

**Lecture on “Ageing, Innovation and Policy”
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Contemporary demographic dynamics in industrialised countries have drawn unprecedented connections between innovation and ageing. According to Dr Joseph Coughlin, innovation is not just about technological development or invention. It is about putting sound practical ideas into use. New technology is not considered innovation until it leaves the laboratory and is applied in our daily life.

Industrialised countries are confronted with growing elderly populations who are healthier, wealthier and better educated, have demanding retirement and health care needs, as well as higher expectations of what innovation can do. We therefore need to create a new vision of ageing. In approaching the challenges of an ageing population, businesses and the government can no longer use yesterday's elderly as representative of the emerging elderly populations. Ageing is a continuation of life; the elderly essentially desire health and the ability to do things, as do the larger population and/or people in earlier life stages. The call to innovate in products, services and public policy is a reflection of the increasing demand to actively manage and maintain good health.

The research focus of MIT AgeLab centres on harnessing innovation to create new alternatives, products and services in improving the quality of life. The AgeLab is consumer-centred; every product begins with the older adult or caregiver in mind. The challenge for governments and the business sector is to translate research and innovation for the elderly into real benefit and improvement in the quality of life.

1. Ageing: a global revolution, a global issue

Characteristics

Increasing longevity and declining fertility rates are changing the population distribution of most industrialised countries. It is projected that by 2025, more than 25% of the population of most European Union countries, as well as Japan and Russia, will be over 65 years. In Singapore, it has been projected that by 2030, 20% of the population will be over 65 years. These “baby boomers”, born between 1946 and 1964, will be highly educated and wealthier than their counterparts in previous generations. Additionally, they will be more active in their golden years, engaging in post-retirement work, leisure and learning.

Higher expectations of quality of life

Data from MIT shows that older adults' expected quality of life has evolved over the years. This creates a new market “white space” for products, services and public policy, which is the difference between the previous generations' and future generations' expected quality of life. With more chronic diseases setting in earlier, from the average age of 40, and advances in medicine and technology, which enable people to live longer, the elderly want the necessary tools to navigate a longer life.

How ageing is defined will shape public policy for the ageing population. Most societies tend to see the elderly as poor, alone, sick and reluctant to work, although such people typically form only 15% to 20% of the ageing population. Dr Coughlin shared on the quality ageing

needs of the future elderly. While health and safety remain key basic necessities, they also have other aspirations, such as remaining connected to friends and family, and being able to engage in different leisure or learning activities and contribute by maintaining economic independence. Ultimately, they hope to leave a legacy. Any innovation should keep in mind these needs.

Changing family dynamics and care giving

Ageing is said to belong to the realm of the woman. Women generally live longer; on average, women live 7 to 11 years longer than men. They are healthier, better informed, more technology-savvy, and are often the primary caregiver for their ageing parents. The entrance of women baby-boomers into the labour market has drastically altered the nature of family dynamics. Women work while juggling traditional household tasks including care-giving for the elderly and the young. Since they live longer and assume more caregiving duties, women are becoming key decision makers who make the health and financial decisions at home. Furthermore, women tend to increase their social and familial activities after retirement. In contrast, men tend to decrease their level of social and familial activities and decision-making post retirement.

In the United States, 85% of people over 65 live on their own. The same phenomenon will be or is already present in almost every industrialised country. Furthermore, family structures are changing; there are greater occurrences of divorced parents, single parents, step-parents, making the pattern of care-giving by adult children more complex. This poses challenges to formal and informal care-giving especially in societies like Singapore where family care is posited as the basic means of care for the elderly.

2. Challenges and opportunities for business and public policy

Ageing population is no longer the government's problem as it is also increasingly affecting and shaping businesses. To benefit from the opportunities presented by the emerging ageing population, a holistic and multi-disciplinary approach must be taken to develop strategies and respond to the demands of older adults. This is often most effectively brought about through collaboration between the public and private sectors.

Increasingly, baby boomers' expectations will define how we perceive markets, design services, and deliver value to older adults and the elderly, with the aid of technology. MIT AgeLab has introduced partnerships with businesses to translate theoretical ideas into practical solutions for the elderly. As the wealthy consumer ages, it is a major opportunity for businesses to either rethink their product design and characteristics or to diversify their products. For example, BMW is developing cars with a menu screen that caters to older adults. Using intelligent appliances, the elderly can also be connected with various providers to access food delivery services and medical care, from within the comfort of their own homes. Universities and educational institutions are also creating and investing in alternative retirement activities.

While engineering design, innovative ideas and product diversification for the elderly are tremendous business opportunities, the policy implications of a greying population also present major concerns for governments. The onslaught of chronic illnesses at an earlier age has brought about increases in healthcare spending at the individual and national levels. Technology and policy innovation are increasingly being harnessed to prevent disease, which

potentially reduces costs and improves overall quality of life. A simple solution of enhancing the provision of small-scale clinical services and situating them conveniently in drug stores is one example of aiding disease prevention while helping to lower public healthcare expenditure. Dr Coughlin advocated an ageing policy *that begins at birth*. Managing health throughout one's lifespan will increase his quality of life and be less costly both to the individual and to the system.

3. Lessons for Singapore

As Singapore's population ages rapidly, the coming years present an opportunity to develop policies, programmes and partnerships with the private and people sectors, in order to meet the emerging needs of the elderly and to improve their quality of life. Dr Coughlin offered the view that Singapore could become a worldwide producer of innovative, elderly-friendly products and services, as it has comparative advantages in terms of responsive public policies, technological know-how and a business-friendly culture.

Ageing as a systems challenge: Inventing "Longevity 3.0" in Singapore

Dr Coughlin called for a systems approach to the ageing challenge, one that requires the integration and strategic alignment of public policy and institutions, personal responsibility and technologies to help the people live well. He shared further how Singapore could approach this using the following seven principles:

1. Redefinition of 'old age' to 'longevity': This will positively influence personal responsibility over one's quality of life, and how one treats and educates oneself for the sunset years.
2. Focus on health and wellness across the lifespan.
3. Creatively exploit technology and integrate it into ageing services, from education to programme delivery. This can be facilitated through public-private partnerships.
4. Develop services for 'convenience' and for 'care.'
5. Redesign work across the lifespan, organisationally and physically. Like the young, older workers expect meaningful, flexible work and benefits; they may also need help to keep pace with the rapid development of technology/ knowledge.
6. Institute lifelong education.
7. Institutionalize, industrialise and export: This will best ensure that new products, services and policies work.

To create a new view of old age would require new stakeholders of the programmes and services, and new coalition of support. Bringing in businesses would expand the stakeholder base and at the same time harness the power of innovation from industries.

Dr Coughlin reiterated that technology is only one of the solutions to the ageing challenge, and real innovation is about the equal balance between the use of technology and use of organisational delivery and human capital; there must be as much emphasis on the delivery of social services as for technology. The talk concluded with his views on "technological equity". On this point, he noted the government's unique role and obligation to create a scale of purchasing power to buy services and products so that the cost of technologies are lower and made affordable for the lower strata of the ageing population.