

A Compassionate AI for Grandpa Drucker

It is an early spring afternoon. A small crowd has gathered solemnly at the corner of a quaint neighborhood in western Tokyo. They seem to be in no hurry. In fact one can even sense an air of excited anticipation. A passer-by Tokyoite would have instantly guessed – this is a queue for lunch. At the anticipated hour as their excitement peaks, the restaurant throws its doors open and the guests eagerly shuffle their way inside.

Normally in a restaurant, one is cripplingly indecisive. We can't make up our mind about starters; we don't know what to have for main. And dessert is one big stress-fest. But not here. Chances are, what you ordered was not what you were going to get. Imagine ordering hamburgers and getting served dumplings instead. Or being escorted to your seat by the waiting staff, only to end up having to take the order yourself. In any other situation, customers might have been bewildered, even irked. But not so in this Tokyo pop-up restaurant, where the staff has the blessings of the customers to make mistakes. Instead of frowns and rants, the staff is greeted with smiles and laughter.

Welcome to the “Restaurant of Mistaken Orders,” whose mission is to deepen awareness of dementia and change perceptions about the elderly. The brainchild of Shiro Oguni, a Japanese TV personality and staffed by elderly volunteers from a care home, it is an attempt to provide my present home Japan – with its rapidly aging population and growing numbers of dementia sufferers – an opportunity to reflect more and take a leading role in addressing the issue.

The Most Important Global Issue We Are Not Talking About

The world is hurtling into an unprecedented period in history –we are quite literally getting grey hair. In 1950, there were 205 million persons aged 60 or over. By 2012, that number had increased to 810 million. By 2050 it will more than double to reach 2 billion. That is 1 in 5 people. Today Japan, my current home, is leading the way with 130 million silver-haired citizens making up 1/3rd of the country. As of 2018, 125 million people globally are aged 80 years or older. By 2050, there will be almost this many living in China alone.

Why is this issue important? By 2050, 33 countries will have 10 million older adults- 22 of these countries are currently classified as developing. The economic and social costs of aging on these countries are unimaginable – entire nations and generations will be confronted with skyrocketing economic costs of healthcare, pension, and less productivity while shouldering enormous social burdens of caregiving.

Given the urgency, one would think that humanity would put its best resources forward to address this challenge. Yet, to listen to most discussions about international development, science, and technology, you could be forgiven for

thinking that it was only younger people who mattered. Think of the plethora of international children's charities – and then try to name more than one for old people! There is no UN organization for old people. The elderly don't have a millennium development goal¹.

But, unequivocally, the single biggest blow to the elderly is healthcare. Older adults are the most vulnerable group worldwide - the prevalence of disability rises to 63.7% among people aged 75 and above². Natural disasters, especially in low-income countries, leave 26 million elders incapacitated annually². Health workers have lesser capacity to address health concerns of the elderly and most healthcare professionals maintain a “less-caring” attitude towards elderly patients³. There is very little research, if any, happening on preventable, non-communicable diseases which affect older adults the most (e.g., hypertension, stroke, dementia, heart diseases), as most research funding is diverted to the study of communicable plagues². This is further compounded by the reality of inequality; the long-term, unequal socio-economic statuses people suffer through their lifetime accumulate to become devastating at old-age².

Given the enormous pressures on the current “sandwiched” generation– caught between taking care of their children and their elders – the need to stay “productive” and earn forces harsh choices. Society is naturally forced to focus its sympathies and energy on the new generation rather than the old - there is a human instinct to give a chance to the young. This unfairness means elders have systematically become invisible and relegated to being forgotten.

We Need to Act For the Elderly

The elderly adults are a productive, economic powerhouse – contrary to misleading public discourse, which has often attempted to stereotype them as frail, out of touch, burdensome³. “Ageism” has infested our organizations, institutions, and society³.

The facts are, however, eye-opening. Older people are a global asset, making contributions to their families and communities, making the wheels of society turn. For example, farming in developing countries is dominated by older workers. Globally, 450 million small-scale farms by the elderly support a population of roughly 2.2 billion people and represent 85% of all the world's farms. They contribute crucially to global food security⁴. In urban areas, many elders remain employed in the formal labor market: half of those in their 60s in the Philippines and Vietnam; 2/5th in Mexico and Brazil and 1/3rd in India are the elderly labourers⁴. Crucially, older adults also free up the time of younger people from household responsibilities including

¹United Nations website www.un.org

²Age International's Report “Facing The Facts: The Truth About Ageing and Development”, 2014

³World Health Organisation, “World Report on Ageing and Health”, 2015

⁴Dr. Sarah Harper, Director, Oxford Institute of of Population Ageing, 2015

childcare, enabling them to undertake paid labor. Elders, hardly compensated for these vital contributions and in a sense “low-cost,” have reduced national debt burdens and released more women into the labor force – a commendable contribution to societal evolution and economic growth⁵.

They are also creating vital differences in the lives of entire communities. A recent study found that more than 1/4th of Indians and Taiwanese and 1/5th of Filipino and Chinese elders regularly help in the wider community, assisting individuals of all ages⁵. Their role becomes critical in countries where governments do not provide adequate basic services (from water, sanitation and stormwater drainage to health and education), working as community resources filling these needs.

Thus, older people are hard workers and relatively productive (in spite of their informal contributions), and they are crucial to social cohesion and economic progress. This is despite their overwhelming poverty (63% people above 65 years are poor), triggered majorly by their ill-health.

How, then, do we justify the neglect they face from society?

It's time we righted the wrong meted out to this “demographic dividend.” As we race to prevent a catastrophe in 2050, we need to call upon our most potent tools that can effect radical change.

Artificial Intelligence (AI) might just be that tool the world is (secretly) hoping for!

Drucker's Human-Centered Approach Matters the Most

AI, in its current form, is a relatively new tool of technology – primarily developed for organisations. Organisations are governed by the principles of management. Using AI in the right manner requires seeking guiding principles for organisations and societies. Peter Drucker, in his ‘The Practice of Management’, provides us with a clear path to aligning objectives through goal-setting and feedback⁶. Drucker views Management as a “Liberal Art” and urges us to not forget the importance and beauty of management as a human-approach. He says, “Management is most and foremost about human beings.” In the Druckerian sense, when we place human beings at the heart of new organisations and their new technology, i.e. AI, we need to make decisions that drive impact and social change.

Human betterment then becomes a clear objective driving organisations. Inclusive, compassionate technology becomes as instinctive as profitable growth.

⁵ Dr. Penny Vera-Sanso, “Are Older People A Burden? Challenging the Myths”, 2015

⁶ Prof. Peter Drucker, “The Practice of Management”, 1954

Amartya Sen, who is highly influenced by Peter Drucker's thoughts, opines, "Poverty is not just a lack of money; it is not having the capability to realize one's full potential as human beings."⁷ Thus, if we are to help our elders emerge from the trap of poverty and neglect they find themselves in, and enable them to realize their true potential as human beings, we need to address the root-cause that thrusts this poverty-trap upon them – the lack of affordable, advanced health care and caregiving. AI can make far-reaching contributions to that.

The beauty of his wisdom shines through when Drucker guides organizational goal-setting – "Objectives are not fate; they are the direction. They are not commands; they are commitments. They do not determine the future; they are means to mobilize the resources and energies of the business for the making of the future."⁸ Thus, we feel Drucker exhorting us to constantly shape an inclusive and compassionate future involving AI, keeping in mind that at the centre of it all, we have real human beings – with real problems, needing real, compassionate solutions.

In a seminal article for the HBR in 1992 titled "The New Society of Organisations," Drucker emphasizes that "...Social innovation is equally important and often more important than scientific innovation...Society will increasingly look to major organizations...to tackle major social ills."⁹ Since according to him, society can be construed as the sum of many organizations, in essence, the goals of the organization and its resources (in this case AI) and the goals of the society have to be one and the same. Thus working for the betterment of a large chunk of society – the elderly – would only be logical for AI.

Professor Drucker's hand potentially drives that agenda, stronger than ever, when he says "Management...is much more than making deals. Management affects people and their lives."¹⁰

A major reason why technology in the past largely overlooked the elderly can be traced back to the lack of this compassion and "inclusiveness" – severe socio-economic barriers have long denied the fruits of technology to the elders; emergent technology often being expensive or unavailable had largely left them from its ambit.

But recent experiences have demonstrated that technology is also versatile; that it can be quickly and effectively converted into a boon to achieve compassionate inclusion, as is encouragingly demonstrated by another contemporary of Drucker, Professor C.K. Prahalad, in his landmark work "The Fortune at the Bottom of the Pyramid" (2004).

⁷Amartya Sen, "Development as a Freedom", 1999

⁸Prof. Peter Drucker, "People and Performance", 2013

⁹Prof. Peter Drucker, "The New Society of Organisations", HBR 1992

¹⁰Prof. Peter Drucker, "Managing in a Time of Great Change", 1995

Interestingly, Drucker acknowledges the influence his grandmother Oma Drucker had on his thinking. In his autobiography 'Adventures of a Bystander', he pays rich tributes to her wisdom, "What that parochial, narrow-minded, comical old woman knew was that community is not distribution of income and social services and the miracles of modern medicine. It is concern for the person."¹¹ Thus, an elderly grandmother sowed the seeds of Drucker's human-centered wisdom for management. Drucker himself lived a highly productive life till the age of 95; till his last days, he was constantly working to craft a human-centric vision for the future. Thus, it is most poignant that in this current discussion of elderly care, the wisdom of two generations of elderly Druckers serves as rich inspiration for the future of leadership and its goals - including AI.

AI today offers us a golden chance to right the wrongs of the past, to once again put humans back at the center of technology. If any of this ambitious objective is to be realized, the elderly have to be addressed on priority.

Armed with Drucker's clarion call, we explore how we can work towards using AI for the betterment of the elderly.

AI and the twin-path to Elderly care

AI, like all technology, has two aspects – 1) the Technical, and 2) the Social. Leveraging both these aspects would ensure delivering the impact AI seeks to make on the elderly.

1) AI's Technical aspect:

Advances such as deep learning, new sensor technologies, and subsequent data availability, gives unprecedented opportunities for AI to perform more human tasks- and that is what's needed in the world of elderly care. With the help of "more human" technology, older people will be able to stay in their homes longer and lead more independent lives. This will also influence how aged care facilities will be staffed in the future. Older people will be interacting with technology in their homes in a variety of new ways.

The effort is already underway in Japan, my current home.

Robots have the run of Tokyo's Shin-tomi nursing home, which uses 20 different models to care for its residents. The Japanese government hopes it will be a model for harnessing the country's robotics expertise to help cope with a swelling elderly population and dwindling workforce. Paro¹², the furry AI seal, can cry softly when an

¹¹ Prof Peter Drucker, "Adventures of a Bystander", 1978

elderly patient pets it. Pepper¹³, a humanoid, can wave while leading a group of senior citizens in exercises. The upright Tree¹⁴ can guide disabled elderly residents taking shaky steps, saying in a gentle feminine voice, “right, left, well done!”

Paro especially is promising of the rich opportunity AI holds for technical aspects of elderly care. Paro allows the benefits of animal therapy to be administered to patients in environments such as hospitals and extended care facilities where live animals present treatment or logistical difficulties. Paro has been found to reduce patient stress; it stimulates interaction between patients and caregivers. It has been shown to have improved patients’ relaxation and motivation. The AI device was recently certified the ‘World’s Most Therapeutic Robot’ by Guinness Book of World Records.

Pepper, Paro, and Tree are highly promising starts to a bright future for AI in elderly care. They are the first of many, many AI-powered friends to come.

2) AI’s Social Aspect:

Another obstacle in the way of providing quality elderly care is the lack of trained, qualified caregivers. This problem is not just confined to developed societies like Japan or the USA, but also to developing societies like India and China.

According to AARP in the USA¹⁵, the typical caricature of the family caregiver is a 49-year-old woman caring for an older relative — the fact is nearly a quarter of caregivers are now millennials and are equally likely to be male or female. About 1/3rd caregivers have a full-time job, and 25% work part-time. A third provide more than 21 hours of care per week. Family caregivers are, of course, generally unpaid, but the economic value of their care is estimated at \$470 billion a year — roughly the annual American spending on Medicaid¹⁶. “We’re facing a caregiving cliff... In 2015, there were only three caregivers available for each person requiring care. In addition to caregivers reporting high stress and being severely overburdened and measly paid, they are highly underserved by the current long-term services and support system in the society to avoid putting them at higher risk as they age” cautions AARP.

A recent report¹⁶ from the National Academies of Sciences, Engineering and Medicine suggest that society’s reliance on this “workforce” — largely taken for

12 Paro is a product of PARO Robots, Japan www.parorobots.com

13 Pepper is a product of telecom giant SoftBank through their venture arm, www.softbankrobotics.com

14 Tree is a product of private research sponsored by Tokyo University, Japan

15 AARP Public Policy Institute, “Caregiving in the United States”, 2015

16 National Academies of Sciences, Engineering and Medicine, “Families Caring for an Aging America”, 2016

granted — is unsustainable. Their supply is shrinking, a result of declining marriage rates, smaller family sizes and greater geographic separation, in addition to changing rhetoric that prevents immigration to balance the gap. This is in addition to the many familial pressures these caregivers face, including long unpaid leave from work, affecting performance, and ultimately forcing them to drop out of the regular workforce. Today, 47% of American caregivers face a high risk of employment, income, thus affecting their own retirement and old age in the future. This is not to mention the intense emotional trauma caregivers undergo.

My mind goes back to my childhood in India, where I have many fond memories of spending time with my grandma. Grandma was a trove of stories – often, she would launch into animated narrations of warriors and princesses, of gods and demons, and quickly transport my fertile imagination into many worlds. Then, something abruptly changed. One day, she forgot to have her daily medication; a month later she forgot her way back home. The descent was quick and pronounced – she sunk into a never-ending precipice of neural degeneration and incapacitation. Parkinson’s disease robbed her of her speech, her gait, her stories, and memories, and eventually herself. My mind still pains to remember the trauma my parents suffered while caring for her and the intense pressure my family endured.

My experiences have taught me that any meaningful effort to giving the elders their rightful dignity in ill-health has to start with alleviating the burden on caregivers so that the latter can focus demanding emotional support that their loved ones so sorely need.

And this story is consistent across countries and societies – right from Japan, to Morocco, Iran, India, China and almost the whole of Europe.

This is here that AI could add a very important social value. E.g. researchers at the University of Tokyo have created an ultra-low-cost diaper with an embedded, disposable organic sensor, that can let a carer know it needs changing. The diaper can be manufactured for a few cents. The sensor monitors moisture, pressure, heartbeat, levels of creatinine and other phenomena, and is more advanced than your average wristband monitor. Data is relayed to a phone app, which allows family or caregivers to keep track of patients. This is significant, as 35% of caregivers’ time is spent on checking false-alarms from patients. For caregivers who are already stretched, such AI-powered solutions offer a hopeful silver lining in the future.

Thus, we can truly match technology with the human-centric approach of Drucker, to create a truly *“compassionate AI.”*

Looking out the window

Today, Professor Peter Drucker remains very much alive amongst us, through the Global Peter Drucker Forum - a celebration of his immortal thoughts and teachings.

Professor Drucker, once famously remarked, "I never predict. I just look out the window and see what's visible but not yet seen."

I invite you to look out of the window.

There in the distance is grandpa Drucker, now aged 108, cheerfully sporting a smart summer hat, quietly sauntering towards the horizon. He seems happy; in a quiet demeanor, he is reflecting on the colors and warmth of a beautiful summer evening. And close to his heels, is Aibo, the AI robot dog, happily woofing and wagging its tail, pleasing its master.

They are a picture for sore eyes.

And they turn towards us, and smile.
