

When Will Japan Tap Its Internet Potential?

By Andy Yee

Japan's broadband infrastructure is among the best in the world, but a combination of cultural, business and regulatory factors have kept the country from realizing its online potential, writes Andy Yee. It is time for Japan to fully embrace the Internet and take its rightful place as a major innovative force.

¹ "National high-speed Internet plans: Broadband's big spenders," *The Economist*, Feb. 9, 2011.

² OECD broadband portal (as at December 2012). Available at: www.oecd.org/Internet/broadbandandtelecom/oecd broadband portal.htm

³ Betsy Masiello and Derek Slater, "Embracing an Innovation Stimulus Package," Social Science Research Network, July 12, 2012. At http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2104350

⁴ "The Internet Economy in the G-20," The Boston Consulting Group, March 2012.

JAPAN'S INTERNET IS KNOWN for being one of the fastest in the world, and it gathered that speed quickly. Before 1998, Japan had no broadband, but by 2002 it led the world in speed and price. Thanks to coherent, long-term strategies, Japan's Internet infrastructure is consistently ranked among the best in the world. The 2007 International Telecommunications Union (ITU) Digital Opportunity Index ranked Japan second only to South Korea in access and affordability. A 2011 study by the Economist Intelligence Unit placed Japan second out of the 16 national broadband plans featured in the study.¹ When even basic broadband is still unavailable in parts of the developed world, Japan is targeting services of 1GB per second for 90 percent of its population by 2015. According to the OECD, the penetration rate of high-speed mobile Internet in Japan reached 82.4 percent in December 2011.² This put Japan behind South Korea, Sweden and Finland, but well above the OECD average of 54.3 percent.

But infrastructure and the network is only one aspect of the Internet. An equally important factor is how government, business and the population take advantage of the Internet for political, economic and social transformation. In part this is because the Internet is the most powerful infrastructure ever constructed for the creation, exchange and implementation of ideas.³ Businesses, entrepreneurs, activists and artists can reach a global audience instantly, enabling small ideas to become world-changing.

The Internet is sometimes defined beyond the traditional notion of specific network connectivity. It is viewed as an "ecosystem" that includes net-

works, platform services and content applications, and the end users. Globally, the service and application layers have become wellsprings of innovation and renewal that have significant impacts across the entire economy and society. According to the Boston Consulting Group, the Internet economy already amounts to 4.1 percent of GDP across the G-20 economies, and will nearly double from its 2010 level by 2016.⁴

UNDERUSED ADVANTAGE

In this context, Japan, as one of the most wired nations in the world, should be well placed to lead the world in Internet-driven innovation. But a complex story emerges when we examine how Japan uses its superior infrastructure. Japanese businesses don't go online as much as other countries. Its citizens and bureaucrats are not as adept at using the Internet for social change. The kind of Internet platforms that revolutionize our lives — YouTube, Facebook, iTunes — are not invented in Japan. Despite having the fastest and cheapest Internet, many Japanese are happy doing things the old way. This phenomenon is reflected in Japan's poor performance against global benchmarks for the Internet's impact on society.

In September 2012, Tim Berners-Lee, the inventor of the World Wide Web, released the Web Index, the world's first multi-dimensional measure of the Internet's use, utility and impact on nations. At No. 20 out of 61 nations rated, Japan is outpaced overall by countries such as Chile, Portugal and Spain. Japan ranks in the bottom half for government use of information and communications technology to improve efficiencies. It is

5 Kathryn Ibata-Arens, "Solving the Japanese Paradox," *Asia Unbound*, Council for Foreign Relations blog, Dec. 3, 2012.

6 Kenji E. Kushida, "Leading without Followers: How Politics and

Market Dynamics Trapped Innovations in Japan's Domestic 'Galapagos' Telecommunications Sector," *Journal of Industry, Competition and Trade*, Vol. 11, No. 3, September 2011, pp.279-307.

One government poll shows that over half of Japanese hardly ever or never use the Internet. Japan's top-heavy society and the resulting technophobic demographic help explain its refusal to shift to the digital economy.

also weak in using the Internet for political campaigning and mobilization. Similarly, the World Economic Forum's *Global Information Technology Report 2012* ranked Japan 18th out of 142 countries surveyed in terms of network readiness. While its business sector is innovative and sophisticated, Japan's overall business and innovation environment was ranked only 39th. Significantly, it takes 23 days to start a new business in Japan, according to the World Bank; it takes seven days in South Korea and just three in Singapore.

TRAPPED IN THE GALAPAGOS

Japan has not fully realized the potential of its superb infrastructure because its society, culture and economy are decoupled from the global stage.

Chalmers Johnson's seminal work, *MITI and the Japanese Miracle: The Growth of Industrial Policy (1925-1975)*, introduced the concept of the "developmental state" in which the government, bureaucrats and industry worked together as a single whole to promote economic development. This system worked well when Japan was still an export-oriented, vertically integrated production system that refined Western technology through incremental innovation. But in an age where advanced economies maintain their edge by creating disruptive new business models and products, empowered by global linkages through the Internet, Japan is woefully unprepared. Old

institutions have proven a hindrance within this new global dynamic.⁵

Ironically, Japanese firms were once global leaders in many Internet-related end-products, services and content platforms. Cutting-edge networking technologies such as automated teller machines and the ISDN standard for data and voice transmission were first developed in Japan before the advent of the Internet. High-end feature phones and commercially successful mobile Internet content platforms pre-dated Apple's iPhone and App Store by a decade. But with little strategic attention paid to international markets, they were largely confined to Japan. In 2007, a Ministry of Internal Affairs and Communications (MIC) report on Japan's cellular market first articulated this isolated status as the "Galapagos Syndrome."

Japan's persistent pattern as a leader without followers has its root in unique competitive dynamics, shaped by patterned interactions among a stable set of actors, including the still-dominant Nippon Telegraph and Telephone Corporation (NTT), regulators, carriers and manufacturers.⁶ This "controlled competition" regime since the mid-1980s pushed Japan's domestic market to ever-higher levels of sophistication while it became increasingly decoupled from global markets. In the late 1990s, a new regulatory focus on global markets and competitiveness

7 Federico Etro, "Economics of Cloud Computing," *The IUP Journal of Managerial Economics*, Vol. IX, No. 2, March 2012, pp.7-22.

8 Michael Fitzpatrick, "Revealing Japan's low-tech belly," BBC News, July 13, 2010, at www.bbc.co.uk/news/10543126

9 Tadamasu Kimura, "Keitai, Blog, and Kuuki-wo-yomu (Read the atmosphere): Communicative Ecology in Japanese Society,"

Ethnographic Praxis in Industry Conference Proceedings, Vol. 10, No. 1, August-September 2010, pp.199-215.

10 Shunji Mikami, "International Comparative Analysis" [Kokusai Hikaku Data no Bunseki], in *Research on the Internet use in 2008* [2008 Nen Internet Riyou Ni Kansuru Jittai Chosa], Ken Sakamura and Yoshiaki Hashimoto eds., Tokyo: University of Tokyo, 2009, pp.102-129.

led to policies aimed at reshaping the domestic sector. But the considerable power of NTT continues to define Japan's proprietary trajectory.

With the coming of age of the Internet, the specter of the developmental state would prove to be a drag on Japan in an age of collaboration and exchange. The developmental state is good at setting technological trajectories, but today, the challenge is not only to stay ahead, but also to stay on the right path and develop globally relevant business models. Until Japan fully realizes the potential of the global Internet platform and becomes a top web-savvy nation, this will not be achieved.

GETTING IT RIGHT

Now that Japan has built high-speed networks, all sectors of Japan need to embrace the Internet as part of the global community. This not only requires revolutionizing the way people communicate and do business, but also developing laws and policies that stimulate the flow of information and enable the next Silicon Valley to emerge from Japan. It can be done if Japan understands the value of the Internet.

The rise of the Internet should have been a blessing for Japan, which is facing productivity declines due to a rapidly aging society and fewer young people entering the workforce. Internet platforms drive creativity and efficient collaboration across society. It is estimated that the adoption of cloud technologies alone could lead to 0.1-0.4 percent GDP growth in the EU.⁷ However, one government poll shows that over half of Japanese hardly ever or never use the Internet. Japan's top-heavy society and the resulting tech-

nophobic demographic help explain its refusal to shift to the digital economy.⁸

Further challenges to greater Internet usage lie in social attitudes rooted in Japanese culture. Social communications, whether online or offline, are embedded in a wider "communicative ecology" that motivates people's expectations and actions. Japanese are constantly pressured to attune themselves to the prevailing atmosphere (*kuuki*). Without predetermined boundaries or members, cyberspace makes the detection of *kuuki* difficult. Thus, Japanese are anxious about online encounters, with anonymity preferred and information-sharing limited.⁹

Studies have consistently shown that use of the Internet in Japan is remarkably limited. For example, a survey conducted in 2008 by the World Internet Project finds that Japan, along with Colombia, was the most inactive online among 13 countries studied (Australia, Canada, China, Colombia, Czech Republic, Hungary, Israel, Macao, New Zealand, Singapore, Sweden, the UK and the US). The activities studied include the use of communication services, searching for and accessing information, gaming and leisure activities, e-commerce and transaction services and online learning.¹⁰

Fears about security and privacy have also slowed the growth of online businesses in Japan. A study by the Nomura Research Institute (NRI) finds that Japan has one of the world's largest Internet economies — already 3.7 percent of GDP, or 20 trillion yen, surpassing contributions from traditional sectors like automotive manufacturing. But despite this fact, only one in four Japanese

11 Nomura Research Institute, *Value of Japanese Internet Economy*, 2011. Available at www.internet-keizai.jp/pdf/Economic_impact_of_the_Internet_en.pdf

12 "Adapt and Adopt: Governments' Role in Internet Policy," Boston Consulting Group, October 2012. At www.bcgperspectives.com/content/articles/digital_economy_public_sector_adapt_adapt_government_role_internet_policy/

13 "Internet Economy White Paper: Achieving the Full Potential of

the Internet Economy in Japan," The American Chamber of Commerce in Japan, 2009. At www.jassw.org/pdf/InternetEconomyWhitePaper.pdf

14 "Video games: Japan fights back," *The Economist*, Nov. 17, 2012.

15 Nomura Research Institute, *Japan 2015 — Towards an Era of a New Country Opening to the World* [2015-Nen No Nihon: Arata Na "kaikoku" No Jidai E], Tokyo: Toyo Keizai Shinposha, 2007.

small and medium enterprises (SMEs) hosts its own website. If the government were to get more businesses online, the Internet economy could grow by 10 trillion yen over the next five years.¹¹

TOWARDS A GLOBAL VISION

How could Japan set about improving its Internet utilization for the benefit of the economy and society? Traditional approaches to economic planning would be futile in the fast-moving Internet sector, where the road ahead is difficult to predict. But governments can follow an adaptive strategy that starts from current circumstances and is complemented by experimentation and adjustment.¹²

A good start for the Japanese government would be to address legitimate social concerns related to the Internet. This is best achieved by building awareness of the power of the Internet. Governmental and educational institutions should receive training about how to harness broadband infrastructure for public uses, such as citizenship engagement and online learning. Next, the government must educate stakeholders and SMEs about how they can benefit from the high-speed Internet that is all around them. Digital literacy and data empowerment efforts with the broader public are crucial. Knowledge about how to stay safe and manage data online, for example, could help to dispel cultural obstacles against online communications.

Another important aspect is to develop policies that encourage innovation, which is especially important as Internet-based business models evolve very quickly. Overly tight laws could chill innovation. In the area of privacy, for exam-

ple, protection of personal information is fundamental to the operation of the Internet. However, Japan's privacy laws have been criticized as inconvenient and burdensome for both businesses and individuals. Similarly, copyright policy calls for a balance between protection of creativity and distribution of content. Getting this right is important to the growth of the Web content marketplace. Japan faces a paradox in that it is a content "superpower," but little Japanese-language content is available through legal online channels. The outdated structure of the content industry discourages the emergence of new Internet music and video services, which face many copyright hurdles and potential infringement liabilities.¹³

Once an adaptive regulatory system is in place, governments can use the Internet to enhance existing industries, strengthen competition and encourage innovation. Finland is a major exporter of mobile and online games, the most famous of which is *Angry Birds*. Sweden is strong in services and platforms like Spotify and Skype. Australia has a fast-growing online content-export sector, which accounts for 7 percent of the Australian content and media industry but 40 percent of its growth. What is Japan's strength? Its rich culture of *anime*, *manga* and J-pop provides the ingredients for Japan to become a digital content powerhouse. In social gaming, two Japanese firms, DeNA and GREE, could be among the first Internet platforms outside Silicon Valley to become truly global.¹⁴

Above all, a global mindset is needed. As Japan faces long-term decline and a shrinking domestic market, it needs a shift in attitudes about globalization. In a strategic vision published in 2007,¹⁵

the Nomura Research Institute found that non-manufacturing industries only earn 2 percent of their revenue from overseas markets, compared with 12.4 percent for manufacturing industries. In addition, the productivity of service industries traditionally lags behind manufacturing. It concludes that as a mature economy, Japan's next leap in growth can only come from a shift in economic structure to a globalized service economy with a small, high-tech manufacturing sector.

This is no easy task. But it will be as transformative as were the Meiji Restoration and the post-World War II economic miracle. The heart of the matter lies in the Japanese people's commitment to internationalization. Japan has a unique opportunity to capitalize on its advanced infrastructure. But it needs to place the Internet at the core of its economic and reform plans. The country is at the start of the third great opening in its modern history. It is time to be bold, to embrace the world and to put connectivity at the heart of everything it does.

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