



The World's Real-time Laboratory for Age-Tech



Foreword

At The Carter Group, we are in the business of understanding Japanese consumers and the trends that impact them. We use our expertise to illuminate opportunities for our clients, helping them to discover new approaches to product and service development and communications.

One of the most interesting and high-potential consumer segments in Japan is that of those aged 65+, a group that already represents nearly 30% of the total population, and is steadily expanding.

Herein, we've put together a few key points related to this important group of consumers, along with examples of how companies are already succeeding at fulfilling their needs and wants.

age group = approx. **30%** of the total population



Japan has the most aged population of any country in the world. Declining birth rates and high life expectancy have resulted in a high and rapidly growing proportion of the population being aged 65+, with projections of 40% by 2050. These developments are proving to be an enormous burden on Japan's economy and society, as dwindling tax revenues and a shortage of healthcare and semi-skilled care workers fail to meet the rising demand for medical and aging care.

Yet Japan's "silver tsunami" crisis also presents an unmistakable opportunity for technological innovation. At the intersection of aging and technology, so-called Age-Tech products and services solve a variety of needs and challenges faced by those who are aging, and also by those who care for them (whether professional or family caregivers).

Age-Tech encompasses a wide range of solutions, from simple wearables for health tracking to robotic exo-skeletons that aid mobility, to social companionship solutions for aging households, and beyond.

With all this in mind, at The Carter Group we define Age-Tech as technologies and services built to improve the lives and wellbeing of aging people and their caregivers.



In addition to Japan being the third largest consumer market in the world and the world's largest Aging market, Japanese people aged 65+:

- Enjoy one of the longest lifespans of any country
- Are more physically active for longer (and thus enjoy high quality of life, even while aging); many continue to work well into their 70s
- Engage actively in learning new skills, and with hobbies and sports
- Possess higher purchasing power than their younger counterparts
- Are open-minded in their search for solutions that can help them meet their needs

In addition, on the businessto-business (B2B) side of the equation, governments, hospitals, assisted living and nursing facilities, and other major stakeholders are hungry for innovations to help meet the growing demand for social services.

Population aging is not exclusive to Japan. However, as the world's most aged society, it is a crucial testing ground and offers a very favorable environment for global Age-Tech players. In short, Japan is the world's best natural laboratory for Age-Tech development.

This White Paper highlights the huge opportunity for global Age-Tech in Japan, and will hopefully spark engagement with this high potential market.

The Most Aged Society on Earth

In 2020, those aged 65+ (called "aging population" or "seniors" for the purposes of this White Paper) in Japan represent nearly 30% of the population (some 36 million people and rising!).¹



Source: The World Bank



Nearly 30% of the total population and growing





When we look at Japan's 65+ population, the total is nearly evenly divided between those who are aged 65~74 and those who are aged 75+ (with approximately 18 million in each group). This includes the oft-mentioned Dankai no Sedai generation (born from 1947~49, and now aged in their early 70s), numbering 9 million and representing 7% of the total population.

Japan's 65+ population will continue to expand until at least 2045 and is predicted to increase to 38% of the population by 2050, representing nearly 40 million. There is a constant and growing population flow feeding the aging trend, with two additional cohorts advancing rapidly toward older age - those currently aged 57~71 (called the Shirake, or indifferent generation and representing 25 million, or 20% of the total population), followed by those currently aged 52~56 (called the Bubble generation, since they came of age during Japan's Bubble economy of the late 80s), representing 8.1 million, or just over 6% of the total population.

On the heels of the Shirake and Bubble cohorts are the so-called Dankai Junior (the children of the Dankai), currently aged 46~50 (born 1971~1975), and representing 9.8 million, or 8% of the population. Low/no birthrate compounds and hastens aging societal challenges

In addition to having one of the highest average life expectancies in the world, Japan's population crisis is worsened by falling fertility rates - 865,234 babies were born in 2019, the lowest on record. This is also a global trend that presents more dramatically in Japan. At a national level, population aging leads to higher spending on health, pensions, and aging care, while the income needed to fund such services dwindles as the number of tax-paying adults fall.

Living circumstances largely in/at-home due to cultural imperative x low penetration of assisted living/nursing facilities ... creating huge "aging in place" population

Household configuration in Japan has been shifting from multi-generational households to nuclear and single households since way back in the early 60s. Among 52 million total households, half are socalled senior households with one-third being oneperson households. This is an important shift, since traditionally there was more of an imperative and structure through which several generations lived in one dwelling, with younger generations caring for older generations as they aged (at home).

The total number of those eligible for government-subsidized aging care or support numbered 6,670,000 in 2019 (representing approximately 19% of the total aged population and rising).

Meanwhile, Japan also has a very low percentage of its aging population living in assisted living or nursing facilities (estimated at 700,000 for 2019, or 2% of the population aged 65+). The reality is that many of Japan's aging population live on their own, creating huge demand and potential for Age-Tech that can help them age in their homes safely and for as long as possible. High awareness across generations of need for family caregivers to step in

Despite certain reverence for aging (and those who are aged) in Japan, the aging population crisis has become a top priority because of the enormous strain it places on social services and on individual family members.

The impacts have been apparent for quite some time now, and the result is widespread multi-generational acknowledgment that the healthcare demands of Japan's aging population will outpace already-strained available resources, and that individuals are going to have to pick up the slack.

In The Carter Group's 2021 Consumer Sentiment Survey, even among those aged 16~24 there was wide agreement that "The caregiving we provide as family members to our aging loved ones is an increasingly important need in our society."



OPPORTUNITIES ABOUND

Japan will continue to age well into the next few decades, with no end in sight. Although Age-Tech won't solve the aging population crisis, it can reduce many of its associated negative outcomes - and certainly, Age-Tech can provide a range of solutions to help Japan's aging population to live independently at home safely for as long as practically possible. Governments, service providers, and consumer households are actively seeking ways of reducing costs and labor through technological innovations.

Opportunities abound along the full spectrum of aging and aging support - everything from healthtracking devices that can help slow the progression of lifestyle illnesses (and thereby reduce public and private medical costs) to automation of selected caregiving tasks that alleviate shortages in both family and professional caregivers.



Market Potential for Age-Tech in Japan

Japan's aging care business market

(sometimes referred to as silver industry or elderly care market) is expected to become a 101.3 trillion yen (\$954 billion) industry by 2025 - larger than the markets for domestic automobile, finance, and consumer electronics.



Medical/Pharmaceutical Industry

Healthcare, medical devices, pharmaceuticals

THREE KEY SECTORS:

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Caregiving Industry

Retirement homes, day care services, nursing care equipment



Consumer Products Industry

Food, fashion, communication, fitness

It includes many products and services eligible for government subsidies under the Japanese national social insurance system (especially those within the Medical/Pharmaceutical and Caregiving industry sectors in the chart below). The fastest growth is occurring in the Caregiving industry – with growth more than doubling from 2007 to 2025 - from 6.4 trillion yen (\$60.7 billion), to 15.2 trillion yen (\$144 billion).



When it comes to aging:

JAPANESE DON'T FIT THE STEREOTYPE

of wheelchairs, canes and crutches.

Deep qualitative work by The Carter Group across the aging continuum (with active, independent 60+ consumers, with aging care receivers aged 65~95, and with caregivers aged 45~75) has given us a nuanced understanding of Japanese aging consumers and their characteristics.

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Setting the Japanese apart from their aging counterparts around the world is their:



Japanese seniors are quite physically active, participating in regular bi- or tri-weekly exercise, even well into their late 70s and early 80s. Many consciously choose to engage in social activities and hobbies as a means of staying sharp and involved in life and living. Underlying their proactivity is a strong desire to remain independent for as long as possible, and not to be a burden on their children. Their attitudes toward aging and living well while aging result in better quality of life for both the short- and long-term.



Another aspect that sets Japan's aging population apart from those elsewhere in the world is their finances. Japanese seniors aged 60+ hold about 60% of the country's \$17 trillion in personal financial assets.

A June 2019 government White Paper on Japan's aging society points out that many senior citizens have substantial retirement savings, and therefore do not have serious financial concerns. In fact, over 70% of those aged 80+ felt secure and without financial concerns. Average savings for all 2+-person households was \pm 10.7 million (US\$ 98,000), but for 60+ households, the average was 1.5 times higher at \pm 16.4 million (US\$ 150,000). Moreover, nearly 18% of 60+ households have savings of \pm 40 million (US\$ 366,000) or more.

The domestic financial market is still largely behind on innovations to meet the needs of Japan's aging market, given their known reluctance to adopt new technologies.



Those who are already caregiving (especially those at the younger end of the 45~75 caregiver spectrum) tend to be the most open-minded to using technology to help ease and improve their daily lives (and the safety and comfort of their care receivers' lives). But even among care receivers (especially those who are still relatively active), there is strong support for the idea of having technology that helps with daily living needs, extends independent living years and creates more quality time with family and friends. Underlying consumer open-mindedness and trust in technological solutions is Japan's longtime leadership role in robotics R&D and adoption. In addition to years of utilization in the manufacturing sector, the use of robot helpers have begun to appear in the areas of medical and aging care. Just in the past two years, three prefectural governments (Iwate, Kanagawa, and Kyoto) have begun subsidizing the implementation of robots in nursing facilities to alleviate the shortage in care workers. Today, the market for care robots is among the fastest growing areas in the Age-Tech business.

There is an absolute assumption among a wide range of stakeholders - including aging consumers - that robotics and new technologies will play a critical role in addressing the shortage of both professional and family caregivers.

The Carter Group's recent survey showed that **62% agreed** that "Society will become **more open to robotics** and advanced technology to cover the lack of future caregivers in Japan."

This translates into high permission across generations for adoption of new technologies, robotics and digital services, with approximately half (regardless of age) claiming open-ness to "utilizing new technologies" in The Carter Group's recent survey.



" THE APPLICATION OF TECHNOLOGICAL INNOVATION FOR THE BETTERMENT OF LIVING STANDARDS NOT ONLY BENEFITS THE AGING POPULATION; IT ALSO STIMULATES THE MARKET FOR NEW TECHNOLOGIES.

> THE GOVERNMENT THEREFORE BELIEVES THAT TECHNOLOGICAL ADVANCEMENT AND AN AGING SOCIETY CAN MUTUALLY BENEFIT ONE ANOTHER.

> > Cabinet Office of the Government of Japan, 2020 Annual Report on the Aging Society

Among those aged 60+

58%

ARE WORKING or engaged in activity



59%

WANT TO WORK past the standard retirement pension age of 65



Among those aged 65-69



HAVE INCOME-47% HAVE INCOME-EARNING JOBS (double the OECD

average)

Among those aged 70-74





81%

are interested in **TAKING COURSES &** LEARNING **NEW SKILLS** (hobbies, health, sports)

"





in learning new skills



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Age-Tech Needs DCoded*

Age-tech needs in Japan can be divided broadly into five areas: Lifestyle, Medical, Health & Wellness, Social & Communication, and Financial.



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Level of independence is an important factor to consider when developing and marketing Age-Tech solutions. Japan's aging market is represented by a wide range of consumers - from those who are completely mobile and healthy (and taking actions to remain that way) to those who are experiencing mobility problems and chronic health conditions that require a range of care and support (up to and including 24/7 care).



*DCode™ is The Carter Group's proprietary needs territory mapping tool used for deep exploration with consumers. 18 The Carter Group | Age-Tech Whitepaper

Mobility

The mobility sub-sector of Age-Tech includes everything from transportation vehicles and in-home walking support to sensory aids that facilitate engaging with the world and staying as active as practically possible.

Safety

Many aging consumers and their families acknowledge the risk of falling or experiencing some other mishap and not being able to get help. Any technology that can provide peace of mind and real support to ensure their safety will be welcomed.

Learning

One of the ways in which aging Japanese continue to stay active is through education. Universities and other educational institutions have been offering lifelong learning programs and classes on a variety of subjects, allowing seniors pursue hobbies and acquire new skills with the aid of technology.



As people age, their medical needs tend to become greater. In Japan, ballooning medical expenses are a cause of concern for both individuals and taxpayers, and new innovations will play a crucial role in improving prevention, early detection, diagnosis, and treatment.

Healthcare

- Since 1961, Japan has had a Health Insurance (NHI) system, with medical care for all citizens. In 2000, a mandatory longterm care insurance system was established to address aging population needs; it is known as one of the most generous and comprehensive programs in the world.
- Long-term care insurance applies when a person requires nursing care (including in-home and community-based care) and encompasses a wide range of services for seniors who require assistance in performing basic activities in their daily lives.
- Although the cost of healthcare is rising, healthcare expenditure in Japan is relatively low compared

to that of the United States and other OECD member countries – in part due to the overall good health of the Japanese.

 Aside from B2B work with solutions for both the public and private hospital systems, there are opportunities with online health management and telehealth technologies, and even retail and small clinic offerings.

Caregiving/ Care Coordination

- Japan's care for its aging elderly is traditionally a family affair, with much of the responsibility for care falling on family members.
- The challenging labor shortage in the nursing profession (at formal healthcare institutions) is also felt by non-professional caregivers (family members) when they search for support to help with their at-home caregiving responsibilities.
- Solutions that will ease the pressure on both institutions AND individuals are welcomed, everything from new-style living communities (with built-in medical services and other amenities) to caregiver-targeted products and services: anything that saves time, simplifies routines, and adds peace of mind for the caregiver.



As the most aged society in the world, Japanese people have for the most part become very practical and well informed about aging. Most proactively strive to maintain their health by staying active both mentally and physically, with the result that true quality of life is extended.





Cognitive

The growing incidence of dementia and accompanying growing demand for social services are some of the greatest challenges facing Japanese society today. Solutions that help delay and potentially reverse cognitive decline will play a vital role in preserving the quality of life of senior citizens.

Emotional & Psychological

Japan is experiencing a social awareness awakening regarding anxiety and depression among its aging population. The prolonged periods of self-confinement and isolation under Covid-19 have exacerbated already existing problems, and demand for devices that provide connectivity, emotional support, and wellness is higher than ever.

Physical

Aging leads to a wide range of changes concerning physiological needs, such as food intake and sleeping patterns. Solutions that support the specific physiological needs and preferences of the elderly are needed to meet the growing challenges.





As an expansion on Health & Wellness, there is widespread acknowledgement in Japanese culture that staying active socially has a positive impact on those who are aging.

Staying connected

Mobility restrictions and other limitations mean that Japanese seniors often deal with loneliness and isolation. Telecommunications are a familiar way of staying in touch with family and friends, and Age-Tech has a role to play in providing accessible, user-friendly interfaces with digital technologies.

Engagement and purpose

Much has been written recently about the importance of ikigai (or *purpose for living*) in contributing to a healthy and happy aging experience. Age-Tech that makes communicating and staying in touch easy, fun, and a regular part of daily life can help.



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Despite the affluence among Japan's aging population, the financial options and solutions available tend to be rather limited by Western standards. As the proportion of aging customers continues to rise, banks and financial institutions are increasingly on the lookout for new solutions to meet their needs.

There are ample opportunities for global Age-Tech companies to innovate in this market segment – with everything from financial management and online banking tools, to new types of savings and investment instruments, to estate planning and beyond.

Financial Management

Seniors, both working and retired, require a variety of services to organize their finances, including management of personal assets, pension and retirement funds, and *shukatsu* (endof-life planning). Tech companies help streamline these complex processes.

End-of-life Planning

Awareness of the need to have one's affairs in order is relatively high, with open discussion for 30+ years. Back in 1991, a popular Ending Note concept encouraged those of a certain age to consolidate their important records and messages, before it's too late. The term was made popular again starting in 2010, when there was a renewed emphasis on the practice of *shukatsu*.



Let's meet some of the different types of Caregivers and Care Receivers

There is quite a range of different consumer types represented across the aging population, starting with their roles as caregiver or care receiver. Within these two broad classifications, there are a number of critical factors impacting attitudes and daily needs, and contributing to the formation of different demographic and psychographic sub-groups. Here we outline a few of the most prevalent consumer types to provide a glimpse into how the many variables related to aging come into play when speaking with real consumers in relation to their needs.





Suzuki-san is a full-time housewife, and expected to provide daily support for her mother-in-law, who lives together with her father-in-law

Suzuki-san

The Dutiful Caregiver

alone with the range of caregiving tasks that she takes on as her duty by sacrificing time for herself

Suzuki-san feels sometimes

overwhelmed and left

ould love to have a or technology help th caregiving efforts, ularly with supporting

WASH

Early 60s

Married, children & grandchildren

Care receiver: Her 90-year-old motherin-law, classified for care level 2



She would love to have a robot or technology help her with caregiving efforts, particularly with supporting her mother-in-law with bathing and toileting, as it is both emotionally and physically draining





NEED: FINANCIAL Financial Management, End of Life Planning



Tanaka-san is the financial manager of her household and takes care of the bookkeeping ever since she got married

However, in recent years her cognitive abilities are deteriorating, and she struggles to make financial transactions, including withdrawing deposits and visiting bank counters, leaving her worried to make payments for medical and care services on time. One of her friends became the victim of a financial scam, which scared her as well



Tanaka-san wishes she could receive trusted assistance to protect her rights and help her manage her assets safely

Tanaka-san

The Safety-Seeking

Care Receiver



Married, one child

Caregiver: Her son

Examples of Products and Services already Enjoying Success

Opportunities abound, regardless of needs area. While both domestic and foreign products and services can be found addressing each of the five needs, it is early days in terms of exploring the white spaces and innovating solutions to meet the full spectrum of needs (and combinations of needs) represented.



GBER is an online job matching platform aimed at promoting the social participation of the elderly, by matching individuals to local jobs based on their skills, schedules, location. http://gber.jp/



Atto is a next-generation, lightweight mobility scooter from Israel that can be converted to a trolley and be split into two components so they can easily be carried up staircases. https://movinglife.com/



LIFESTYL

MEDICA

RehavR is an initiative by silver Inc. to provide lower limb training for the elderly. It combines the usage of a VR head mount and foot pedals that enable the elderly to enjoy activities (such as taking a walk or going on a trip) that can motivate them to regain an active lifestyle through daily rehabilitation. https://rehavr.com

Udemy



Udemy is one of a number of websites from the US that offer paid online courses on a variety of topics, catering to both working and retired seniors. Another platform available in Japan: JMOOC is an online educational platform that offers free classes from universities across Japan. https://www.udemy.com/

Care Coach







Care Coach is a platform from California that helps users remotely access clinical and psychosocial support through a friendly virtual avatar. https://www.care.coach/

SOWAN by tmsuk is an autonomous care robot that can perform patrols and rush to emergencies in nursing homes. Robots such as these will become integral to services where it is becoming increasingly difficult to hire professional carers to be onsite for 24 hours. https://www.tmsuk.co.jp/en/ news/359/



HAL by Cyberdyne is a highly advanced robotic exoskeleton that helps people perform basic physical functions by detecting skin-borne brain signals. The device is already in use at over 60 hospitals and rehabilitation centers across Japan. The market for powered exoskeletons has seen unparalleled growth in recent years, expanding by a whopping 90% in just one year to a 3.7 billion yen (\$35 million) industry in 2020.

https://www.cyberdyne.jp



LookBack



Machine

Aiyu Shower

LookBack is a digital therapy platform from the United Kingdom with proven clinical outcomes, using VR to stimulate the brain by allowing them to revisit any location in the world from the past. https://www.virtue.io/lookback/

The Aiyu Shower Machine is

specially designed to accommo-

date those who are aging and

experiencing less flexibility and

balance. Aiyu Shower provides

a comfortable and safe bathing

experience, with ease of use via semi-automatic settings. https://www.tuvie.com/aiyushower-machine-assists-elderlypeople-to-take-a-bath-easier/ Konnect



Konnect is a webcam module from the United Kingdom that attaches to the TV, allowing for users to instantly connect with family, friends, carers, and medical professionals without using a separate device. https://www. kraydel.com/how-konnectworks/

Another platform available in Japan: Leber is an app that allows users to directly consult with doctors 24 hours, 365 days a year, with over 280 registered doctors on the platform https://www.leber.jp/nursing/



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FINANCIAL

Popit





Popit is a gadget from Finland that keeps track of pill intake, alerting users via their smartphone if they forget to take their daily dosage. Patients with dementia are especially at risk of worsening their prognosis from forgetting to take the necessary medication that delays cognitive decline. https://popit.io/

PARO by AIST (a leading Japanese industrial automation pioneer) is a therapeutic robot baby seal, certified by the Guinness World Record as the "World's Most Therapeutic Robot". It reacts to touch, speed, voice and light, encouraging socialization between patients and their caregivers. There are about 5,000 in use globally, out of which about 3,000 are in Japan. http://www.parorobots.com/

Brain Training



Dr Kawashima's Brain Training for Nintendo Switch is the fifth installment in the successful Brain Age franchise by Nintendo. The product is a collection of mini games and puzzles designed to stimulate one's mental processes and ward off the impacts of aging on the brain. In Japan, already possessing highest prevalence of dementia within the OECD (The World Alzheimer Report 2015), growing emphasis is placed on apps and devices that provide 'brain training' to help prevent cognitive decline. https://www.nintendolife.com/ reviews/nintendo-switch/dr_ kawashimas_brain_training_for_ nintendo_switch



"Tsukaete Anshin" by Mitsubishi UFJ Trust and Banking Corporation is a financial service that allows families of the elderly to monitor the latter's finances through an app, and to act as a proxy to request a transfer of funds by taking a photo of a receipt with a smartphone. All parties receive instant notifications through the app or by email of when money is spent. https://www.mufg.jp/dam/csr/ report/2020/en_02.pdf

Everplans



Everplans is an American company that provides users with a simple, centralized platform to organize their insurance plans, investments, taxes, and so on. NTT Data released a new platform called "My Pallete" that allows family members to easily monitor/ watch over their loved ones's bank accounts through an app on their smartphones, sending notifications when there is a deposit or withdrawal from the bank account. https://www.everplans.com/

aro PARO I Japane pionee baby se Guinne "World Robot" voice a The table below illustrates how many of the currently offered solutions bridge two or more of the needs categories – an important point to keep in mind when developing new products and services.

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_		LIFESTYLE	MEDICAL	HEALTH & WELLNESS	SOCIAL & COMMUNICATION	FINANC
	Atto					
_	Everplans					
	GBER					
	HAL					
	MUFJ					
	Popit					
	Sowan					
	Udemy					
	Aiyu Shower Machine					
	Care Coach					
	Konnect					
	LookBack					
	Paro					
	RehaVR					
	Leber					
	Nintendo Brain Training					

There clearly is enormous potential for Global Age-Tech in the Japanese aging care business market. Beyond helping those suffering with physical or cognitive challenges (and their caregivers), there are endless possibilities for utilizing new technologies to help seniors go about enjoying their daily lives and engaging in a variety of activities. The market is highly segmented with many different types and levels of needs represented. In short, there is no 'one-size-fits-all' approach.

Final Thoughts: How we can help at The Carter Group

Age-Tech products and services will see explosive and continued growth over the coming decades as the impacts of the aging population continue to make themselves evident. With a clear understanding of the segmented, diversified nature of the aging care business market, companies will be able to provide innovative solutions to:

Seniors who continue to be active and wish to maintain their independence, aging in place Seniors requiring various levels of care and daily support (regardless of where they may live) Younger-aged family members who support their aging parents and grandparents

The opportunities are virtually unlimited for global Age-Tech companies wishing to explore and expand in Japan.

At The Carter Group, we utilize a humancentric, design thinking process to allow you to realize your opportunities in Japan – and to reduce the risks associated with launching new ideas by:

1. Appraising your business opportunity through foundational market and category analysis, incorporating a deep understanding of cultural context

2. Developing your optimal product strategy based on:

- *Exploration:* To gain deep customer empathy of unmet needs, problems and preferences
- Ideation: To generate potential solutions that are revolutionary, not just incremental
- *Experimentation:* To develop, test and optimize product and service prototypes in close co-creation with your potential customers

3. Informing and refining your implementation strategy by identifying the most promising route to market

We guide you to establishing trust, turning your differences to your advantage, and to resetting the agenda in your area of Age-Tech, allowing you to truly improve the lives of Japan's aging population.

We welcome discussing the opportunities that await - and to helping you find the best way forward for your success in Japan.

We guide global businesses to success in Japan

NTA

CarterJMRN is a Japan-based market research agency guiding leading brands through the journey of unmasking and engaging with the needs, desires and opinions of the Japanese people. Our qualitative and quantitative experts employ UX, survey, focus group and other methodologies, coupled with a deep understanding of cultural nuances and emerging trends for insights that power excellence in human-centered decisions for bigger business impact.



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