skewed toward older age groups, there is a need for the elderly themselves to take up the task of revitalizing domestic demand and resolving the issues facing the social security system, including rising healthcare costs. Hitachi also believes that making the most of advanced technology to improve CX for the elderly is essential, not only in Japan, which is at the forefront of this trend, but also in other nations where populations are aging. After reviewing current developments relating to how improvements in CX for the elderly can support industrial growth and promote self-sufficiency, especially in relation to the insurance industry and its role of complementing the social security system, this article goes on to describe the new *Shakai Sanka no Susume* (Encouraging Social Participation) service from Hitachi that is based on a smartphone app.

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1. Introduction

Japan is facing severe societal challenges resulting from its declining population, extremely low birthrate, and aging demographics. One example is the looming "2025 problem," which refers to the rapid increase in social security costs that will happen as everyone in the baby-boom generation reaches the later stages of old age (75 years or older). Five years after that comes the "2030 problem," where the shrinking of the working-age population will strain the limits of the social security system, with one person in three over 65 years of age. It is clear that the longer this trend toward a declining population, extremely low birthrate, and aging demographics continues, the more severe the weaknesses of the social security system will become, with major consequences for citizens of every age group. Some way needs to be found for the nation as a whole to overcome this vicious circle.

Under these circumstances, many elderly people are feeling uncertainty and concern about the three great risks of old age, namely health, finances, and loneliness and isolation, to which can also be added the fourth issue of how the elderly are to be cared for. This latter issue of caring for the elderly poses difficult challenges of its own, including "the elderly caring for the elderly" whereby older people themselves provide care for others who need it. Hitachi believes that encouraging the self-sufficiency is an important factor in overcoming the risks facing the elderly. Were initiatives for providing such encouragement to become more widespread, it would help address the severe societal challenges mentioned above.

2. Importance of Developing Business Models for Improving CX for the Elderly

In Japan, a nation at the forefront of the global trend toward rapidly aging populations, many influential companies are seeking to achieve robust business growth between now and 2030 by working on business models that encourage self-sufficiency among the elderly in ways that address societal challenges. A key to the success of such endeavors is to develop value models that leverage advanced technology to improve customer experience (CX) for the elderly. This article describes leading initiatives from the insurance industry and other related industries that are predicated on extending healthy lifespans, extending asset lifespans, and building personal connections. It also discusses the value that can be derived from such initiatives. The target market for these includes not only those people in early old age (65 and over) and later old age (75 and over), but also others who are approaching retirement age.

2. 1
Current Status and Future Directions for Services Using Advanced Technology to Manage Health Risks

A major European insurer with operations mainly in Asian countries that are facing aging demographics similar to Japan is attracting attention. The company is helping these countries address societal challenges by utilizing the capabilities of artificial intelligence (AI), digital twins[*1], and other advanced technologies to provide services based on health data collected by a healthcare app that it supplies to customers. These include monitoring the user's health based on a scoring algorithm it developed, offering timely and appropriately prioritized advice on what actions to take, and video consultations with doctors.

Combining AI with digital twins is a subject of research around the world. Having elderly people create a "second self" that replicates their memories, values, interests, and

*1 The replication of the physical world in digital space based on collected real-world information. Some experts have predicted that many people will have a digital twin of themselves in the 2030s.

preferences, for example, can provide them with someone to talk to, with other possible applications including the provision of advice and encouragement to avoid falling victim to bank transfer scams and other specialized fraud or expressing wishes on their behalf, such as wanting to spend their last days at home. Integrated with the above app-based service, this has the potential to develop into a model for encouraging self-sufficiency among the elderly that also works in a way that improves CX.

Unfortunately, the legal system in Japan poses a number of obstacles to such endeavors, meaning that it would be difficult at present to roll out all of the advanced services of the insurance company app. Nevertheless, along with ways of putting information to use by entities such as the private service providers already working in this area, the launch of better insurance services is also anticipated as progress is made on the use of health and medical information from Japan's Individual Number card (the "My Number" card) and associated portal, the use of which is growing. Further into the future, changes in consumer attitudes are anticipated as wider use of genomic medicine gives people a better understanding of genetic information, with demand for services such as the delivery of genuine extensions to healthy lifespan through better use of data.

2. 2
Contribution to Society as Key Factor in Encouraging Elderly Self-sufficiency

Self-help and mutual aid are two key factors when it comes to encouraging self-sufficiency among the elderly. These are two of the four forms of help (self-help, mutual aid, cooperation, public assistance) that feature in community-based integrated care systems for providing services that support the elderly. They are also very closely linked to involvement in activities that contribute to society.

An Internet welfare and health monitor survey was conducted in November 2020 by the Bureau of Social Welfare and Public Health of Tokyo Metropolitan Government. When questioned about their intentions regarding community activity in old age, the second most common choice for what respondents wanted to do after reaching retirement age was "community activities and activities that contribute

Table 1 — Tokyo Metropolitan Survey of Lifestyle and Activity Intentions after Reaching Retirement Age
This shows the top three responses for respondents age 50 and over (with each respondent asked to choose up to three responses).

Age group	50s (113 respondents)	60s (76 respondents)	70s (85 respondents)
Most popular response	Community activities and activities that contribute to society (volunteering) 47.8%	Hobbies and sports 56.6%	Community activities and activities that contribute to society (volunteering) 72.9%
Second most popular response	Hobbies and sports 46.9%	Community activities and activities that contribute to society (volunteering) 52.6%	Hobbies and sports 67.1%
Third most popular response	Travel and leisure 44.2%	Travel and leisure 51.3%	Travel and leisure 47.1%

Source: Prepared by Hitachi based on information on community activity intentions in old age contained in an Internet welfare and health monitor survey conducted in November 2020 by the Bureau of Social Welfare and Public Health of Tokyo Metropolitan Government.

to society." By age, this was the most common response in the 50s and 70s age groups (and second in the 60s age group), chosen by more than 70% of respondents in their 70s (see **Table 1**). While the survey size was small, receiving 371 valid responses from 500 people surveyed, and while its results cannot be treated as definitive given that it was restricted to the Tokyo area, it does offer an indicative data point. It also seems likely that the introduction of schemes such as the ability to earn consumer loyalty points in return for activities that contribute to society would lead to a sustainable improvement in experience.

The next section describes past work by Hitachi aimed at improving CX for the elderly.

3. *Shakai Sanka no Susume* App for Smartphone Measurement of Social Participation

Along with appropriate physical exercise and a nutritious diet, active social participation is important for helping elderly people avoid the need to go into care[1]. Here, social participation refers to activities that involve interaction with other people, such as working, participating in local activities, or other community engagement. For many years, Chiba University and the Japan Agency for Gerontological Evaluation Study have been studying the relationship between social participation of the elderly and their risk of going into care. What they have found for older people who are actively involved in such activities is that the future likelihood of their being certified as in need of care is lower by a statistically significant margin[2],[3]. Unfortunately, even though social participation has been demonstrated to be extremely beneficial for reducing the need for care, its importance is not yet widely appreciated by the public. Hitachi believes that if these findings can

successfully be put into practice, it would improve the quality of life (QoL) of the elderly while also addressing the issues associated with caring for them.

For example, while many services exist that can support diet and exercise or quantify activity, there is a lack of mechanisms or services for measuring social participation, reinforcing its importance, and encouraging behavioral change by providing opportunities. Accordingly, Hitachi has been looking into the practical implementation of services with such functions.

In terms of measuring social participation, having a digital means of determining when the subject goes out or spends time on activities outside the home, for example, would at least provide some indication that they are not housebound all the time, with a wider range of places visited corresponding to a higher level of social activity. Ways that this activity measurement could be done include the Global Positioning System (GPS) and the motion sensors and step sensors that are standard features in today's smartphones. As the percentage of smartphone ownership among older people has been rising steadily, Hitachi decided to develop the *Shakai Sanka no Susume* (encouraging social participation) app as the basis of its service.

Users of the app can have information on their daily activities collected automatically simply by carrying around a smartphone that has the app installed. This information includes step count and details of when they leave their home, including the route traveled and places where they spend time. As well as using the information to provide a score on their level of social participation, the app also helps to raise awareness of how to avoid going into care, providing regular news items on past studies by the aforementioned Japan Agency for Gerontological Evaluation Study (see **Figure 1**). The app was launched in June 2022

Figure 1 — User Interface of *Shakai Sanka no Susume* App
By installing the app, users can automatically obtain a record of their daily activities and get a ranking on their level of social activity. The app also provides regular news items about how participation in society can help people avoid going into care.
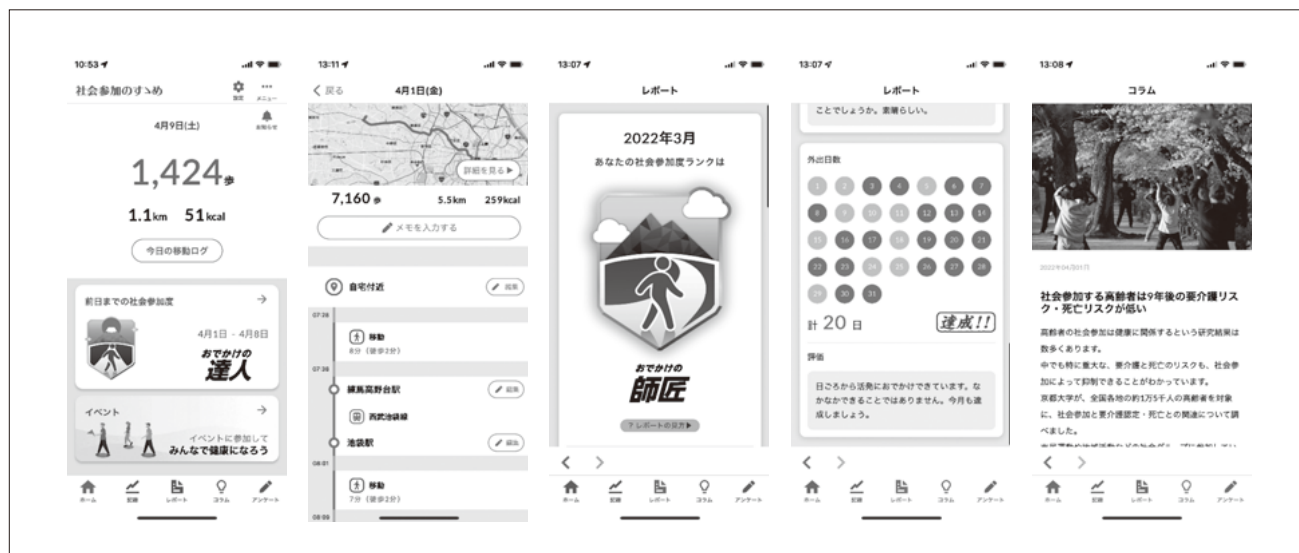
and is available to all as a free download from both App Store[*2] and Google Play[*3]. While the app is currently only a prototype, lacking a full set of features, the intention is to continue updating it as more is learned about user needs.

A goal of this service is to use anonymized data on social participation to assist a variety of industries in their development of products and services targeted at the elderly. The nursing care coverage offered by insurance companies provides a good example. Given the knowledge that active involvement by older people in social participation reduces their future risk of being certified as in need of care, there is potential for services that offer benefits to people who can provide proof of this activity, such as discounted premiums or being able to take out policies on advantageous terms. Furthermore, as it gains more users, the app will become a means of connecting with the active elderly, creating the potential for media functions or for matching users with companies that market to the elderly.

To assess the viability of the business concept, Hitachi is currently working with other companies on trial projects that use data collected by the app. By working with private-sector businesses and identifying CX best practices that will serve as a basis for social participation by the elderly, Hitachi plans to grow the service into one that will provide strong support for companies that are expanding their businesses for the elderly while also helping to extend healthy lifespans.

4. Conclusions

This article has described the work Hitachi has been doing to improve CX for the elderly, having recognized that populations are aging around the world. To devise services that offer strong support for self-sufficiency among the elderly, Hitachi also intends to be an active collaborator with companies and municipalities that share these same ideas.

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*2 App Store is a registered trademark or trademark of Apple Inc. in the USA and other countries.

*3 Google Play is a registered trademark or trademark of Google LLC in the USA and other countries.

References

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