Generative AI – Opportunities & Challenges

By Naoyuki Haraoka

The Japan Electronics and Information Technology Industries Association (JEITA) announced an outlook for world demand for generative AI in December 2023. According to this outlook, in 2030 it will total $211 billion, 20 times more than in 2023. Meanwhile, the Japanese market for generative AI will be worth 1.77 trillion yen, 15 times more than in 2023. This will be the outcome of the continuous expansion of areas where generative AI can be applied. Above all, the manufacturing sector would be the leading contributor to the expansion of the market for generative AI, since its application covers a wide variety of areas including business support and product development support. Generative AI would also spread across the finance, public service, and telecommunications sectors. This would naturally impact the global economy, human civilization and even national security.

Being optimistic, we could see almost continuous high economic growth, supported by high labor productivity and increases in demand, achieved by the expansionary use of generative AI. Countries suffering from depopulation would not have to worry about consequent deflation. History tells us that the industrial revolutions of the late 18th century and early 19th century, or the IT revolution in the late 20th century and early 21st century, pushed the global economy onto a much higher growth track than before through the tremendous increase in productivity and demand, and completely transformed human civilization. Given these facts, we can well believe that innovation will play the critical role of game changer.

It was the global financial crisis in 2007-2008 that disrupted this period of high growth. It was subprime lending, the product of financial engineering, a derivative of IT, that put an end to this growth. Since then, the global economy has generally been stagnant and craving for large-scale innovation that could lift it onto a distinctly higher track again.

At this moment, we are standing on the threshold of a new era where innovation beckons. However, new technology occasionally scares people with its unexpected outcomes. Human beings are in general conservative and tend to be cautious about what is not well known or understood by them. The Luddite movement in the early 19th century in England where the Industrial Revolution began and started to impact the economy and people's lives is evidence of this. Non-skilled workers, mostly on low wages, were concerned about their jobs being taken away completely by machines and started destroying them with hammers. But history eventually showed that new technology brought exactly the opposite outcome, with high economic growth and the creation of many job opportunities and a more affluent society. The rapid emergence of generative AI would probably bring the same sort of outcome, in which immediate concerns would eventually be turned into expectations of greater affluence achieved by AI.

The May/June 2024 issue highlights the opportunities and challenges posed by generative AI and explores how to minimize concerns while maximizing merits. As can be seen in the articles, discussions on these issues have only just begun, but it is important for us at this point in time to start exploring how to turn generative AI into sources of happiness and not tragedy.

Following our usual Roundtable discussion among experts that covers AI's merits and demerits, we introduce an interview with Dr. Christian Huebner from the Konrad Adenauer Foundation, and two more with Prof. Shinichi Yamaguchi of GLOCOM, the Center for Global Communications, at the International University of Japan, and Kunihiro Tanaka, founder and CEO of SAKURA Internet Inc., both young members of the AI Strategic Council to the Japanese prime minister. Generative AI could be an engine of Japan's growth strategy, while in Europe it may be treated with greater prudence in terms of ethics and human rights.

Finally, an interview with OECD Director Jerry Sheehan shows the importance of international cooperation for better guidance on AI governance in maximizing its merits and mitigating its demerits. The Hiroshima AI Process initiated by Japanese Prime Minister Fumio Kishida is a key to such efforts.

With these articles, we hope that people cautious about using ChatGPT and concerned about the implications of AI for human jobs would be more proactive in using it in their daily work.

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