

Digital Asia: An Agenda for Regional Growth and Integration

By Andy Yee

While the Internet has spawned a revolution in the way individuals connect and communicate with one another, especially through social media sites such as Facebook and Twitter, a change no less revolutionary is occurring in the business world, enabling business-to-business and business-to-consumer interactions that are transforming the global economy.

Asia is particularly well positioned to benefit from the Internet economy, writes Andy Yee.

THE INTERNET IS the trading route of the 21st century, on a par with the historic Silk Road, the great rail routes and the clipper-ship breakthroughs of earlier eras. As a single set of technical protocols that enables the easy exchange of goods, services and information, anywhere and anytime, it is a tremendous force for the interaction and integration of people. Across the Group of 20 (G-20) nations, the Internet economy accounted for 4.1 percent of gross domestic product, or \$2.3 trillion, in 2010. Its impact is equally significant in Asia, amounting to 3 percent of GDP in India, 4 percent in Japan and 4.6 percent in South Korea. This is not to mention the striking growth potential as the vast population of the region's developing economies comes online.

In fact, no region is better positioned to take advantage of the digital economy than Asia. It is unique in that the region has become important as both a producer and consumer of both physical and virtual products in the Internet economy. Viewed through the lens of the Internet ecosystem, this creates a self-sustaining, virtuous cycle that will reinforce intra-regional flows of Internet traffic, information and communications technology (ICT) goods, and all other types of goods and services, be they physical or virtual.

The economic gains of a more tightly connected Asia are significant. The McKinsey Global Institute estimates that global flows have contributed 15-25 percent of global growth each year, with more interconnected countries receiving 40 percent more of the growth benefits than less interconnected ones.¹ In turn, digitization is transforming and enhancing all types of global flows.

1 "Global flows in a digital age: How trade, finance, people, and data connect the world economy," McKinsey Global Institute, April 2014.

2 Yongsoo Kim, Tim Kelly, and Siddhartha Raja, "Building

broadband: Strategies and policies for the developing world," World Bank, January 2010.

3 "Internet global growth: lessons for the future," Analysys Mason, September 2012.

Internet penetration obviously has a positive impact on economic growth, with every 10-percentage-point increase in broadband penetration adding 0.9 to 1.5 percentage points to per capita GDP growth. By harnessing the twin forces of digitization and interconnectedness, Asia can consolidate and accelerate its pace of growth.

INSIDE THE INTERNET ECOSYSTEM

To fully understand the economic opportunities of the Internet in Asia, the World Bank's description of a high-speed communications network as an interconnected, multi-layered ecosystem of services, applications and users is helpful.² Networks, devices and applications drive and support each other in a virtuous cycle. First, fast and reliable networks enable hardware manufacturers to produce more capable devices to connect users to those networks. Next, these devices empower companies and entrepreneurs to create innovative content and services. Finally, a richer Internet attracts more end-users, incentivizing service providers to improve their networks, hence reinforcing the cycle.

By exploiting its unique strengths, Asia can succeed in the digital economy through game-changing trends in technology and business processes. In each stage of the Internet cycle, Asia is endowed with many advantages. It is home to nine of the world's top 30 telecommunications service providers by revenue, and significant Internet traffic growth is stimulating further investment in connectivity infrastructure. Decades of industrialization have given rise to world-class consumer electronics manufacturers in Japan, South Korea, Taiwan and China, which will continue to ride on the soaring demand for connected devices. With a strong tradition of international trade, the region's businesses are well positioned to leverage the Internet to increase competitiveness and drive the export of goods, services and content.

DISSECTING ASIA'S INTERNET SYSTEM

Applying the ecosystem model to Asia, we can look at how the three key elements — networks, devices and content and applications — fit together.



Networks. The first component of the Internet ecosystem is infrastructure, an area where Asia has emerged as a source of dynamism, accelerating regional integration.

By 2016, there will be 3 billion Internet users globally. The majority of people that have yet to come online are in Asia. In fact, the growth of Asia's Internet has been amazing — the number of users in Asia over the past decade has grown 17 percent annually, well ahead of rates in the US and Europe. Between 2010 and 2013, the number of Internet users in India doubled, from 100 million to 200 million. It took six years to achieve that milestone in the US. In 2016, China will have nearly 800 million Internet users, about the same number as France, Germany, India, Japan, the UK and the US combined.

In this context, Internet traffic volumes in the region are expected to increase exponentially. As dynamic growth leads to more region-centric information flows, digital content delivery and cloud-based services are moving closer to the region's end users, lowering the cost and latency of Internet traffic. According to estimates by Analysys Mason, the number of Internet Exchange Points (IXPs) in the Asia-Pacific region grew by nearly four times between 2007 and 2011. Traffic patterns have already shifted such that the majority of traffic originates within the region. In 1999, 90 percent of Asian international bandwidth was used to connect to the US; by 2011, the proportion going to the US had fallen to just 40 percent, while bandwidth between Asian countries had increased to over 30 percent.³

4 Tiziana Bonapace and Jorge Martinez-Navarrete, "The Digital Economy as an Accelerator of Regional Integration in Asia-Pacific," United Nations, September 2012.

5 Steven K. Vogel, "What Ever Happened to Japanese Electronics? A World Economy Perspective," *The Asia-Pacific Journal*, Vol. 11, Issue 45, No. 2, November 2013.

6 "Internet matters: The Net's sweeping impact on growth, jobs, and prosperity," McKinsey Global Institute, May 2011.

7 "Asia: the road to becoming a knowledge economy — game of catch-up or game changers?" Asian Development Bank, May 2013.

In recent years, a number of public- and private-sector investments have taken place to respond to increased intra-regional data flows. Notable examples include the Asian Development Bank-funded Greater Mekong Subregion (GMS) Information Superhighway Network and South Asia Subregional Economic Co-operation (SASEC) Information Highway initiatives, and private sector projects such as the launching of a high-speed terrestrial network linking China and India in 2010, and the upgrade of the Transit Europe-Asia (TEA) terrestrial cable system.⁴ Furthermore, the significant amount of competition among telecommunications operators in the region will put downward pressure on prices, stimulating greater demand for digital products and services. This will encourage operators to invest more, improving the performance of the Internet and fueling usage.



Devices. The value of the Internet will not be fully realized until it delivers useful content and applications to end-users. It is through devices such as computers, tablets and smartphones that users interact with applications and with each other. It is in the devices market where Asia is in a unique position to leverage ICT for accelerating economic growth. Asia produces more ICT goods than any other region in the world, and in 2011, ICT accounted for nearly a quarter of developing Asia's exports, twice the global average. Japan, South Korea, Taiwan and China, with world-class manufacturers such as Samsung, Sony, Acer and Lenovo, collectively make close to 90 percent of the world's digital gadgets.

Critically, the significant expansion of the Internet user base in Asia is driving the intra-regional flows of ICT goods. According to statistics from the United Nations, between 2002 and

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2009, intra-regional trade in ICT goods increased at an annual rate of 20.8 percent, compared to 15.7 percent and 8.4 percent for the region's ICT goods destined for the EU and US markets, respectively. Over the same period, the region's consumption of end products more than doubled from \$63.9 billion to \$148.2 billion.

Amidst this deepening regional integration, manufacturers must continue to move up the value chain. As they transition from "follower" to "frontier," a shift must be made from incremental improvements to breakthrough innovation of products and their marketing. Ironically, the Internet has transformed the ICT sector while eroding the traditional competitiveness of Asian manufacturers. Notably, Japan's share of ICT exports in OECD economies dropped from 16.8 percent in 1999 to 10.4 percent in 2011. The vertical integration of Japanese electronics firms makes them slow to capture both the cost benefits of modular production and the integration of manufacturing with service functions, two paradigmatic shifts brought about by Internet applications and software.⁵

Compared with the vibrant American Internet economy, the most common weakness of Asian manufacturing firms is their lack of sensibility and flexibility to succeed in consumer markets. Most of their success is in business-to-business activities. This is most evident in Taiwan's ICT industry, with its mostly anonymous manufacturers like Foxconn making devices for global consumer electronics brands like Apple. In China, Huawei and ZTE make handsets for multinationals like Vodafone, but fail to become significant own-brand manufacturers for international markets. That being said, the Internet enables them to re-imagine the possibilities for engaging with end-users. China's Xiaomi, a rapidly growing smartphone producer, has a business model that relies on the Internet at every stage from design to developing applications to improve the user experience. South Korea's Samsung is also placing renewed emphasis on software and services. Notably, it set up the Open Innovation Center in Silicon Valley to deliver the "thoughtful integration" of hardware and software. By embracing the Internet, companies can capitalize on valuable consumer insights to design devices tailored to Asia's mass markets, leading to increased regional aggregate demand and higher profit margins.



Content and applications. This is the final element of the virtuous cycle: content and applications. With powerful networks and capable devices, the Internet brings unprecedented opportunities for companies in Asia to engage in regional flows, creating new spaces for integration. Digitization is creating online platforms that facilitate cross-border exchanges across the full spectrum of participants, from multinational companies to small and medium-sized enterprises (SMEs) to artists and individuals.

The Internet is a key driver of international trade and productivity growth. McKinsey has found that SMEs that heavily rely on the Internet grow and export twice as much as others, and are 10 percent more productive.⁶ This is important because SMEs are often the main drivers of economic growth and job creation, especially in developing countries. Because the Internet operates relatively free of government regulation, it is helping SMEs, which otherwise don't have the requisite resources, to overcome traditional trade barriers such as tariffs and inefficient customs procedures to reach new customers. In 2013, global e-commerce sales reached almost \$1.3 trillion, nearly 2 percent of global GDP. In China, more than \$157 billion of merchandise was processed on Alibaba in 2012, larger than Amazon and eBay combined, allowing more SMEs to participate in exporting than ever before. This is giving rise to a new era of "micromultinationals," which will grease the wheels of the Internet economy and regional integration.

Services are set to play a bigger role in Asia's economic future. They accounted for 48.5 percent of regional output in 2010. The Asian Development Bank has identified cloud computing services as a game-changing trend for Asia's advancement to a knowledge economy.⁷ In AT Kearney's 2011 services location index, Asia had 7 of the top 10 locations for outsourcing of global services for delivering IT, business process outsourcing and voice services. A recent study by the Asia Cloud Computing Association shows that cloud computing will generate 14 million jobs globally in the next three years, with 10 million in Asia. As mass markets develop for cloud-enabled services in Asia, prices should fall, boosting productivity and efficiency. Importantly, one area where Asian firms can achieve comparative advantage with respect to their counterparts from advanced economies is innovation that bet-

8 “Innovative Asia: advancing the knowledge-based economy - highlights of the forthcoming ADB study report,” Asian Development Bank, April 2014.

9 “The Connected World: Greasing the Wheels of the Internet Economy,” Boston Consulting Group, January 2014.

ter fits the specific needs of mass markets, which have lower technological sophistication and price affordability.

The dynamic creative and entertainment industry is another area where Asia has demonstrated comparative advantage. China, Hong Kong and India were among the top 10 exporters, accounting for over 30 percent of world exports of creative goods in 2008.⁸ Technology will stimulate cross-border flows of digital content rooted in the region’s rich cultural topologies - think Bollywood movies, Japanese animation and K-pop music. Rapid economic growth has given rise to a burgeoning Asian middle class with a trans-national taste for culture. The Internet is often their prime vehicle to access entertainment. In China, for instance, about 83 percent of Internet users listen to music online. The ease of access and lower cost of online distribution empower artists to foray into this regional audience. South Korean pop star Psy’s 2012 “Gangnam Style,” which has received over 2 billion views on YouTube, is the most prominent global and Asian example. To capture this opportunity, artists and enterprises need to experiment and discover the optimal combination of price, convenience and inventory that can sustain a business model online. While Asia hasn’t developed its own digital content platform with a significant footprint — like Netflix, Spotify and iTunes — popular platforms are emerging. Taiwan’s KKBox, for instance, is a music streaming service that caters to users across Asia, boasting over 10 million registered users and 5 billion music streams in 2013.

CHOICES FOR GOVERNMENT, CHOICES FOR BUSINESS

In conclusion, I have outlined how the digital economy can foster interconnectedness and accelerate integration. This creates enormous potential for inclusive economic development.

Digitization broadens the ways that countries can participate in flows within the region. Northeast Asia is the export powerhouse of ICT goods. India and China are particularly strong in the flow of services and goods, respectively. And all other emerging economies of Southeast and South Asia can leverage the Internet to become more integrated.

But growth is not a foregone conclusion. Governments and businesses need to make choices to minimize the sources of friction in the digitization and integration process.⁹ On the one hand, policy-makers can create a conducive environment to enable their nations to climb up the digital curve more quickly. Policies that promote investment, especially in infrastructure, are essential. Establishing a digitally literate workforce, encouraging competition and not hampering business startups are other examples. On the other hand, businesses can rise to the challenge of a digitized marketplace and benefit from expanded capabilities and higher growth rates. The alternative is to hold on to outdated business models and risk being left behind by more agile competitors.

Asia is positioned in a unique moment in history to capitalize on the digital revolution and a well-endowed Internet ecosystem. If Asia can think far ahead, embrace change, move quickly and organize for the Internet age, the opportunities for economic advancement and regional integration are significant.

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