

The impact of robots and ai on japan's employment and population

[Technology](#), [Artificial Intelligence](#)



Overview

The development of robots and AI are global controversies. Some embrace their potential, while others fear they will destroy humanity. Japan is more accepting of the existence of robots, hence automation itself isn't as big of an issue compared to other countries. However, this results in other complications. Their strict immigration laws and bias towards technology further exacerbate immigrant unemployability. Automation will also have adverse impacts on Japan's population and social interactions.

Geographic Description

Japan is located in East Asia, between the North Pacific Ocean and the Sea of Japan. It is eastern and south-eastern of South Korea, North Korea and Russia; and north-eastern of the East China Sea. It occupies a total of approximately 377, 915 km² with 364, 485 km² of land and 13, 430 km² of water. It has a total coastline length of 29, 751 km. Narita International Airport is 1, 257 km away from Incheon International Airport and 8, 174 km away from Melbourne Airport.

Issue Development and Changes

During the Edo period (1603-1868), Japan created "karakuri" - clock-powered mechanical dolls made from wood or whalebone, and operated with mechanisms like pulleys, springs and gears. There are different types, though their main purpose was to amaze people. Some could do things like serve tea to customers, do somersaults down a small flight of stairs, and

shoot arrows. There's a significant cultural shift from karakuri to modern robots, which have amusing and practical applications.

Despite Japan's aging population, declining birth rates and strict immigration laws, the Prime Minister, Shinzo Abe, refuses to change immigration rules as he prefers to use robots instead of foreigners to employee shortages.

According to government data, Japan received nearly 20, 000 applications from asylum seekers in 2017, yet only accepted 20 people; and in 2016, they accepted 28 people. Japan is afraid that their cultural identity would be ruined by multiculturalism and their low crime rates will increase. Robots are also viewed as superiors and more efficient.

People who develop a social dependence on robots will spend less time with other humans, causing the population to plummet. Japan's population in 2018 is 127 million, but by 2050, it's predicted to drop by 20 million. “

According to a 2011 survey conducted by the Japanese National Institute of Population and Social Security Research, 61% of unmarried men and 49% of unmarried women aged 18-34 were not in any kind of romantic relationship at all. A related survey by the Japan Family Planning Association (JFPA) found that 45% of women aged 16-24 ' were not interested in or despised sexual contact [with others]'. ” (The Yale Globalist, 2014). Japan's celibacy syndrome is due to work, low self-confidence, financial instabilities, and social withdrawal due to technology. Morinaga Takuro, an economic analyst, “ sees otaku as men who are not good at love and dating. ‘ Their opportunities to encounter women fall, and they become increasingly bad at dating women. They fall in love with the 2D female characters from anime and manga.”

(Japan Crush, 2013). Anthropomorphic robots may decrease human interactions and ultimately the population.

Groups Involved and Contributing Factors

The main people involved are the government, media, businesses and engineers. They're responsible for the promotion and manufacturing of robots. The government has control over the laws and Shinzo Abe advocates automation. Other people involved include citizens and countries who buy robots. The amalgamation of Japan's aging population, declining birth rates, celibacy syndrome and gender inequalities in workplaces are major contributing factors. The shortage of workers, couples and elderly care-takers are incentives for automation. Japan is near the boundaries of four tectonic plates, hence they have earthquakes and other disasters, such as the 2011 Fukushima Nuclear Meltdown. Engineers can build robots that search for survivors, repair damage, or investigate in areas of high radiation.

People, Environment and Economy

Robots save more human lives by doing dangerous and tedious jobs such as labour and warfare. They can also care for the young and the elderly. " The number of people in Japan aged 65 or older is expected to reach more than seven million by 2025. By that same point in time, the country predicts a shortfall of 370, 000 caregivers." (Internet of Business, 2018). A large portion of the aging population accepts robotic caretakers. "These robots are wonderful," said 84-year-old Kazuko Yamada after the exercise session with SoftBank Robotics Corp's Pepper, which can carry on scripted dialogues. ' More people live alone these days, and a robot can be a conversation

partner for them. It will make life more fun.” (Reuters, 2018). Robots also strengthen Japan’s cultural identity, inspire STEM careers and facilitate convenience.

Due to overwork, workers suffer from karōshi and karōjisatsu. 31-year-old Miwa Sado worked at NHK with 159 hours of overtime in a month, resulting in heart failure in July 2013. 24-year-old Matsuri Takahashi worked at Dentsu and committed suicide in 2015 due to 105 hours of overtime and workplace bullying. “ A survey of 10, 000 companies published in Japan’s first white paper on karoshi found that overtime at more than 20% exceeded the 80-hour per month threshold for overwork” (AP News, 2016). Automation could compensate for the lack of workers in a company, thus easing work stress.

Robots can be deployed in exploration. Humans are living organisms that require food, water, oxygen, etc. and they can die. Robots don’t share the same requirements and can be modified with equipment, replaced or repaired. They consume a lot of energy, which could exacerbate global warming. Robots are more productive as they are not prone to negative emotions, fatigue, procrastination, smoking or alcohol. They have greater speed, accuracy, precision and strength; and they cost less to maintain in the long-run than humans, making them ideal for manufacturers and businesses. Automation maintains Japan’s economic stability. Though, robots are expensive to repair, sometimes hard to train and are susceptible to hackers. Getting hacked could lead to disasters, such as the theft of data or money.

Ethical Implications Immigrant Unemployment

In 2017, unemployment rates fell to 2.8% and to 2.4% in January 2018 due to the jobs-to-applicants ratio where there are more jobs available than job-seekers. For every 100 job-seekers, there are 159 positions available.

Despite shortages in employees, “ Shinzo Abe has said the country should put more Japanese women and the elderly to work first before accepting immigrants, but policymakers are exploring ways to bring in more foreign workers without calling it ‘ immigration’ ” (Japan Times 2017). “ Technical Intern Training Program ” enables foreigners to work in Japan, but has violated several human rights, including working hours, safety standards and wage payments.

Errors and Cybersecurity

AI may misinterpret a problem or be biased. A software used to predict future criminals had a bias against black people. Japan's cybersecurity departments are insufficient because there is a social stigma for reporting issues as it demonstrates a lack of technical skill and knowledge, and there are several superiors who aren't educated in technology and cyber-related problems. In January of 2018, “ hackers stole more than \$500 million in cryptocurrency from Coincheck, one of the largest crypto exchanges in Japan. ” (Forbes, 2018). Cybersecurity is an issue in Japan and it could be dangerous for them to rely on AI.

Overthrowing Humans

“ Mark my words, AI is far more dangerous than nukes. Far. So why do we have no regulatory oversight? ” (Elon Musk, 2018). To prevent the prospect of

destructive AIs, engineers could set up countermeasures, such as integrating a kill switch or identification chips. AI could also be programmed to obey the three robotic laws in Isaac Asimov's novel, 'I, Robot': "(First Law) A robot may not injure a human being or, through inaction, allow a human being to come to harm. (Second Law) A robot must obey orders given it by human beings except where such orders would conflict with the First Law. (Third Law) A robot must protect its own existence as long as such protection does not conflict with the First or Second Law." (Isaac Asimov, 1950). Even if most people or robots follow these rules, it doesn't mean they all will.

References:

1. ASIMOV, I. (1950). I, ROBOT. Gnome Press.
2. Foreign workers in Japan hit the 1 million mark for the first time last autumn: ministry. (2017). Retrieved from <https://www.japantimes.co.jp/news/2017/01/27/national/foreign-workers-japan-hit-1-million-mark-first-time-last-autumn-ministry/#.W1QQRNIzY2x>
3. Foster, M. (2018). Aging Japan: Robots may have role in future of elder care. Retrieved from <https://www.reuters.com/article/us-japan-ageing-robots-widerimage/aging-japan-robots-may-have-role-in-future-of-elder-care-idUSKBN1H33AB>
4. Harvey, J. (2014). Single and Sexless: Celibacy Syndrome in Japan. Retrieved from <http://tyglobalist.org/in-the-magazine/features/single-and-sexless-celibacy-syndrome-in-japan/>

5. Murison, M. (2018). Robots to transform Japan's social care by 2020. Retrieved from <https://internetofbusiness.com/robots-japan-social-care/>
6. Musk, E. (2018). In SXSW 2018. Moody Theater, 310 West Willie Nelson Blvd, Austin, TX 78701, USA. Retrieved from <https://www.youtube.com/watch?v=kzIUyrccbos>
7. ' Tax Handsome Men, Increase Birthrate' Says Economic Analyst. (2012). Retrieved from <https://www.japancrush.com/2012/pictures/tax-handsome-men-increase-birthrate-says-economic-analyst.html>
8. Yamaguchi, M. (2016). Japan overwork deaths among young show lessons unlearned. Retrieved from <https://apnews.com/b972d8ccc27a4060a8a3385f7b11ed41/japan-overwork-deaths-among-young-show-lessons-unlearned>

Bibliography:

1. Bossmann, J. (2016). Top 9 ethical issues in artificial intelligence. Retrieved from <https://www.weforum.org/agenda/2016/10/top-10-ethical-issues-in-artificial-intelligence/>
2. Central Intelligence Agency. (n. d.). Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/ja.html>
3. Chandran, N. (2018). Foreigners could ease Japan's labor shortage, but Tokyo prefers robots. Retrieved from <https://www.cnbc.com>

com/2018/03/09/foreigners-could-ease-japans-labor-shortage-but-tokyo-prefers-robots. html

4. EDITORIAL: Japan needs a rework of its shameful foreign trainee program: The Asahi Shimbun. (2018). Retrieved from <http://www.asahi.com/ajw/articles/AJ201802200023>. html

5. Gamboa, J. (2017). Robots vs Humanity: 5 Pressing Ethical Issues in Artificial Intelligence. Retrieved from <https://www.akuaroworld.com/robots-vs-humanity-5-pressing-ethical-issues-in-artificial-intelligence/>