

THE STATUS AND FUTURE POTENTIAL OF INTERNET-BASED ECONOMIES IN ASIA

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Status and Future Potential of Internet-Based Economies across Asian Economies

TRPC Pte Ltd
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Introduction

It is evident that the Internet increasingly underlies all sectors of the economy. The process of transition from an emerging Internet economy towards a developed digital economy has two elements to it, one linear and one non-linear. The linear development is the growth of access nationally: to broadband networks, be they fixed and mobile. But especially mobile, as that is the means by which most citizens in developing countries access the Internet, the Web, apps and content. *The more people with connectivity, the more solid the foundations of any nascent digital economy.* The non-linear element consists of cross-cutting issues, such as the interconnection of networks and the interoperability of their operating systems, platforms and the apps and content that ride upon them. For example, m- and e-payment networks, and devices such as electronic transfer of funds/point-of-sale (EFTPOS) terminals, open online markets to new users and to a host of new financial services. This kicks-starts a digital economy by virtue of bringing the banking and financial services sectors into the digital economy, and opens the doors to greater financial inclusion of lower-income groups. But for maximum social benefit these networks need to be interconnected and interoperable – any person can connect to any service from any device.

Achieving the transition to a digital economy requires both the growth of an ecosystem that will support new entrants into the Internet economy, and the promotion of backward linkages from the Internet economy into the traditional economy (e.g., of agriculture and mining, manufacturing production and services, distribution and

consumption). Governments have a dual role to play in these processes. On the one hand, to remove impediments and roadblocks, for example, to simplify the processes that start-up businesses have to go through to establish themselves, to obtain licences and permissions, by placing business registration and regulation processes online, and to speed-up and make efficient any approvals processes. On the other hand, to promote and facilitate entrepreneurship, encourage domestic and foreign investment and support retraining efforts. Working with industry to encourage the interconnection of networks and their interoperability is another important role for governments, not least by incorporating these principles into e-government and community networks and services delivery.

This white paper focuses in on five Asian markets all in the midst of transitioning to a digital economy, two developed (Japan, South Korea), and three emerging (India, Indonesia, Vietnam). By adopting a case study approach we look at both the environmental and public policy issues enabling or constraining such transitions. In each of the five countries, examples are provided where the Internet is being used to either foster this transition or to rejuvenate and upgrade traditional industry sectors, and with it, employment and growth.

The three developing countries are still in the process of developing their Internet economies. The Internet economy is defined for the purpose of this paper as being the contribution to GDP directly from Internet companies, such as ISPs, online content providers, and developers of apps. While this is currently estimated for developed economies to be around 3-4% of GDP and

growing,¹ for developing economies the Internet economy is still in formation and often not pervasive. By contrast, the digital economy is here defined as all sectors of the economy that rely upon or use IP-enabled networks and platforms as part of the embedded infrastructure of the society. In fully digitalized economies (such as Japan and South Korea) this includes all major sectors of the economy and society. For India, Indonesia and Vietnam, broadband Internet connectivity, and the spread of IP-enabled networks, for example payments networks, enterprise networks and e-government networks, will enable this transition to take place.

¹ McKinsey Global Institute(2011), *Internet Matters: the Net's Sweeping Impact on Growth, Jobs and Prosperity*, http://www.mckinsey.com/features/sizing_the_internet_economy

Structure of the Report

TRPC worked with partners in the five countries, each partner a well-established authority in their local economies and the ICT sectors. Two companies were selected in each country for interview, (Table 1), and were then included in the relevant country chapter.

Each chapter explores the issues raised by the cases in terms of country context, such as policies and regulations of government, demographics such as the importance of the rising middle class or of age structure, and the trending issues.

Table 1: Countries and Cases

Country	Partner	Company	Industry	Description
India	NASSCOM (National Association of Software and Services Companies)	Zomato	Food service	Online restaurant guide and booking gone global
		Kanaja	E-government/Community service	Local Govt-sponsored community portal
Indonesia	idEA (e-Commerce Association of Indonesia)	Doku	Payment	E-payments platform gone regional
		Blanja	E-commerce/Retail	E-commerce website as a joint venture with foreign partner
Japan	GLOCOM (Centre for Global Communications, International University of Japan)	JMOOC /Gacco	Education	Gacco, one of the three JMOOC platforms
		Aeon Agri Create	Agriculture	Using ICT tools in the cloud for crop management
South Korea	Asan Nanum Foundation	Baedal Minjok	Food service	Online food ordering company engaging with mom and pop shops
		Newsy	Fintech	Online apps for stocks analysis
Vietnam	VCCI (Vietnam Chamber of Commerce and industry)	NganLuong	Payment	E-payments platform, close to going regional
		GiapSchool	Education	MOOC run as social commitment looking for a business model

The most powerful drivers of the take-up of 'connected' digital technologies emerging in the developing economies are the spread of e-commerce and increasingly of m-commerce. E-commerce websites are encouraging offline merchants, such as vendors or restaurants, to go online and to invest in digital technologies, such as ordering and payment systems. Examples of these backward linkages can be seen in each of the countries covered. The importance of e-payments platforms in countries where cash-on-demand (CoD) is still dominant, especially of the need to instil trust in the security of the system and to demonstrate its ease-of-use is underscored by examples from Indonesia and Vietnam. Looking at sectors of the economy that have often been slow to adopt digital technologies, such as financial technology in South Korea or agriculture in Japan, illustrate the changes now occurring.

Human resource constraint is a common theme across most economies, especially the need for continuous education in a fast changing world demanding digital skills. Examples of the growing role played by massive open online courses (MOOCs) come from Japan and Vietnam, taking ever greater advantage of the spread of high-resolution high-speed mobile access devices. These serve both economic and social purposes. As an example of a socially-focused website, a local government sponsored community site in India is examined. By choosing cases from a variety of economic and social contexts, these cases and country reports are designed to highlight to progress that is being made, incrementally in some cases, more rapidly in others, to transform developing economies into digital economies and broadening the scope of digitalization within established digital economies.

Key Themes

While the importance of infrastructure and access to broadband networks is clear, this paper shows it to be equally clear that the issue for developing economies is often less about the absolute numbers of Internet users, and much more about how the Internet is being used to create a supporting ecosystem that becomes the bedrock of a pervasive and enabling digital economy.

The rapid pace of technology development helps, offering opportunities to leapfrog into more productive and efficient business processes and offerings at lower cost. Among the critical success factors are the following:

- Good policy making practices, including clarity, transparency, and an approach that is embedded in consultation with all key stakeholders, from vendors and service providers through to consumers;
- Reducing the cost of doing business along with creating an environment that facilitates innovation;
- An economy open to international investment and trade, to benefit from the infusion of capital, competition and partnerships; and,
- A focus on empowered, and often ‘retooled’ human capital.

This list is by no means exhaustive, but each of these themes runs through the cases examined in the report. The conclusions and recommendations section at the end picks up on them. The major themes are as follows.

Non-Internet companies of all types are increasingly using the Internet: Any company, be it an engineering firm or a restaurant, a farm or a kindergarten, can easily adopt digital technologies, such as computer-aided design, social media for marketing, or a digital sales and cash register. This is happening with

increasing breadth and speed. What the spread of the Internet does is to create a demand for the supply of components, app development and content creation, and business-input delivery systems on the one side, and for marketing and distribution channels to serve end-user markets on the other, in other words, entire ecosystems along multiple supply chains.

Zomato is an example of an aggregator site in India that has put restaurants of all types and sizes online by the thousands. While any individual restaurant can still rely upon customers calling them after seeing the menu online, their reach is far wider and therefore sales are higher once they are connected by the Internet for online bookings or online takeaway food sales. This same story has played in market after market, including in South Korea where a similar aggregator, Baedal Minjok, is empowering even ‘mom and pop’ shops to go digital.

In Japan, one of the most vulnerable sectors is agriculture, where the farming population is aging and farms are small in size and non-contiguous, making them inefficient by global standards. Despite these apparent impediments to the use of digital technologies, Japanese IT companies have been designing and deploying cloud-based services for use by a younger generation of more tech-savvy farmers, to monitor environmental conditions, improve cultivation, and to manage data management and automation services. Other examples in the chapters that follow include the innovative use of financial technology in South Korea, the use of MOOCs in Japan and Vietnam for the retraining and upgrading the skills of employees across sectors that previously used little digital technology.

E-commerce is often leading the development of a digital economy

ecosystem: This appears particularly true in low-income and emerging economies where Internet companies need to focus on issues such as ensuring delivery fulfilment and payment systems to become sustainable businesses. NganLuong (Vietnam) and Blanja (Indonesia) provide good illustrations. The result is the initiation of start-ups and link-ups with companies in these sectors. Business-to-business (B2B) and business-to-consumer (B2C) are the e-commerce revenue drivers, bringing offline merchants online. But whereas B2C drives usage numbers, B2B is where the larger productivity gains can be seen, allowing companies to cut transactions costs and gain access to a wider range of competing suppliers of raw materials and components, or capital goods. Doku (Indonesia) provides a good example of an e-payments company whose core business has been selling payment systems to the enterprise sector, yet Doku has also developed innovative products for the B2C marketplace as areas of rapid revenue growth.

A rising middle class is driving the rapid growth of e-commerce:

The growth of the middle class, defined broadly as families with annual incomes of USD3,000 and over,² is the primary driver of e-commerce, and the demographics show that this is a long term trend. This is especially the case among those living in urban areas where a growing percentage of the population is living and working. In India the middle class was already estimated at over 50 million by 2007 with one research group anticipating it to grow to nearly 600 million by 2025. Of these, nearly 300 million are likely to be moving out of

India's 'bottom-of-the-pyramid' poverty bracket.³ In Indonesia, some 50 million people are considered middle class, and upwards of 50% of the population of over 250 million are anticipated to be in the middle class by 2020.⁴ Vietnam is the country in South East Asia with the fastest growing middle class, expected to reach 50 million by 2020, at which point the average per capita income is also expected to reach USD 3,000.⁵ These numbers should give confidence to policy makers to back Internet programme development knowing that it will pay long term dividends in terms of jobs and markets.

From local markets to international reach:

The first thing that going online does for a merchant is increase reach – often dramatically. Hence the transformative impact that e-commerce continues to have, *even where nothing intrinsically about a business itself may have changed*. Expansion, and going global, is the ultimate sign of success. The case studies herein highlight a number of such examples: Zomato in India has grown quite remarkably, Doku in Indonesia has begun by entering the market in Papua New Guinea, and NganLuong in Vietnam has reached out regionally with a Malaysian partner. Both Japan and South Korea have numerous Internet-based and e-commerce companies selling internationally.

The conditions of success are based upon scalability of the local business, which in turn hinges on several factors, including:

³ D. Farrell, E. Beinhocker (2007), "Next Big Spenders: India's Middle Class", http://www.mckinsey.com/Insights/MGI/In_the_news/Next_big_spenders_Indian_middle_class

⁴ The Economist (2011), "Indonesia's middle class: Missing BRIC in the Wall", <http://www.economist.com/node/18989153>

⁵ Vietnam Briefing (2014), "Vietnam's Middle Class the Fastest Growing in Southeast Asia", <http://www.vietnam-briefing.com/news/vietnams-middle-class-fastest-growing-southeast-asia.html/>

² A. Moretto (2012), "The Middle Classes in Asia", <http://www.strategic-asia.com/indonesia/77articles.html>

- early access to capital,
- a successfully navigable user-interface – a deceptively important consideration in markets that are mobile-first;
- high quality of service; and
- local language access

Developing economies such as India, Indonesia and Vietnam are still in the stage of building scale on a domestic level, but the cases cited provide good learning models for start-ups, for new entrants and for policy makers designing pro-Internet policies and regulations.

Business and regulatory environments are equally important: The ideal regulatory environment conducive to business is well known: clarity, transparency, consistency and due process. Possibly, the only thing worse than prohibitive regulation is uncertain regulation. Yet that is the position many Internet start-ups face. In India, for example, although both central and regional governments are increasingly demonstrating an impressive record of encouraging Internet start-ups through incubators, funding and tax relief, the paperwork required to obtain licences, certificates and permissions is often mountainous. This poses challenges to start-ups and favours those with foreign partnerships or good access to capital, such as Zomato. Rather than regulatory issues, these are as much business process issues, and it is therefore welcome that the *Digital India* programme specifically highlights the importance of easing the cost of doing business. In Indonesia the drawback has been regulatory uncertainty and lack of clarity, prospectively limiting the role of direct foreign

investment in e-commerce, which is currently on a negative investment list.⁶

In Indonesia the problem for business lies more in the uncertainty surrounding the interpretation of laws, and the pace of liberalization. Recent steps therefore by the government to remove restrictions on the use of micro-financial services and in particular on the use of cash-in/cash-out agents and broadening the range of government-issued documents that can act as proof of personal identification are to be welcomed. But uncertainties remain, for example, concerning the terms and conditions of foreign investment into sectors such as e-commerce. In Vietnam, somewhat similarly, the key issue is around the need for greater transparency. But while the laws and regulations often lack clear definitions, giving rise to uncertainty especially among foreign companies, the Internet economy is thriving.

In developed markets the regulatory and business issues are rather different. In South Korea, for example, national security issues have sometimes impeded the diffusion of digital technologies, but as restrictions are relaxed there is progress towards a ‘democratization’ of the digital economy allowing more new entrants to exploit state-of-the-art technologies. In Japan the over-arching issue is the aging of the population and the weakness of some of the traditional sectors, such as agriculture. Promoting the use of connected digital technologies to meet those challenges is becoming a policy priority.

Human resources are critical in the transition from an Internet to a digital economy: The lack of widespread technical skills is inevitably a bottleneck for developing economies, whether in the private or public sectors. So too, crucially is user awareness and digital

⁶ Indications are that it may be removed in the near future.

knowledge. National education programmes, often supported by local and global IT companies, are commonplace, but problems continue to arise from a deficiency of qualified teachers and trainers and the costs of attending 'extra technical' courses. These issues are not confined to the formal educational sectors, but are equally problematic in post-school training and knowledge upgrading. This is an area in which digital enablers such as e-learning and MOOCs are beginning to offer real solutions. MOOCs are especially relevant to the training and upgrading of skills and knowledge for professionals, and on-the-job training in more technical occupations such as manufacturing and services, as examples such as GiapSchool in Vietnam illustrate. But even in highly developed Japan, the aging of the population and the re-structuring of the jobs markets has given rise to a long ignored problem of skills retraining, as the cases of three MOOCs in Japan (Gacco, OUJMOOC and Open Learning) show.

Infrastructure remains the key policy focus in creating a digital economy ecosystem... : All of these points lead back to the fundamental issue of access. Despite the growing availability of cheaper smartphones, without ubiquitous network access or extensive Wi-Fi coverage, the leverage that can be made of the Internet in promoting a wider use of digital goods and services, such as online payments systems, is limited. The network

infrastructure is the major bottleneck in India, Indonesia and even in Vietnam where network coverage and Internet penetration rates are significantly higher. Being a smaller country by landmass and population, Vietnam has an advantage in the economies of density, and has sensibly made good use of that. The challenge for India and Indonesia is far greater. In *Digital India*, the new government has issued a national pledge to provide ubiquitous access by 2020. In Indonesia, while the telecom and internet markets have been opened to competition, there are foreign investment caps and other restrictions and it remains to be seen what steps the new government may take to further promote network coverage and Internet usage.

... and wireless the most common solution:

This has several implications: it places greater urgency upon achieving national mobile network coverage and upon regulators making available radio spectrum for broadband mobile services; it will encourage the growth of an ecosystem around mobile platforms and devices, for 'native' apps and local language content development; it will open the gates to m-commerce and m-payments systems, thereby spreading trust and familiarity with online transactions. For this to happen, policies and regulations with regards to radio spectrum and m-commerce and payment systems will need to accommodate these developments. Indonesia is a good example of where this is happening.

Digitalizing India

India's Demographics Support Rapid Internet Growth...

There are over 300 million Internet users in India,⁷ and the country's demographics suggest huge opportunities for digital businesses and services given the young population (47% below 25 years of age), growing urbanization (53 cities of over one million population), and a national Internet penetration rate of around 20% – implying plenty of headroom for growth. While broadband usage is just around 7%, mobile penetration is fast approaching 80% (some 950 million subscribers). Moreover, there are an estimated 27 million smartphone users in urban India, accounting for 9% of the mobile urban user base; smartphone adoption grew by over 50% in 2014 alone.⁸ These data are all indicative of a vibrant future for a digital economy, whether services are offered commercially by the private sector or by central and local governments.

... but India's Business Process Climate Needs Reform

According to the World Bank, in 2015 India ranks a lowly 142 out of 189 countries for the ease of doing business,⁹ in large part due to the number of registration procedures required.¹⁰ However, for start-ups who can

navigate the labyrinth of paperwork – and all too often it is paper work - the market environment is inviting, especially for applications and services accessible across multiple mobile and wireless platforms. Zomato is a prime example of a start-up that has made the most of the opportunity and then managed to go global.

⁷ IAMAI (2014), 'India to cross 300 million Internet users by Dec 2104'

http://www.iamai.in/PRelease_detail.aspx?nid=3498&NMonth=11&NYear=2014

⁸ Business Today India (2015), "India to have 651 million Smartphones, 18.7 million Tablets by 2019: Cisco", <http://businesstoday.intoday.in/story/cisco-india-to-have-651-mn-smartphones-tablets-by-2019/1/215322.html>

⁹ World Bank (2015), 'India' <http://www.doingbusiness.org/data/exploreeconomies/india>

¹⁰ McKinsey & Company (2012), "Online and upcoming: The Internet's impact on India", pp.6, http://www.mckinsey.com/insights/high_tech_telecoms_internet/indias_internet_opportunity

Case: Zomato

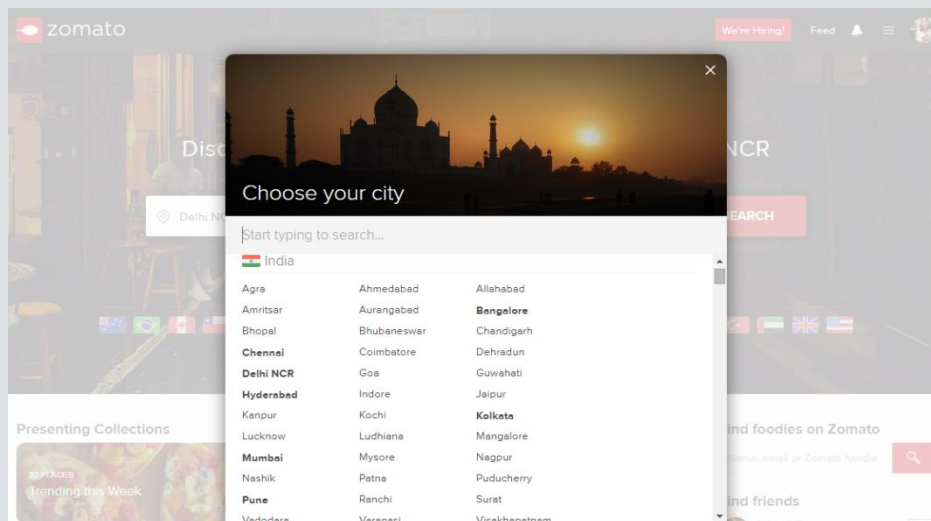
“Our core strength is fresh, exhaustive restaurant information, and we have a team in every market focusing on this core to make sure we are relevant and reliable for users. This includes re-visiting restaurants to ensure that our data is fresh and accurate. In that sense, it does pose a challenge while scaling, and finding the right people for the job isn’t easy.”

– Zomato co-founder Pankaj Chaddah¹¹

Internet start-up Zomato is one of India’s global success stories. Founded as an online guide (Foodiebay) to local restaurants by CEO Deepinder Goyal and fellow Indian Institute of Technology (IIT) alumni in 2008, Zomato has enjoyed extremely rapid growth both domestically and internationally. By the end of 2014, the company had raised over USD100 million through six successive rounds of funding,¹² and expanded to 19 countries covering 330,000 restaurants. Attracting investment has been important to achieving scale and capitalizing on the growth, but of equal if not greater importance, has been the build and execution strategy of the Zomato platform itself – a strategy that has focused on building a digital ecosystem and empowering partners to have access to the same digital tools capabilities that Zomato itself uses.

Practically anyone can start a restaurant guide, so what have been the ingredients of success? According to Goyal: “A clean and simple interface across mediums enables users to get what they want in three simple steps. Users can also access Zomato wherever they are – be it online/on their smartphones/via the print guide which makes the Zomato platform agnostic. The recently added social features also gives us an edge as users can engage with other foodies on Zomato and discover places to eat around them through user recommendations.”¹³ [emphasis added] In other words:

1. A simple and seamless – 3-click – ordering process;
2. Social interaction (rather than just social tools); and
3. Providing the platform (digitization) and access to thousands of small restaurants who wouldn’t otherwise have the wherewithal to ‘go tech’.



¹¹ Tech News Today (2014), “Restaurant Discovery Service Zomato Eats Its Way Into Central And Eastern Europe With Two Acquisitions”, <http://technewstodaynew.blogspot.sg/2014/08/restaurant-discovery-service-zomato.html>

¹² Including from Silicon Valley-based Sequoia Capital and Vy Capital. Zomato funding began with just USD1 million from Info Edge (India) who remains today the principal investor.

¹³ IFFL (2012), “Deepinder Goyal, Founder & CEO, Zomato”, http://www.indiaonline.com/article/research-leader-speak/deepinder-goyal-founder-ceo-zomato-113111404451_1.html

Underpinning all of this is the recognition that they are not a technology business but a service business and that customer loyalty (both from customers and the restaurants) and positive feedback loops are therefore paramount: “We [provide] a rock solid content platform which provides all possible information for ~99% of restaurants across 12 cities in India. This combined with the fact that we were able to find level headed people to work with us gave our investors the confidence to invest in us.” To achieve this, Zomato looks for four key qualities when recruiting staff: “Ethics, Respect, Attitude and Skills in that order.”¹⁴

Behind the portal lies ongoing technological support and innovation. It is available on all major mobile platforms, and regularly introduces new features including restaurant check-ins and the ability to tag friends in reviews, an app to directly connect with restaurants, and chat and ordering abilities. Mobile payments is the next innovation which, together with tagging, enables the bill to be split among friends. In India, the regulations may nevertheless remain a stumbling block with the Reserve Bank of India requiring users to input a One Time Password for each transaction, thereby adding a layer of friction to the service. A possible solution would be to turn the Zomato app into a mobile wallet, with a balance the customer can top-up and then have the price seamlessly deducted during purchase.

Zomato began its overseas expansion in 2012 in Dubai followed by an aggressive series of acquisitions beginning in 2014 in New Zealand, before turning towards Europe and then in 2015 acquiring Urbanspoon in Seattle, USA to enter the North American market; by which time Zomato covered over 330,000 restaurants in 19 countries. This has created a consumer Internet company from India successfully growing abroad without depending on the Indian diaspora, but instead organising the generation and supply of hyper-local information, and the empowerment of a digital ecosystem. As India's broadband and mobile access becomes poised for take-off, the potential remains huge for many new companies to emerge rapidly and serve, not just Indian consumers, but to go global.

Takeaways

- The importance of a portal, and the business that lies behind it, lies not in its coverage, but in its quality, including its design and its people. For example, the design allows full restaurant information coverage with no more than three steps from inquiry to booking.
- The model is scalable – nationally, regionally, globally – based upon “hyper-local advertising and user preferences”.
- The platform benefits from continual technical support and innovation, becoming platform agnostic, with regularly updated features, including experimentation with mobile payments.

¹⁴ IFFL (2012), “Deepinder Goyal, Founder & CEO, Zomato”, http://www.indiaonline.com/article/research-leader-speak/deepinder-goyal-founder-ceo-zomato-113111404451_1.html

Building an Internet Ecosystem

India's Internet economy accounts for over 3% of GDP,¹⁵ yet the Internet ecosystem is still heavily concentrated in Bangalore, the epicentre of software services development. India contributes more than two-thirds of all IT services imported by developed countries from developing countries, and Bangalore accounts for just over one-third of these.¹⁶ India has been taking steps to broaden the ecosystem nationally, and that has become a key objective of the Modi government's *Digital India* programme.

Digital India

*"A programme to transform India into a digitally empowered society and knowledge economy"*¹⁷

Digital India was launched by the Department of Electronics and Information Technology (DeitY) in September 2014.¹⁸ It provides for national spending of INR118,000 Crore (USD19 billion) on ongoing schemes and INR13,000 Crore (USD2 billion) on new schemes and activities, setting out the framework and infrastructure for a digital economy and society in India by the year 2020. Its success will depend upon numerous factors, including:

1. Whether the integrated approach of government involving many ministries and departments can be made to work;
2. Whether a supporting framework of data privacy laws, updated IPRs, digital signatures, cloud computing standards, etc., can be put in place; and,
3. Whether current restrictions on markets can be removed to open them to competitive innovation to help drive the local Internet and digital ecosystems on a nationwide basis.

Objectives

- e-government: providing e-infrastructure for the delivery of e-services
- e-industry: promotion of electronics hardware manufacturing and the IT-ITeS industry
- e-innovation / R&D: implementation of an R&D framework - enabling creation of Innovation/ R&D Infrastructure in emerging areas of ICT&E/establishment of mechanism for R&D translation
- e-learning: providing support for the development of an e-skills and knowledge network(s)
- e-security: securing India's cyber space
- e-inclusion: promoting the use of ICT for more inclusive growth
- Internet governance: enhancing India's role in global platforms of Internet governance

The steps taken by governments, both central and local, to diversify have included efforts to spread the ecosystem by supporting start-ups. This has been both financial, with fixed-period tax breaks, tax-incentives for investment in technologies, land subsidies and so on, and through the funding of institutes of technology, business and technology parks and incubators and accelerators.

¹⁵ Live Mint (2015) 'India's Internet economy to reach Rs10 trillion by 2018: Report' <http://www.livemint.com/Industry/dp0tOG8d9yqokeAbpsS28K/Indian-Internet-economy-to-reach-Rs10-trillion-by-2018-repo.html>

¹⁶ McKinsey Global Institute (2011), "Internet matters: The Net's Sweeping Impact on Growth, Jobs, and Prosperity", <http://www.nwinnovation.ca/upload/documents/mgi-internet-matters-report.pdf>

¹⁷ DeitY (2014), "Digital India", http://deity.gov.in/sites/upload_files/dit/files/Digital%20India.pdf

¹⁸ DeitY (2014), "About DeitY", <http://deity.gov.in/content/about-dit> and DeitY (2014), "Digital India", http://deity.gov.in/sites/upload_files/dit/files/Digital%20India.pdf

The Rise of the Incubators

Their promotion at the national level was initiated over a decade ago when the National Science and Technology Entrepreneurship Development Board (NSTEDB) began working with the Business Incubator Association (ISBA) to support Science and Technology Entrepreneurs Parks (STEPs) and Technology Business Incubators (TBIs). Today there are over 100.¹⁹ Other government departments are now also developing incubators in emerging areas such as the Software Technology Parks of India (STPIs).²⁰ In addition, there are many purely private and public-private incubators and accelerators, including those founded by the IIT in different cities. The importance here is the focus on developing an ecosystem and feeder lines back into traditional businesses, not simply the issues of financial support or business mentorship. The role of the ecosystem is therefore critical.

“The success of start-ups in India can/should be credited as much to the overall ecosystem, the rising number of Angel Investors, established early/late stage VCs with India focused funds, bodies like NASSCOM etc., the macroeconomic conditions, the internet boom, as much as Government supported academic incubators.”

– Mainak Bhattacharya, Senior Manager,
CIIE, Ahmedabad

Many already have a long record of seeing start-ups through to success. For example, the Centre for Innovation, Incubation and Entrepreneurship (CIIE) at the Indian Institute

of Management in Ahmedabad, has worked with over 250 start-ups since its founding in 2002.²¹ CIIE focuses on areas such as Internet and mobile technology, green technology, social sector start-ups and healthcare. The proliferation of incubators, accelerators, science and technology parks, closely associated with business schools and institutes of technology, and often with generous support from state and local governments, is seeing the spawning of Internet business and digital talent across India.

¹⁹ Trak.in (2014), “Top 10 Startup Incubation Centres in India”, <http://trak.in/tags/business/2012/03/27/top-5-famous-startup-incubation-centers-india/>

²⁰ NSTEDB (2009), “First Status Report on Technology Business Incubation in India”, <http://www.nstedb.com/fsr-tbi09/index.html>

²¹ Email from Mainak Bhattacharya, Senior Manager, CIIE, Ahmedabad.

Case: Kanaja.in



The most important benefit of Internet-based and digital businesses to an economy and society is the contribution to social welfare. In the case of private sector commercial successes such as Zomato the benefits are both obvious and compelling. However, there are also a large variety of smaller targeted initiatives emerging to serve various different communities that would otherwise not be possible but for the scale and scope that the Internet enables. One example is the website Kanaja, launched in late 2009 by the then Karnataka Chief Minister, to be an electronic repository and knowledge resource in the Kannada language for the worldwide Kannada diaspora. Karnataka is home to the epicentre of India's IT sector, Bangalore. As early as 1991 Bangalore created its Software Technology Parks and Electronic City and today the city accounts for one-third of all India's IT-services exports. Following the establishment by the national government of the National Knowledge Commission (NKC) in 2005, the state government of Karnataka created the Karnataka Knowledge Commission in 2008 with the vision of transforming the state into a vibrant knowledge society.²²

Kannada is the language spoken by some 40 million people in the state of Karnataka and nearby states. The site, built in a matter of months by IIIT-Bangalore, is a Wikipedia-style portal of contributions from scholars, experts and specialists on subjects ranging from language and literature, science and technology to agriculture with an emphasis on supporting the Kannada language and providing all citizens, even those in remote and rural areas, *an equal opportunity to access information online*.²³

What makes the [Kanaja.in](http://kanaja.in) portal project – and others like it around the world – so interesting is the need and, now the Internet-enabled capability, to marry together three elements:

1. Technical support for the architecture, in this case from the International Institute of Information-Bangalore – including storage, archiving and ongoing organic growth – of the site and its further development (especially mobile versions);
2. Innovation in terms of content, services, hyper-links and social media-enabled interactions; and,
3. The use of these elements to reach out to the global diaspora of Kannada speakers.

The question, though, is how to drive value, usage and, ultimately, sustainability. And this is where Kanaja.in now finds itself.

²² Karnataka Jnana Aayoga (2013), "Jana Sampada: A Report to the People of Karnataka on Transforming Karnataka into a Vibrant Knowledge Society", <http://jnanaayoga.in/images/jnanaasampada-final.pdf>

²³ Karnataka Jnana Ayoga (2012), "Kanaja", <http://jnanaayoga.in/index.php/resources/archives/12-projects/62-kanaja>

Sustainability

Funding for the portal came originally from the Karnataka state government in two tranches, while management and operations were outsourced to a private vendor. (This arrangement may change from July 2015 when responsibility for the site passes to the Department of Kannada and Culture.) Although Kanaja.in is one of the most viewed websites in Kannada when measured by total Internet users, overall usage has been low. The key question, particularly when looking at sustainability from a community standpoint, is how much value does it offer citizens? But also, how should value be defined and measured: In terms of logons and clickthroughs? Or in terms of something more cultural and socially defined?

Low usage numbers could be due to a number of factors. The content may not be sufficiently compelling, although it is exclusive and not available on other websites. Indeed, there are no linkages between the kanaja.in and the e-government website which may also mean not enough people know of it, and feedback loops which can build value and usage may not therefore be eventuating; or, because the site has yet to develop a mobile access platform, many people may not be able to properly access the site, or access it conveniently.

Unlike the original Wikipedia, contributions to Kanaja.in are mostly commissioned and reviewed by editors, with less than 10% voluntary submissions.²⁴ There are obvious reasons why a government-owned portal would want to ensure both the accuracy and legality of its postings, as well as the security of its links, but this risks reducing interaction with users. The current lack of social media features, and the need to balance editorial control with user generated content, may also be deterring usage, particularly amongst younger people. These are all issues that the site's original administrators now readily admit need to be addressed to drive towards sustainability.

Next Steps

So what can bring sustainability to a portal that offers its own community and diaspora information in the Kannada language? *In a word: innovation.* On the access side, one innovation already implemented has been software for screen-reading for the visually impaired. The developer, T.S. Shreedhar, won an award of INR25,000 for his work which he is now devoting to a mobile version.²⁵ A voice-portal is another idea being discussed within IIT-B. But the most important development is likely to be mobile access to the portal because that is how most citizens access the web. In addition, a *public* portal should likely be integrating various relevant services. And, as mentioned above, integrating elements of social media will be important.

Takeaways

- The first challenge of any community site is to provide uniqueness in the form of the information available or in the way it is aggregated or delivered. However, that uniqueness, such as information in a local language, may be *necessary but not sufficient* in attracting a critical mass of users.
- When such sites incorporate elements of social media to encourage active engagement, and services of real value that enhance welfare are integrated into the architecture, such as information and services on agricultural, health, education, housing, and so on, as well as links to e-government services, then such developments can turn into very interesting examples of community web portals established in a sustainable way to serve the people.

²⁴ Email communication from Prof. Rajagopalan, IIT-B (23 February 2015)

²⁵ V. Annad (2011), "Kannada Knowledge Portal, Kanaja, Now Speech-enabled, Thanks to Work of Visually -challenged Shreedhar", <http://www.indiatechonline.com/it-happened-in-india.php?id=517>

- To this end, community portals stand to benefit from the lessons of social media in the importance of participation; it nevertheless needs to be recognized that standards of good behaviour and avoidance of illegal uses of the site will put an additional strain on the management of such a portal.
- Most people are increasingly accessing web services through mobile phones, necessitating delivery over a mobile platform. Community sites such as Kanaja.in will also benefit from adopting the latest access technologies as they emerge.
- Innovations such as local language screen page reading for unsighted people will ignite further such efforts and should be actively encouraged. Extending the service to a mobile phone app appears a logical and sensible first step.

Recommendations

1. The Indian Internet economy will continue to grow because India's domestic market and growing middle class incomes provide economies of scale to sustain development; growing the ecosystem across the country will be the key to enjoying the wider economic and social benefits of the Internet as it enables the transition to a digital economy.
2. However, the potential of the Indian market for digital enterprise products and services is both enormous and still largely untapped. A strong policy emphasis should be placed upon the commitment in *Digital India* to ensure universal broadband access at affordable prices, especially for wireless and mobile access.
3. Putting in place a soft infrastructure of updated laws and regulations governing critical areas such as data protection and privacy laws, IPRs, cloud standards, etc., as a support structure is equally important for clarity and certainty of regulation.
4. *Moreover, the commitment in Digital India to simplifying and speeding up business registration processes and reducing business transactions costs when dealing with government is a particularly positive step that needs early and urgent attention.*
5. The aim of a "net zero import" policy by 2020, as stated in *Digital India*, should be pursued in a non-protectionist way by encouraging the growth of the Internet and digital ecosystems across India to reduce dependence upon areas of concentration such as Bangalore. Foreign participation to supply both capital and expertise should be encouraged not discouraged as it will help accelerate this process.
6. Going global by leveraging off success in the domestic market is already happening as the case of Zomato illustrates. The key for an Internet company is the ability to scale. These lessons need to be shared broadly.
7. Social and community services are also being transformed through the use of the Internet, but finding the right model for sustainability is the key, as Kanaja.in illustrates, especially when the initiative is led by a public body that may lack capacity.
8. Capacity building will be necessary right across the public sector, irrespective of whether the models used in the future are government owned-operated, outsourced, or public-private partnerships. For example, outsourced models still require public officials to understand the nature and role of incentives, and to have the capacity to monitor and evaluate.

Indonesia's E-commerce Leading the Way Towards Digital Adoption

Indonesia's Internet economy is still small, around 1.6% of GDP,²⁶ but has the potential to rapidly become Asia's third largest. Internet users already number close to 80 million and are projected to exceed 100 million by 2016.²⁷ E-commerce is just starting to take off with online retail sales still only a small percentage of total retail, although e-payments were estimated to have hit a daily IDR7.7 billion (USD652 million) in 2014 by the Bank of Indonesia.²⁸ This trajectory is widely anticipated to accelerate rapidly.

The immediate driver of the shift to online transactions is the rising incomes of Indonesia's growing middle class, anticipated to be close to 50% of the population of over 250 million by 2020, with incomes above USD3,000 per annum.²⁹ A longer-term driver is the demographics. The majority of the population are under the age of 40 years, with over 20% between the ages 15-25 years, and one-third below the age of 15 years.³⁰ The

population is over 50% urban and growing at an average of 2.5% pa. Currently, most of the demand for online retail comes from the urban centres on the main island of Java, but e-commerce companies are now seeing rising demand from areas beyond Java.

E-Commerce and Regulations

"The growth [in online transactions] is 300% faster than regular transactions using cash and the regulations have now become crucial, creating the regulations has become the priority for the Trade Ministry"

— Trade Minister Muhammad Lutfi³¹

Since 2014 a new pattern has been set, to accelerate the Internet economy for the benefit of the wider Indonesian economy, for investment, jobs and trade. The general thrust of the changes is clearly to remove restrictions on e-commerce markets. It remains to be seen whether all pertinent restrictions will be lifted, for example a requirement for all e-commerce companies operating in Indonesia to use the gTLD .id name.³²

²⁶ Redwing (2014), "How does Indonesia compare with others in Asia", <http://redwing-asia.com/market-data/regional-comparisons/>

²⁷ Statista (2015), "Number of Internet users in Indonesia from 2013 to 2018 (in millions)", <http://www.statista.com/statistics/254456/number-of-internet-users-in-indonesia/>

²⁸ L. Cosseboom (2014), "Would PayPal's Presence in Indonesia Speed up Natural Selection?", <https://www.techinasia.com/indonesia-epayments-paypal-doku/>

²⁹ Quora (2013), "Southeast Asia: How Big is Ecommerce in Indonesia, and what are the Most Common Payment and Delivery Systems?", <http://www.quora.com/Southeast-Asia/How-big-is-ecommerce-in-Indonesia-and-what-are-the-most-common-payment-and-delivery-systems>

³⁰ CIA World Factbook (2014), "Indonesia", <https://www.cia.gov/library/publications/the-world-factbook/geos/id.html>

³¹ Jakarta Post (2014), "Minister Vows to Finish E-commerce Implementation Regulations", <http://www.thejakartapost.com/news/2014/03/19/minister-vows-finish-e-commerce-implementation-regulations.html>

³² Many in the local e-commerce community in Indonesia would prefer the option to use gTLDs which offer them greater exposure to overseas markets. See, for example, the comments by William Tanuwijaya, founder of Tokopedia in E. Lukman (2013), "Is the Indonesian Government Hurting or Helping the E-commerce Industry?", <https://www.techinasia.com/indonesian-government-hurting-helping-ecommerce-industry/>

A significant number of local companies have already been started-up. In C2C: Kaskus, OXL (formerly TokoBagus), Berniaga, Tokopedia, and Bukalapak among others; in B2C: Bhinneka, Tiket, Blibli, LakuBgt, and Onigi, as well as sites belonging to airlines, telcos, major stores, and others; while in B2B: Indonetnetwork and Indotrading are just two of the many emerging examples. Each of these is creating a supporting ecosystem for delivery fulfilment. For example, Dinomarket.com started by offering the delivery of goods bought online to areas beyond the island of Java. In addition there are upwards of twenty online payments solutions companies emerging as major players. Clearly, many local companies are surviving, and some are thriving.

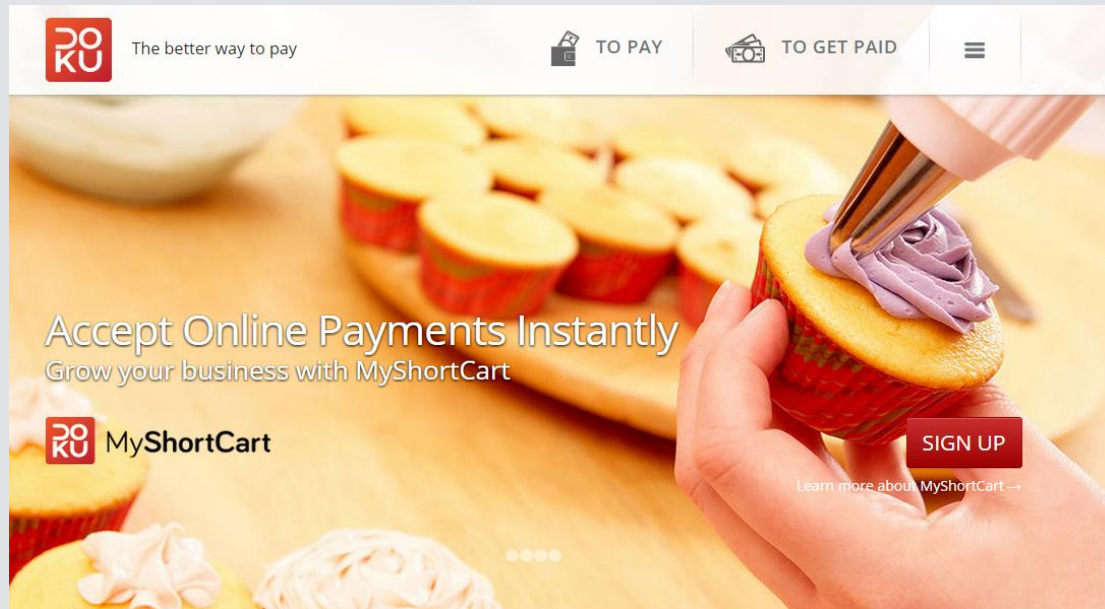
Equally interesting is the positive role being played by foreign ventures entering the market through partnerships. Examples in B2C include Lazada Indonesia and electronics portal Lamido, both with German backing, fashion portal Zalora with venture capital from Rocket Internet, Rakuten Belanja Online supported by Japanese e-commerce company Rakuten, Groupon Indonesia as part of the global Groupon network, and C2C portals Qoo10 Indonesia and Elevenia with South Korean backers, along with two eBay partnerships with Telekom Indonesia (Plasa.com and Blanja.com) and also with Qoo10. In addition, global e-commerce sites such as Amazon.com, eBay, Alibaba and others are popular.³³ Evidently, the entry of foreign partners does not result in a zero-sum game. Rather their entry is helping to stimulate interest by merchants and consumers in the market, and given its early stages of development, this competition is

helping to grow the market at a time when it needs it most. The Internet is global, but the e-commerce market in Indonesia has started out local. However, as the case study of Doku illustrates, it is only a matter of time before Indonesian Internet companies begin penetrating outside markets.

³³ For a full list see Alexa (2015), "Top Sites in Indonesia", <http://www.alexa.com/topsites/countries/ID>

Case: Doku

Doku, an Indonesian e-payments e-commerce company begun in 2007, by 2015 has become one of the country's key Internet economy companies, described by *TechInAsia* as "arguably the top brand in the archipelago for online payments."³⁴ Having grown from fewer than 20 employees to around 160, with transactions revenues up from IDR2.5 trillion to IDR6.8 trillion (USD190 million to USD522 million) by the end of FY2014.



Doku was started by COO Nabilah Alsagoff and her colleagues following the Bali bombings and the national mood to demonstrate Indonesia's resilience and the country's future. After experimenting with a portal for tourists, Doku saw the need for an e-payments gateway for Indonesia's growing e-commerce market. Originally branded NISA Pay, the first product was an integrated payments system for corporate B2B transactions capable of processing all types of payments, from credit and debit cards and PayPal transactions to bank transfers. Clients came first from the insurance and airline sectors, but Doku has since expanded to include merchants in industries as varied as property, food and beverage, marketplaces, and transportation.

This flagship product remains the most significant source of revenues today, but Doku has subsequently launched two additional products in new high growth areas: Doku Wallet and Doku MyShortCart.

- Subscriber numbers for Doku Wallet hit 100,000 in December 2014 and 150,000 just three months later. According to Doku, the main markets for Doku Wallet are the 18-40 year demographic, university students, first jobbers and urban families.
- Doku MyShortCart is aimed at SMEs (rather than micro-SMEs). By signing up with Doku, merchants need to neither own nor operate an online store; they simply register with Doku and the payments gateway is immediately available to their customers. This is a differentiator for Doku in attracting SME merchants whose numbers have tripled in the past 12 months. Driving the growth is the growing use of cards as the market matures, and the need for a secure means of payment along with transaction reconciliation tools.

³⁴ Doku (2015), "Nabilah Alsagoff and the Story Behind DOKU, Indonesia's Epayments Pioneer", <http://dukupay.com/demo/dokunewsroom/index.php?post=nabilah-alsagoff-and-the-story-behind-doku-indonesians-epayments-pioneer>

Doku provides a good example of the growing maturity of Indonesia's e-payments and e-commerce markets, starting from a low base but expanding fast. As Doku expands from B2B to B2C more customers want to use mobile devices and merchants registered with Doku are adapting to this. In this way Doku is also facilitating the reach of overseas merchants into the Indonesian market with local payments.

Doku is now looking to grow business in the islands outside Java where the company sees the potential as being very large. It has also begun expanding into overseas markets with the first venture being partnership with Air Niugini, the national airline carrier of Papua New Guinea.

Recent changes in banking regulations will assist the growth of m-payments as this new payments channel opens up. An important feature of Doku is that its overseas e-payments are managed through Indonesia. As a result, regulations to date have not been seen as a hurdle to Doku, including in the management of outward payments to overseas merchants.

Takeaways

- A well-designed, well-targeted and flexible business strategy in the Internet economy can build success very rapidly in a nascent but fast expanding market
- Reliability and security remain paramount features of e-payment and e-commerce growth, as these are service businesses requiring trust to be built
- A business model that removes barriers of entry for SMEs is especially relevant to markets such as Indonesia

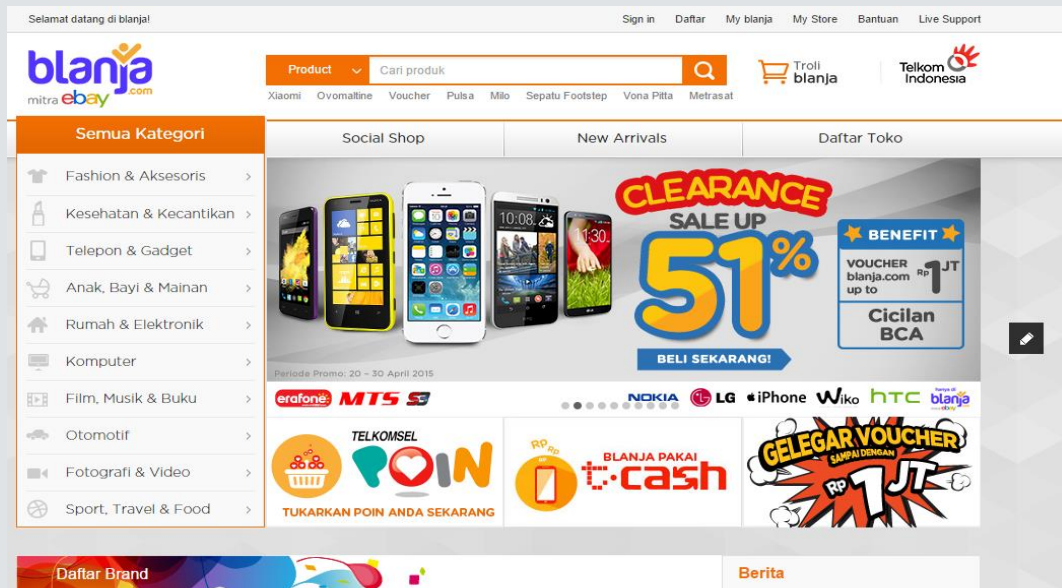
M-payments and B2C

Over recent years nearly 20 specialist e- and m-payments companies have started-up. Among the e-payment providers are, for example, online banks and payment websites KlickBCA, bankmandiri.co.id, bni.co.id, and payment gateways such as Doku, iPaymu, iPay88, Veritrans, IndoMog, Ayopay, Coda Payment, as well as global companies such as PayPal, AliPay, etc. The mobile operators all offer their own m-wallet and SIM payment and transfer services. Given the growing percentage of online payments conducted by wireless mobile devices, recent changes in regulations have been important.

It used to be the case that the use of mobile phones for online payments was mostly restricted to mobile networks in tie-ups with the large banks or using SIM card transfers. The use of m-wallets was difficult due to restrictions on the use of cash-in and cash-out agents, but amendments to the e-money regulations in 2014 have changed the

landscape. The Bank of Indonesia has relaxed capital requirements for banks who wish to appoint agents, although agents can work for one bank only, and cash-out outlets are no longer required to have a remittance licence. The Financial Services Authority (OJK) formed in 2013 now regulates branchless banking, allowing mobile service providers to offer savings, micro-loans, micro-insurance and money transfers, and has removed restrictions on the number of daily transactions and reduced the required minimum balance to zero. Any government endorsed document can now be used for identification for Know-Your-Customer (KYC) rules, removing an obstacle to signing up customers. These revisions to regulations can only help spur the growth of m-commerce, whether it is in the games, fashion, food, electronics, or online bookings markets. These are the consumer markets now driving the Internet economy in Indonesia.

Case: Blanja



Blanja began operations in 2014, and is the e-commerce site of MetraPlasa. MetraPlasa was established in 2012, owned jointly by Telkom Indonesia (60%) and eBay (40%). eBay has announced their intention to raise their share to 49%.³⁵ MetraPlasa is the consolidation of the e-commerce and media interests of the two companies, who decided to fold an earlier start-up, Plasa.com into Blanja.com. By 2014 Telkom and eBay had jointly invested nearly USD14.2 million into Blanja. Given it remains early days for Indonesia's venture capital market, having corporate parents is an important means of sustaining start-ups.



Blanja is a C2C marketplace but does not offer an eBay-style auction, so there is no bidding, and unlike many rival sites, such as Tokopedia and BulaLapak, merchants have first to obtain a business permit. Because Blanja does not operate an escrow account the insistence on business permits can be seen as a way to enhance customer trust.³⁶ To attract merchants, Blanja charges neither joining fees nor commissions on sales. Delivery fulfilment beyond Jakarta is also given free to merchants and sellers in Jadodetabek, Surabaya and Bandung.

Nevertheless, while Blanja already claims to have more than a million products on its site from

³⁵ L. Cosseboom (2014), "Ebay Wants to Buy into Indonesia's Ecommerce Race, set to Increase Shares in Blanja", <https://www.techinasia.com/ecommerce-indonesia-blanja-telkom-metraplaza-ebay/>

³⁶ E. Lukman (2013), "eBay Quietly Arrives in Indonesia Under the Name Blanja", <https://www.techinasia.com/ebay-quietly-arrives-indonesia-blanja.com/>

nearly 600 sellers, the growth in visitor numbers still lags with 20,000 per day in January 2015 according to Alexa.com,³⁷ far fewer than the daily page views claimed for Qoo10, another eBay joint venture (this time with a South Korean partner). A spokesperson for the company pointed out that while “Currently the revenue contribution of ecommerce to our business remains small... we estimate the contribution could reach 10% within 2-3 years.”³⁸

Takeaways

- The building blocks in this case are being put in place, one by one.
- For start-ups, feeder traffic is important. Having a leading local telecom company involved should help, but e-commerce is not the core competency of a telco. Hence MetraPlasa as a focused stand-alone company has more chance to develop the expertise.
- Still, Telkom is in a good position to direct mobile traffic to the site and promote m-payments, and is well positioned to help merchants stimulate online retailing and build that part of the ecosystem.
- Start-ups with foreign partners often enjoy the advantages of ready-to-hand expertise, but that does not always mean rapid growth. More important in the early years is sustainability. Growth on its own can mean unsustainable costs.
- Blanja opens the door potentially to a global marketplace when Indonesia’s Internet economy is in a position to take advantage.

³⁷ Alexa (2015), “How Popular is Blanja.com?”, <http://www.alexa.com/siteinfo/Blanja.com>

³⁸ L. Cosseboom (2014), “Ebay Wants to Buy into Indonesia’s Ecommerce Race, set to Increase Shares in Blanja”, <https://www.techinasia.com/ecommerce-indonesia-blanja-telkom-metraplasa-ebay/>

Recommendations

1. Clarification is required on the laws and regulations governing e-commerce: what are the definitions of public and private services, and the scope of regulations applying to either; what are the restrictions, if any, on foreign investment and the role of foreign companies entering the Indonesian market. This needs to be done to benefit local companies looking for partnerships as well as for foreign companies participating in the market.
2. Policies should prioritize the framework for building of local Internet ecosystems, to support the growth of e-commerce as a leading sector towards a digital economy, and to facilitate the creation of auxiliary sectors, such as devices production and distribution, or operational and design skills .
3. To drive access and digital participation, the availability of access *devices* will need to remain open and competitive.
4. Government should increase its consultation with industry bodies as the digital economy broadens in scope into other arenas of the economy such as health, education, logistics and so on. This will only increase in importance and should include aspects of capacity building for officials.

Japan's Leveraging of the Digital Economy

Japanese leadership in connectivity and all things digital is long established. The country's Internet infrastructure is extensive and advanced, with arguably the fastest and cheapest broadband services in the world. Policymakers, however, continue to look for ways to snap Japan out of two decades of near economic stagnation and re-galvanise the country's competitive edge.

Demographics are once again important. Japan is an aging society, indeed it is the first OECD country whose population growth has turned negative. In this environment a critical factor in effecting a successful transformation will be the extent and quality of education and skills training available. Key challenges for Japan in this regard include:

- The increasing need for reskilling and continuous learning – especially for older workers.
- A divide between universities and the business community in responding to the needs for new knowledge and the skills required in today's digital economy.
- The limited employment opportunities for the educated – and particularly for women.

According to the World Economic Forum and the OECD, Japan's educated women continue to be underutilized. In 2013, while 93% of men with a university-level or an advanced research degree were employed, this was true of only 69% of similarly educated women.³⁹ The 2013 Global Gender Gap Report cited that "closing the gap between male and female

employment would boost Japanese GDP by as much as 16%."⁴⁰ At the same time, the number of students entering universities from high school is declining. About half of all 18 year-olds continue their studies after high school and receive tertiary education from a university – lower than the OECD average of 60%. Furthermore, only 2% of Japanese aged 25 and above participate in learning organized by the formal education system, while the OECD average is 10%, suggesting that Japanese adults rarely return to formal education after they begin working.⁴¹

This is partly due to a lack of support and incentive for continuing education, particularly in the workplace. But because of the rapid advance in technology and service industries, new and more specialized skills need to be acquired on a more frequent basis, meaning an increasing need for professional continuing education. In other words, *Japan's education system needs to adapt and innovate to cope with changing demographics and the evolving demands of the labour market.*

Japan has been attempting to address these challenges through various e-learning approaches, with the government's "*Second Basic Plan for Promoting Education*" released in June 2013 specifically mentioning the use of open courseware and MOOCs to improve the quality of university education.⁴² A major

³⁹ OECD (2014), "Japan: Overview of the education system (EAG 2014 and EAG 2015 Interim Report)", <http://gpseducation.oecd.org/CountryProfile?primaryCountry=JPN&treshold=10&topic=EO>

⁴⁰ World Economic Forum (2013), "The Global Gender Gap Report 2013", pp.31, http://www3.weforum.org/docs/WEF_GenderGap_Report_2013.pdf

⁴¹ OECD (2014), "Education at a Glance 2014 - Country Note: Japan", <http://www.oecd.org/edu/Japan-EAG2014-Country-Note.pdf>

⁴² Global Statement (2014), "Targeting regional learners with Japanese MOOC",

milestone for e-learning in Japan was the establishment of the Japanese Open Courseware Consortium (JOCW) in 2005, two years after the Massachusetts Institute of Technology (MIT) launched its open courseware. JOCW currently has 41 members, including 21 universities that have made available 3,000 courses online.⁴³ These are basically uploads of video lectures or course content that are accessible to anyone with an Internet connection.

The difference between open courseware and MOOCs is that the latter includes interaction with teachers and between students, as well as homework assignments, tests and the issuance of certificates of completion. Their business models are also different. OCWs are run by universities themselves targeting mainly teachers and students. MOOCs started off among universities but corporations are now also looking at MOOCs for recruitment and employee training. Moreover, a variety of ICT companies have emerged to help facilitate these courses. The most popular MOOC providers are Coursera, edX and Udacity. However, only two Japanese universities have made their courses available through these MOOC providers so far— Tokyo University in Coursera and Kyoto University in edX—and their MOOC courses are in English only.

To promote MOOCs in Japanese, a group of leading universities and corporations in Japan came together towards the end of 2013 to form the *Japan Open Online Education Promotion Council*, now more commonly known as JMOOC.

<https://globalstatement.wordpress.com/2014/10/01/tar-geting-regional-learners-with-japanese-mooc/>

⁴³ Y. Fukuhara (2014), “JMOOC: Massive Open Online Courses from Japan, in Proceedings of OpenCourseWare Consortium Global 2014: Open Education for a Multicultural World”, http://conference.oecconsortium.org/2014/wp-content/uploads/2014/02/Paper_76-JMOOC.pdf

Case: JMOOC

JMOOC, the result of universities and corporations in Japan coming together to promote the development of MOOCs in Japanese, is not one, but several unintegrated platforms:

1. Gacco, managed by NTT DoCoMo and NTT Knowledge Square;
2. OUJMOOC, managed by the Open University of Japan; and,
3. Open Learning, managed by NetLearning.

Gacco, OUJMOOC and NetLearning each have their own separate platforms that do not clearly interoperate. The Gacco platform is built upon the open-source open edX platform with a customized front end. OUJMOOC, managed by the Open University of Japan, uses the CHILO Book system developed by a non-profit organization in Japan. This system is a mash-up of multimedia e-textbooks (iBook and epub for self-learning), social networking services (Facebook for registration and learner community, and YouTube for video delivery), the Moodle learning management system for the management of quizzes and checklists, and the Mozilla Open Badge for evaluation. OpenLearning uses a platform developed by NetLearning.⁴⁴

Gacco is managed by Japan's dominant mobile phone operator NTT DoCoMo and NTT Knowledge Square. It is not surprising therefore that courses offered by Gacco can be accessed through a variety of access devices: computers, tablets and mobile phones. A partner in Gacco is Flipped Learning Technologies, an organization that works to research and create blended learning environments. It is offering a 'flipped classroom' in some of the online courses, for a fee. The flipped classroom is a form of blended learning in which students learn new content online by watching video lectures, usually at home, and what used to be homework is now done in class with teacher offering more personalized guidance and interaction with students, instead of lecturing.⁴⁵ Many in the industry see this as the wave of the future, so one of the interesting issues with Gacco will be to see how the older demographics taking the courses respond. As of April 2014, about 50,000 people, *mainly in their 30s to 50s*, registered for Gacco courses. Gacco's future plans include the provision of student transcripts for career change purposes and professional development certificates.



NTT Shareholders Newsletter Jun 2014, Special Feature 2: Launched "Gacco," Japan's first "Massive Open Online Course" site⁴⁶

One of the inaugural courses on JMOOC delivered by Prof. Kazuto Hongo of the University of

⁴⁴ T. Yamada (2014), "Development of MOOCs in a Japanese Open University, in Proceedings of OpenCourseWare Consortium Global 2014: Open Education for a Multicultural World", http://conference.oecconsortium.org/2014/wp-content/uploads/2014/02/Paper_72-OU-Japan.pdf

⁴⁵ Wikipedia, "Flip teaching", http://en.wikipedia.org/wiki/Flip_teaching

⁴⁶ NTT (2014), "Special Feature 2: Launched "gacco," Japan's first "Massive Open Online Course" site", http://www.ntt.co.jp/ir/library_e/nttis/201406/feature2.html

Tokyo on “Freedom and Equality in Medieval Japan” had 6,800 participants. And of these, the average age was 47 years for men and 42 for women.⁴⁷ Gacco also intends to attract learners from other countries by providing subtitles in multiple languages.⁴⁸

A secondary motivation in the establishment of JMOOC was to enable the collection and analysis of educational data through the platforms to enable these courses to be more tailored to the individual needs of students and working professionals.⁴⁹ And to this end it will be interesting to see if the JMOOC providers will move towards sharing educational data for improving course content and learning methodologies, and collaborating to address issues such as the establishment of a standardized online course accreditation process, academic institutions’ acceptance of online course credits, and corporations’ recognition of online course certification.



OUJMOOC platform powered by CCS-TIES “CHiLO Book” System⁵⁰

Takeaways

- Building on the lessons learned from existing MOOCs, JMOOC intends to be a collaboration between academia and corporations, and focus on lifelong learning as well as professional development to meet the training and recruitment needs of corporations
- Nevertheless, the essence of a digital economy are applications that work seamlessly across different networks. It is important that platforms across different networks interoperate so that applications, learning contents and the big data generated can be shared and made ubiquitously available.
- The capture, storage and analysis of large volumes of data can be used to improve education and support development efforts. New approaches to learning and instruction, such as ‘flipped classrooms’ will particularly benefit from data analysis of their impacts.

⁴⁷ Global Statement (2014), “Targeting regional learners with Japanese MOOC”,

<https://globalstatement.wordpress.com/2014/10/01/targeting-regional-learners-with-japanese-mooc/>

⁴⁸ NTT (2014), “Special Feature 2: Launched “gacco,” Japan’s first “Massive Open Online Course” site, NTT Shareholders’ Newsletter”, http://www.ntt.co.jp/ir/library_e/nttis/201406/feature2.html

⁴⁹ JMOOC (2013), “About JMOOC”, <http://www.jmooc.jp/en/about/> and http://www.jmooc.jp/wp-content/themes/jmooc/pdf/JMOOC_Summary_en20131011.pdf

⁵⁰ T. Yamada (2014), “Development of MOOCs in a Japanese Open University”, http://conference.oeconsortium.org/2014/wp-content/uploads/2014/02/Paper_72-OU-Japan.pdf

Apart from JMOOC, there are many other Internet businesses taking advantage of the online education trend for all age groups and education levels. For instance, Smart Education develops education apps for pre-schoolers. Downloads had surpassed 10 million by November 2014.⁵¹ ClassDo, a Japan-based online tutoring site for high school students connects teachers and students from about 140 countries.⁵² Schoo, a Tokyo-based MOOC start-up provides live-streamed lectures on the Internet with interactions between users and lecturers.⁵³ Online Cram School is another start-up that operates a live-streamed online lecture service for junior high school students. Live streaming is available for free, but watching recorded lecture programmes requires a fee. Juken-sapuri, an online learning platform for high school students with 1.1 million users, introduced a set of new classes called Yononaka that focus on 21st century skills such as modern communications skills development, with an emphasis upon critical thinking, in response to the Japanese government's university reform action plan in 2013 to introduce a new test system that will assess students' acquisition of 21st century skills in problem-solving skills, critical and creative thinking, collaboration, etc.⁵⁴

An interesting additional point has been the uses of data-mining being enabled by e-learning – both by teaching practitioners and the existing educational system, as well as by the new Internet-based businesses who are moving into the sector. Analytics tools can be used to collect data about who the learners are, what they know, what they don't know, and where they are having difficulty. By identifying and analysing patterns in educational data, technology can, for example, personalize the learning process, assess student progress and guide class lessons, and measure the effectiveness of learning content. This is broadening out both the scale and scope of education beginning to be offered in Japan. Such data applications are of course not limited to the education sector, they are increasingly being applied to ever more traditional sectors, such as agriculture in Japan.

⁵¹ Edmaps (2015), "Smart Education Apps Have Surpassed Over Ten Million Downloaded! What are the Reasons Behind Their Rapid Progress?",

<http://edmaps.co/en/moocsnews/smart-education/>

⁵² Edmaps (2015), "ClassDo, an Online Education Starup, Connects Teachers and Students Across 138 Countries Using Their Unique Services",

<http://edmaps.co/en/moocsnews/classdo/>

⁵³ Global Statement (2014), "Targeting regional learners with Japanese MOOC",

<https://globalstatement.wordpress.com/2014/10/01/targeting-regional-learners-with-japanese-mooc/>

⁵⁴ Edmaps (2015), "Unique Classes for High School Students! "Yononaka", Launched on Juken-sapuri by Kazuhiro Fujihara Explores How to Develop Students' Abilities to Survive in the Real World",

<http://edmaps.co/en/moocsnews/jyukensapuri/>

Japan's Food Security

Food security in Japan, primarily in rice, has traditionally relied upon subsidies to farmers and prices determined by state controls, not by the international market. The very possibility of a Trans-Pacific Partnership trade agreement that would open the Japanese market to produce from overseas raises question marks over the competitiveness and the productivity of Japanese farming. A further issue is the percentage of employment in agriculture which has declined from over 7% in 1990 to under 4% by 2010 at 2.6 million, and had fallen by almost half again to 1.5 million by 2013, of whom only 420,000 were engaged in farming full-time.⁵⁵

The threat comes from countries with higher levels of productivity and lower prices. In the USA the size of farms is vastly larger and the use of technology substantially more advanced. Over 70% of farms in the US with sales over USD250,000 use the Internet for their farm business, while over 40% of smaller farms are online, either to access information or to sell their produce. The larger farms use networked sensors and cloud computing apps to monitor their fields and control devices such as sprinklers and even tractors. The signs are that now Japan is starting to face up to the challenge.

Major Japanese IT companies are designing cloud-based services for use by farmers: Fujitsu launched an agricultural data management service, Akisai, in 2012; NEC has a cloud-based system to monitor

environmental conditions in greenhouses; PS Solutions, an affiliate of Softbank, has developed a farm field monitoring system to improve cultivation methods; and NTT East is testing a long distance farm monitoring system using wireless communications.⁵⁶

⁵⁵ Trading Economics (2010), "Employment In Agriculture (% of Total Employment) in Japan", <http://www.tradingeconomics.com/japan/employment-in-agriculture-percent-of-total-employment-wb-data.html>; The Economist (2013), "Farming in Japan, Field Work", <http://www.economist.com/news/asia/21576154-fewer-bigger-plots-and-fewer-part-time-farmers-agriculture-could-compete-field-work>

⁵⁶ T. Kato (2014), "Japan's Tech Firms Rush into Agriculture Business", <http://www.japantimes.co.jp/news/2014/11/07/national/science-health/japans-tech-firms-rush-into-agriculture-business/>

Case: Aeon Agri Create

"We had no experience or knowledge to help us. However, as a business, we had to steepen the learning curve, to learn what farmers usually spend decades finding out."

— Mr. Yasuaki Fukunaga, President of Aeon Agri Create.

Established in 2009, Aeon Agri Create is a farming subsidiary of the Aeon Group, which includes one of Japan's leading supermarket chains. Aeon Agri Create manages 15 farms covering over 200 hectares in different locations across Japan, with the harvest sold at Aeon supermarkets in the capital and surrounding areas.⁵⁷ *Most of the farmers on the Aeon farms are tech-savvy young professionals but with little or no experience in agriculture, but Aeon Agri Create is using ICT tools to make crop production and management easier, smarter, and less-dependent on the experience and instincts of expert farmers.*



Sensors measuring temperature and humidity at a test site for Fujitsu's cloud-based farming system in Numazu, Shizuoka prefecture⁵⁸

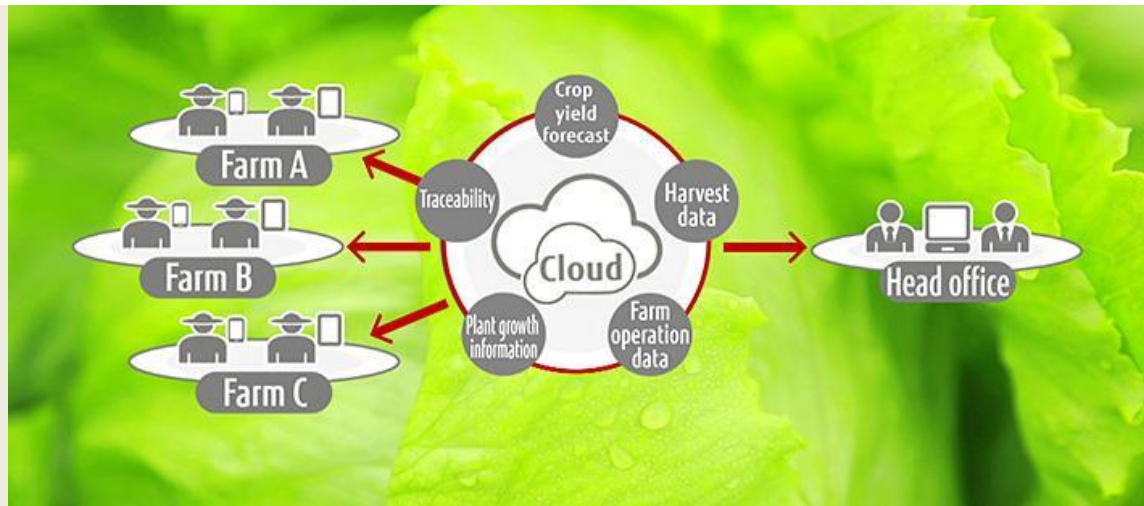
Aeon's farms use Fujitsu's Akisai cloud computing service. Akisai with its network of smart devices and sensors that are linked to a data centre forms the basis for daily farm operations and monitoring. Farmers use mobile devices equipped with GPS to input and track the pesticides and fertilizers used, gather data on farming operations, record plant conditions, and photograph scenes of farming and plant diseases. Additionally, sensors are used to regularly monitor the weather and soil conditions in all the farms. Sprinklers, fans and heaters can be operated remotely, or automated to respond to changes in heat and moisture tracked by sensors. All these data are collated, analysed and shared in real time through Akisai to the 15 Aeon Agri Create farms as well as to the head office.

For instance, analysis of the data gathered from planting Japanese mustard spinach has suggested that crop yields per hectare could be improved by up to 33% when sunlight and heat are used to eradicate weeds and when the best harvesting time is selected. Aeon has applied these objective data-driven results to produce greater yields in the following season. According to Fujitsu, Akisai has helped to increase the quantity of produce from 30% to 60% and reduced the often excessively long working hours undertaken by farmers by up to 23%.⁵⁹ When farm-generated data is incorporated with point of sale data, farm production can be matched with consumer demand, thus further enhancing Aeon's efficiency and competitiveness.

⁵⁷ Fujitsu (2014), "Aeon Agri Create Co., Ltd.: Transforming Farming by Exploiting ICT", <http://www.fujitsu.com/global/vision/2014/casestudy/aeon-agri-create/>

⁵⁸ S. Knight (2014), "Silicon to Spinach: Japan Tech Helps Farmers Cope with Climate Shifts", <http://www.reuters.com/article/2014/08/19/us-japan-tech-farming-idUSKBN0GJ25C20140819>

⁵⁹ Asian News International (2014), "Akisai Food and Agriculture Cloud Services boost agriculture in Japan", <http://retail.economictimes.indiatimes.com/news/food-entertainment/grocery/akisai-food-and-agriculture-cloud-services-boost-agriculture-in-japan/29255301>



Aeon Agri Create uses Fujitsu's Akisai Cloud to collate and share information among its farms⁶⁰

Takeaways

- Japan sees a need in boosting the agriculture sector as a strategy for overcoming the challenges related to food security, local economic development and job creation. ICTs, such as cloud services, mobile broadband networks, mobile devices and apps, and big data analytics can stimulate innovation and growth in this sector.
- Network sensors not only make it easier to observe, monitor, measure and control the surrounding environment, the data collected can provide valuable information for optimizing agricultural production, minimizing waste (e.g. from pests or adverse weather events), and increasing safety standards (e.g. improving logistics).
- Organisations able to leverage the data and interpret it intelligently will gain a competitive edge.

⁶⁰ Fujitsu (2014), "Farming Innovation Using ICT - Aeon Agri Create Co., Ltd.", <http://journal.jp.fujitsu.com/en/2014/11/10/02/>

Recommendations

Japan faces an aging population which poses the strategic issue of how to adapt a smaller but younger workforce to the fast changing structures of industry and an evolving trading environment.

1. Japan's global leadership in digital industries, such as consumer electronics, motor vehicles, etc., has faced difficulties in keeping pace with an apps-led and social media-fed 'consumerisation' of world trade and investment. These are the challenges of being an advanced digital powerhouse, the challenge of changing directions. The human factor is a crucial element in meeting this challenge, a digitally-empowered workforce that is constantly capable of reinventing itself.
2. The case study of MOOCs illustrates both the possibilities of on-the-job retraining and skills upgrading, and the need to make these courses interoperable across platforms to maximize their effectiveness and accessibility. MOOCs can be run privately, but they can also become part of a national matrix of such online courses, widely available to people of all ages. They need scale, they need pedagogical diversity (online, classrooms and group collaborate learning) and they need accreditation mechanisms to succeed.
3. An especially important part of the economy for social and for food security reasons is Japan's agricultural sector, hampered by the small scale and non-contiguous nature of farms, and an aging population of farmers. Under these circumstances it is difficult to apply digital technologies on a large scale, yet advances in cloud computing technologies do now allow for crop management and information systems to be adopted. This has the additional advantage of attracting younger tech-savvy farmers into the business who otherwise have little background or expertise in farming. ICTs are also being used also to provide buyers and consumers with online quality assurance guarantees, and the issue of quality is the competitive advantage that Japan has. Policies should emphasize and facilitate these developments.

Korea's Digital Economy

South Korea emerged as one of Asia's digital powerhouses in the late 1990s. Home to Samsung and ubiquitous smartphone penetration, it is also a world leader in broadband penetration and bit rates.⁶¹ Consequently, the Korean population tends to be tech savvy and ahead of the digitization curve. The financial service industry is a case in point with more than 93 million Internet banking accounts in 2014, 45% of which were smartphone-based.⁶²

However, the emergence of the *financial technology* (fintech) sector is forcing changes to an industry that has been marked by sluggish growth, tight regulation and relatively institutionalized access.⁶³ First, the government lifted a decade-old security policy – the mandated use of ActiveX-based “public digital certificate” for online banking and e-commerce transactions – that had constrained the country's online payment system.⁶⁴ President Park Geun-Hye summed up the irony of the backward digital finance system by noting that ActiveX and public digital certificates were stopping Chinese consumers from buying merchandise of Cheonsong Yi – the character in a leading

Korean romance drama –from Korean online shopping malls.⁶⁵

The encryption technology of the public certificate⁶⁶ was initially developed by the Korean government in 1990 to secure banking and commerce transactions on the Internet.⁶⁷ While being ahead of curve at the time, compulsory use of the proprietary authentication technology has long acted as a barrier to innovation and to foreign entities wanting to participate in the Korean online banking and e-commerce space. Banks had to optimize their online offerings exclusively to the Internet Explorer(IE) browser, while users became accustomed to additional plug-ins, security patches and cumbersome authentication processes that came along with it.⁶⁸

In 2014 the Financial Services Commission (FSC) announced plans to remove hurdles for non-financial companies to enter the market, emphasising that the promotion of high-value fintech would be a priority for 2015 with

⁶¹ OECD (2014), “OECD Broadband Statistics Update”, <http://www.oecd.org/sti/broadband/broadband-statistics-update.htm>

⁶² Etnews (2014), “인터넷뱅킹 등록자 1억명 육박...급증하는 스마트폰 뱅킹이 성장 동인”, <http://www.etnews.com/20140819000302>

⁶³ AsiaOne (2015), “Korea's Fintech: Boon or bane”, <http://business.asiaone.com/news/koreas-fintech-boon-or-bane>

⁶⁴ Wall Street Journal (2014), “Consumers Push Park to Pull the Plug on ActiveX” <http://blogs.wsj.com/korearealtime/2014/03/28/consumers-push-park-to-pull-the-plug-on-activex/>

⁶⁵ Cheonsong Yi is a character in “My Love from the Star.” Merchandise from the show, including jewellery and clothing worn by Cheonsong Yi, triggered a wave of interest in purchasing various related materials through various online shopping malls including Taobao and JD.com. See http://china.join.com/portal/article.do?method=detail&total_id=14227519.

⁶⁶ The public certificate is an individual digital signature based on Public Key Infrastructure(PKI), for transactions amounting more than USD 300

⁶⁷ G. Shukla (2012), “How South Korea Became Slave to Microsoft Internet Explorer”, <http://gadgets.ndtv.com/internet/news/how-south-korea-became-slave-to-microsoft-internet-explorer-223429>

⁶⁸ BusinessKorea(2015), “ActiveX Actively Going: South Korean Gov't to Repeal Active X Security Requirement”, <http://www.businesskorea.co.kr/article/9936/activex-actively-going-south-korean-gov%E2%80%99t-repeal-active-x-security-requirement>

support given to foster fintech start-ups and a task force formed to examine existing laws and regulations.⁶⁹

These developments are a reaction to global trends and a recognition that Korean business has fallen behind and Korean society is not enjoying the full benefits of digital enablement. Around the world, fintech companies are disrupting existing business models and changing the landscape of financial services in fundamental ways. Google Wallet, PayPal, Apple Pay, Square and Alipay, all provide examples of non-traditional financial players now engaging consumers and businesses in financial arenas such as crowdfunding, peer-to-peer lending, algorithmic asset management, thematic investing and payments, and so on. The combined forces of social media, mobile devices, business analytics and cloud computing are proving to be formidable and are challenging the banks as the traditional bastions of financial power. They are also rapidly broadening out access to financial markets and financial tools in a way that will have wide-ranging benefits to consumers, small businesses and civil society.

Thus, despite being home to global smartphone makers Samsung and LG, the fact that fintech is still a relatively new industry in Korea has given rise to some introspection. For example, no Korean companies were on IDC's list of the "world's top 100 fintech firms",⁷⁰ and the debut of Daum-Kakao's KakaoPay lagged several years behind AliPay. While the government continues to ramp up

its efforts to encourage participation by the start-ups and tech companies,⁷¹ there has not been a mad rush to fintech on the part of the tech companies. For example, *citing regulatory uncertainty, neither of Korea's largest Internet companies, Daum Kakao and Naver, have been prepared to compete directly in offering banking services.*⁷² Some industry players also foresee speedbumps in ridding the country of its longstanding dependency of ActiveX-based authentication,⁷³ further stifling innovation in fintech.

But there are also definite signs of change with companies such as Viva Republica, 8 Percent, and Newsy Stock are moving innovatively into the breach. Viva Republica simplifies the way bank transfers can be made. Its mobile transfer app Toss only requires users to type in a recipient's phone or account number and a five-digit passcode to send money. The recipient, who is not required to download the app, receives a URL link through which the money can be deposited into an account. Hurdles however remain, such as required starting capital of KRW1 billion (over USD900,000) for a financial service company and a month long government review process. Regulatory overreach when it occurs can have a chilling effect: 8 Percent was suspended for a period of time by the Financial Supervisory Services from offering P2P lending and crowdfunding

⁶⁹ The Korea Bizwire (2015), "Financial Regulator Vows to Clean out Fintech Restrictions", <http://koreabizwire.com/financial-regulator-vows-to-clean-out-fintech-restrictions/32230>

⁷⁰ J. Hong, G. Kim, D. Kim (2014), "S.Korea's Fintech Industry in Infant Stage", <http://news.mk.co.kr/english/newsRead.php?rss=Y&sc=30800011&year=2014&no=1581752>

⁷¹ Yonhap (2015), "Financial Regulator Vows to Clean Out Fintech Restrictions" <http://koreabizwire.com/financial-regulator-vows-to-clean-out-fintech-restrictions/32230>

⁷² J. Hong (2015), "Daum Kakao, Naver Not to Jump in Internet Primary Banking Business", <http://news.mk.co.kr/english/newsRead.php?sc=30800001&cm=Top%20Story&year=2015&no=33229&relatedcode=&mc>

⁷³ Y. Han (2015), "'액티브X 폐지'를 바라보는 두가지 시선", <http://www.moneyweek.co.kr/news/mwView.php?no=2015032618578062173>

over the Internet.⁷⁴ The company evaluates online loan applications along with the borrower's qualifications and assigns a credit grade that determines interest and fees. Elsewhere in the world, P2P lending is considered one of the most promising areas of fintech.⁷⁵

⁷⁴ Chosun Biz (2015), “금강원, P2P 대출업체 8퍼센트 폐쇄조치”, http://biz.chosun.com/site/data/html_dir/2015/02/04/2015020402585.html

⁷⁵ Lending Club, one of the earliest and biggest P2P lending marketplaces went public in December 2014.

Case: Newsy Stock

“The technology of fintech is just not about mobile or IT. Providing value and profits to individual customers should be at the heart of fintech”

– Moon Hongjib, co-founder and co-CEO, Newsy Stock



Founded in 2011 by a father-son duo, Newsy Stock’s vision is to democratise stock market investment by empowering novice and small time investors through the use of an online and data platform that lowers the cost of access and broadens the scale and scope of the customer and investment bases that sit on either side of the platform.

While there are over 1,900 stocks available on the Korea Stock Exchange, traditional securities firms focus on only around 500 of them, mostly the larger and more expensive stocks, and mostly targeted at institutional investors. In other words, some 75% of Korea’s stocks, including almost all of the smaller and penny stocks are left largely unanalysed. Publicly available information, such as that on the Data Analysis, Retrieval and Transfer (DART) system – Korea’s repository of corporate filings – tends to be too complicated for most individual investors to decipher. Newsy’s goal therefore is to provide quality investment information with decipherable intelligence for the mass of small-time, novice and individual investors.

Next-Gen Service

Moon Hongjib, co-founder and co-CEO of Newsy Stock, considers himself the first generation of fintech service in Korea. As VP and CIO at Daeshin Securities, one of the first brokerage firms in Korea, Moon was responsible for pioneering Korea’s first-ever Home Trading System (HTS) – Cybos – and selected as one of the ‘50 Stars of Asia’ by *BusinessWeek* in 2001.⁷⁶ Hongjib left Daeshin in 2011 with the vision to make quality investment intelligence accessible to all. Ryan Moon, Hongjib’s son and co-CEO, subsequently left his asset management job with Polaris Securities (now Yuanta Securities) to join his father’s vision.

⁷⁶ Bloter.net (2015), “[K핀테크] 고객이 돈 벌게 해줘야 진짜 핀테크”, <http://www.bloter.net/archives/222688>

Multi-channel offerings of Newsy Stock



The Newsy Stock quant engine is a culmination of the financial engineering and industry know-how of the father-son duo. The Moon's developed an algorithm that predicts stock momentum based on more than 20 factors for each stock. Stock prices are then normalised, assigned a relative percentile score, and ranked. A portfolio of recommended stocks are selected based on further algorithmic simulation. In 2014 this portfolio averaged 146% profitability.⁷⁷

Newsy stock sees a lot of headroom for both improvement and growth. For one, while the Newsy Rank service is completely automated, the portfolio service still requires human intervention to reflect external events that may affect stock market performance. Database management and ensuring data integrity also requires human touch. Second, the firm is ramping up for overseas expansion, starting with Hong Kong and adding Chinese services during late-2015.⁷⁸

The company already has over 150,000 subscribers, mostly on trial services. Ironically, given its ambitions, Newsy is also proving to be a boon to many brokerage firms that had previously had to cut their commissions to remain competitive. Looking to increase their customer base, they have been able to use the Newsy service themselves to attract small investors. Kisum Securities, for example, were now able to increase commissions 100% based on the higher quality information they were able to re-sell from Newsy Stock.⁷⁹

Ryan Moon is eyeing further opportunities within fintech but hopes to see Know-Your-Customer (KYC) regulations relaxed, "The face-to-face requirement (to open bank or insurance accounts) was made in an era before online transactions became mainstream."⁸⁰

Takeaways

- While South Korea has lagged in fintech – due largely to restrictive security regulations and a traditionally siloed approach – there are increasing signs of innovative development from start-ups such as Newsy Stock and 8 Percent, as well as Internet stalwarts such as Daum Kakao, with both disruptive and global aspirations.

⁷⁷ Microsoft (2015), "달걀을 여러바구니에 나눠 담으라고? 어느 바구니에?", https://www.imaso.co.kr/news/article_view.php?article_idx=20150225111505

⁷⁸ TechNode (2015), "NewsyStock Helps Investors Master the Market," <http://technode.com/2015/01/16/korean-startup-interview-newsysstock-helps-individual-investors-know-secrets-market/>

⁷⁹ TechNode (2015), "NewsyStock Helps Investors Master the Market," <http://technode.com/2015/01/16/korean-startup-interview-newsysstock-helps-individual-investors-know-secrets-market/>

⁸⁰ According to the Act on Real Name Financial Transactions and Confidentiality, no financial institutions are allowed to open accounts for non face-to-face customers.

- For strategic reasons, South Korea sees a need to maintain a tight rein on the banking and financial systems, not least in the area of cyber security.
- As a result, regulatory uncertainty appears likely to continue to deter traditionally strong financial services players as well as certain major tech companies from challenging the banks with alternative business models
- But the need to also encourage innovation and spur economic competitiveness means that for the aggressive and nimble, the opportunities to leverage South Korea's tech strengths can bring rapid rewards and growth opportunity.

The Digital Path to Food Delivery

Korea has distinct food cultures that have underpinned the way the food service industry has developed. These traits are most evident in the range of vocabulary related to eating out or ordering in. *Woisik*, or ‘eating out’, as a term for lunch or dinner is a norm in many workplaces in Korea. 24-hr restaurants serving *yasik* or ‘night snacks’ dot city streets catering to students studying late or to bar goers seeking a midnight snack.⁸¹ *Baedal* or ‘delivery’ is used almost exclusively to refer to fried chicken, Chinese or other food outlets that deliver food to the front door.

In the last decade, *matjib* or ‘taste-house’ referring to restaurants with good food, has also been added to the vocabulary.⁸² There is no shortage of contenders vying for the title of *matjib*. According to latest statistics, there are over 636,000 registered restaurants and bars, which translates to one restaurant for every 80 Koreans.⁸³ The industry alone accounts for more than 10% of GDP with a market worth more than KRW68 trillion (USD62 billion).⁸⁴

As a result, competition is stiff. Within a neighbourhood block or a single apartment complex, there are typically multiple delivery restaurants serving similar food. For example, there were more than 300 chicken franchises nationwide by the end of 2014 and more than 43,000 individual stores – *equivalent to 8,000 more stores than there are McDonald’s restaurants globally*.⁸⁵ Many in the industry think the supply has surpassed demand.⁸⁶ In this market, ‘mom-and-pop’ shops with less than three employees dominate.⁸⁷ Typically they are owned and run by restaurateurs in their 40s and 50s with no background in the industry; retirees trying to earn an income after being forced out of a previous job.⁸⁸

Since 2013, when smartphones became universal,⁸⁹ the use of mobiles and related apps have become inseparable from the food industry. A perfect example of digital innovation and the upending of a traditional sector has thus been the advent of food-order apps, aggregating directories of restaurant delivery menus and facilitating customer food orders via the handheld device. Industry

⁸¹ Korea Tourism Board, “Koreans’ Love of Yasik—where delivery is just a phone call away”, http://english.visitkorea.or.kr/enu/AK/AK_EN_1_4_9_4.jsp

⁸² For example, the use of the word *matjib* became so universal to the point that the official tourism sites such as Visit Seoul (<http://www.visitseoul.net/kr/>) use the word *matjib* for restaurant recommendations, and foreign bloggers who blog about the foodie culture in Korea have started to use the word as well.

⁸³ Korea Statistics (KOSIS) (2014), “Number of Establishments by Business Classification”, http://kosis.kr/statHtml/statHtml.do?orgId=101&tblId=DT_1K52B01&vw_cd=&list_id=&scrid=&seqNo=&lang_mode=ko&obj_var_id=&itm_id=&conn_path=K1&path=#

⁸⁴ N. Oh (2013), “[비즈 칼럼] 외식업을 미래 성장동력으로”, http://jilife.joins.com/club/club_article.asp?total_id=12855353

⁸⁵ Korea Joongang Daily (2014), “Forced from Jobs, Retirees Enter a Game of Chicken”, <http://koreajoongangdaily.joins.com/news/article/Article.aspx?aid=2996184>

⁸⁶ Korea Joongang Daily (2014), “Forced from Jobs, Retirees Enter a Game of Chicken”, <http://koreajoongangdaily.joins.com/news/article/Article.aspx?aid=2996184>

⁸⁷ According to the Korea Statistics, 635,740 registered bars and restaurants in Korea hired 1,824,214 people in 2013.

⁸⁸ Korea Joongang Daily (2014), “Forced from Jobs, Retirees Enter a Game of Chicken”, <http://koreajoongangdaily.joins.com/news/article/Article.aspx?aid=2996184>

⁸⁹ As of 2013, the proportion of smartphone users in Korea exceeded 95%, with 73% of mobile Internet users connecting to the Internet through Wi-Fi and 63% already doing so over LTE. According to the Flurry Analytics, Korea is the first country in the world to have reached smartphone saturation.

estimates for the food delivery market in Korea stand at KRW12 trillion (USD105 billion), while the downstream advertising market is estimated to be about one tenth of this, KRW1 trillion (USD880 million), and is anticipated to reach KRW1.5-2 trillion in 2015. Shinhan Finance forecasts the growth of the food delivery app market to be about 20% year-on-year in the next five years.⁹⁰

⁹⁰ Shinhan Finance Investment (2014), "Era of Delivery", http://hkconsensus.hankyung.com/apps.analysis/analysis.download?report_idx=331418

Case: Baedal Minjok



Baedal Minjok, which means “delivery nation” in Korean, was established in July 2010 by Woowa Brothers, a start-up headed by brothers, Bongjin Kim (CEO) and Kwangsoo Kim (CTO), with the simple yet audacious goal of “putting all the food delivery flyers in Korea on a mobile.”⁹¹ Baedal Minjok is a food order app, which does not actually deliver the food itself. Instead, it offers consumers delivery listings for free, while collecting fees from restaurants for premium website listings, and commissions on orders that it processes directly through the mobile app. Within a year of operation, Baedal Minjok boasted more listings of delivery restaurants than Internet portal giants such as Naver or the even the phone directory service, 114. By 2015 it offered delivery listings for 150,000 of the country’s estimated 200,000 restaurants, with 2.9 million active users and over 15 million downloads.⁹² In terms of usage, the company receives 2.5-3 million reviews and processes 5.2 million orders per month,⁹³ recording 40 million orders in 2014 alone. This translates to two delivery orders per household per month across all of South Korea.⁹⁴

Revenues are generated by premium ads that allow listings show at the top of search results, and from orders processed directly through the app on which a commission of between 5.5% and 9% on each order is placed. In 2015, they plan to make the delivery experience more of a one-stop service by including direct payment for the food they deliver via KakaoPay.

Underpinning the strong growth of Baedal Minjok are fundamental digital shifts that have taken place in the restaurant business over the past few years. Mom-and-pop shops have not only started using these apps as a complementary marketing tool, they have embraced the services these apps offer as an essential part of their day-to-day business to analyse their business strategy, to monitor customer experience and the quality of the food they serve. The change is

⁹¹ The Korea Economic Daily (2011), “전국 배달 전단지 앱에 넣은 ‘우아한 형제들’”, <http://www.hankyung.com/news/app/newsview.php?aid=2011071893421>

⁹² Wall Street Journal (2014), “Korean Food-Order Directory Service Seeks to Build ‘Delivery Nation’”, <http://blogs.wsj.com/korearealtime/2015/01/23/korean-food-order-directory-service-seeks-to-build-delivery-nation/> and interview with Hokyong Seong, PR Manager, Woowa Brothers

⁹³ Interview with Ms. Hokyong Seong, PR Manager, Woowa Brothers, March 26, 2015

⁹⁴ According to KOSIS, there are 17.5 million households in Korea in 2014.

apparent in at least two major areas.

First, the business opportunities for small restaurants have expanded dramatically. Before the advent of food-order apps, most delivery restaurants operated in micro-markets within the neighbourhood or apartment blocks. Rarely would such shops venture more than a few kilometres in seeking customers. Now, anyone with a smartphone and within delivery distance can be targeted. Restaurants with good consumer reviews rise up the ranks and receive more orders, even among shops that serve similar types of food. In fact, eight of the 10 top restaurants on Baedal Minjok in terms of ordering volume are “locally-owned mom-and-pop shops, who serve great food but did not know how to connect to customers.”⁹⁵ These shops also make up 60% of Baedal Minjok subscribers.⁹⁶

Second, foodie apps such as Baedal Minjok have taken ads and word-of-mouth campaigns to the online space. A digital ad campaign is arguably cheaper and easier to demonstrate value-for-money. In the past small and micro-scale restaurants typically resorted to flyers, neighbourhood restaurant guides or ads in local newspapers. A front-page ad on a local newspaper, however, could cost KRW150,000-200,000 (USD130-180). Adding the cost of printing and distribution meant that such marketing could easily cost KRW300,000-500,000 (USD250 – 450) a month.⁹⁷ The return on these flyers was difficult to measure. With commission-based fees, restaurants can calculate how many orders they are getting through the app and make decisions on value-for-money effectiveness. According to a survey conducted by Baedal Minjok, mom-and-pop shops spend 25% on Baedal Minjok compared to what was spent previously on flyers – but are seeing twice the benefits in revenue growth.⁹⁸



Features of Baedal Minjok App
(L-R: Types of food, restaurant listing and customer reviews and interactions)

Platform and Growth

Baedal Minjok’s cartoon-like interface belies a wide and comprehensive list of features. Most menus are complete with photos as well as reviews from customers. Once a user selects a menu, the app provides a button to either call the store or order instantly to deliver the food to an address. Users can also pay for the food they ordered on the app, using credit cards, phone bills or KakaoPay (a recently launched mobile wallet) to make the ordering experience hassle-free.

⁹⁵ Chosun Biz (2015), “신유통인] 음식배달 앱시장 의 60% 장악 "주문 순간에도 재미 느끼세요" J, http://biz.chosun.com/site/data/html_dir/2015/01/20/2015012004384.html

⁹⁶ Interview with Ms.Hokyeong Seong, PR Manager, Woowa Brothers, March 26, 2015

⁹⁷ Money Today (2011), “음식 배달, 스마트폰에서 찾아보세요”,

<http://news.mt.co.kr/mtview.php?no=2011021719568158067>

⁹⁸ Interview with Ms.Hokyeong Seong, PR Manager, Woowa Brothers, March 26, 2015

The company is now focusing on beginning its overseas expansion. Its early decisions on key technology features are helping them to expand overseas. In Japan, Baedal Minjok has formed a joint venture, Line Bros. Corp, with messaging app Line. The prospects for accelerated regional growth combined with the scale of its home operations has attracted some USD35 million in funding from a consortium headed by Goldman Sachs.⁹⁹

Takeaways

- Smartphones and innovative apps have digitized the food delivery service sector and became an intrinsic part of the food culture of the country in a matter of years. Previously the sector was dominated by less tech-savvy micro small enterprises who relied on phones and flyers to connect to customers.
- Digitization for merchants allows mom-and-pop restaurants to manage their return-on-investment (ROI) for marketing efforts, monitor customer feedbacks and control quality of their food through smartphones, tablets and PCs.

⁹⁹ Wall Street Journal (2015), "Korean Food-Order Directory Service Seeks to Build 'Delivery Nation'", <http://blogs.wsj.com/korearealtime/2015/01/23/korean-food-order-directory-service-seeks-to-build-delivery-nation/>

Recommendations

1. Making a top-down political commitment is a great starting point to boost the fintech industry but it also needs to be followed by policy making and implementation that are consistent with the intent.
2. Transparent and participatory process of policy review and consultation with the private sector including the start-up community would be necessary to build trust and encourage participation of more businesses to look at the fintech industry.
3. Korean government should use the lessons learned from the past regulations in the finance sector as guiding principles. Recommending technologies that are vendor-neutral, consideration of opportunity cost for safety related regulations and on- and offline harmonisation would be some of the examples.
4. Start-ups innovate and disrupt by pushing boundaries of not only technologies but policies as well. Providing an environment wherein start-ups can experiment and innovate without the fear of getting punished or getting their business taken down is, therefore, very important.
5. Allowing location-based services and digital payments that are aligned with the international markets to take hold in Korea would provide a leg up for Korean companies in the fintech or foodie app businesses to scale overseas.

Vietnam's Nascent Digital Economy

By 2014 there were already more than 40 million Internet users in Vietnam (44% of the population).¹⁰⁰ As in many developing economies in Asia, the Internet economy is being driven by e-commerce, online games, Internet content services, social media and online ads.¹⁰¹ In each of these cases, a supporting ecosystem is developing around them. Yet Vietnam also happens to have one of the most restrictive policies when it comes to regulations on Internet services, including social networking, mobile gaming, over-the-top services etc.

Vietnam has rapidly become one of the most mobile nations on the planet, and crucial to the proliferation of the Internet in Vietnam have been the investments in 3G networks which are comparable to that of the telecom infrastructures in many developed countries, offering speeds of up to 42Mbps.¹⁰² With 3GB of mobile data costing only around USD10, less than 5% of disposable income, it is widely affordable.¹⁰³ And while not everyone in Vietnam can afford a computer, practically

everyone owns a mobile phone, and increasingly a smartphone.¹⁰⁴

E-Commerce and Online Payments

The leading role of e-commerce in transforming Vietnam's economy is already evident. Vietnam's B2C e-commerce turnover was almost USD3 billion in 2014, accounting for over 2% of the country's retail sales, with *customers spending an average USD145 online*.¹⁰⁵ Although cash remains king and 64% of online consumers chose to pay for purchases using cash, as many as 47% are already paying through e-wallets, and 14% use online banking.¹⁰⁶ Underlying the success of e-commerce is the ecosystem of supporting companies focused on logistics, payments and delivery.

¹⁰⁰ Viet Nam News (2012), "Viet Nam Ranks in World's Top 20 Nations For Internet Use", <http://vietnamnews.vn/Economy/228605/viet-nam-ranks-in-worlds-top-20-nations-for-internet-use.html> and ITU (2014), ITU World Telecommunication/ICT Indicators database, Fixed (Wired)-Broadband Subscriptions, Wireless-Broadband Subscriptions, Percentage of Individuals Using the Internet.

¹⁰¹ VietNamNet Bridge (2014), "VN's Internet Company Valued at US\$1 billion", <http://english.vietnamnet.vn/fms/science-it/109179/vn-s-internet-company-valued-at-us-1-billion.html>

¹⁰² Vietnam News Agency (2014), "VN Mobile Carriers Boost 3G in Lieu of 4G Launch", <http://vietnam.vnanet.vn/vnp/en-us/13/102429/news/vn-mobile-carriers-boost-3g-in-lieu-of-4g-launch.html>

¹⁰³ GMGC (2014), "Vietnam's Mobile Game Market: Good News for Developers", <http://site.gmgc.info/en/2014/11/14/vietnams-market-good-news-for-developers/>

¹⁰⁴ A. Do (2014), "Oops. Vietnam Likely have 22 million Smartphone Users, not 33 million", <https://www.techinasia.com/oops-vietnam-22-million-smartphone-users-33-million/>

¹⁰⁵ VietNamNet Bridge (2014), "Vietnam's E-commerce Revenue in 2014 Touched \$3b", <http://english.vietnamnet.vn/fms/business/124154/vietnam-s-e-commerce-revenue-in-2014-touched--3b.html>

¹⁰⁶ VietNamNet Bridge (2014), "Vietnam's E-commerce Revenue in 2014 Touched \$3b", <http://english.vietnamnet.vn/fms/business/124154/vietnam-s-e-commerce-revenue-in-2014-touched--3b.html>

Case: NganLuong



When PeaceSoft's CEO Nguyen Hoa Binh founded PeaceSoft as a software company in 2001, he was still a university sophomore. In 2005 with the growth of the Internet in Vietnam, Nguyen focused PeaceSoft on e-commerce, arranging for its first Series-A investment from IDG, the American venture capital company. A Series-B investment followed from Japan's Softbank in 2008, at which time PeaceSoft's valuation had grown 12 times; this was followed by in 2011 by a Series-C investment from eBay, and in 2013 by a strategic investment from the MOL Group of Malaysia, which has its own regional e-payments systems for merchants and is especially strong in the gaming market.

Today PeaceSoft is one of the leaders in e-commerce and heads a group of companies, including eBay Vietnam, shipping and CoD gateway ShipChung.vn, and warehousing and fulfilment agent BoxMe.vn, among others, with more than 350 staff across five South East Asian locations.



E-Payments

But what was missing back in 2008 as Nguyen recognized, was an online payments system that could mesh into an effective delivery fulfilment mechanism. NganLuong was created to fill the gap by developing in-house an online payment system akin to PayPal for eBay, or Alipay for Alibaba. At the onset NganLuong only employed three staff members, but has now expanded to over 80 staff, 15 of whom are software engineers. As part of PeaceSoft's e-commerce ecosystem, NganLuong is able to integrate e-payments into the transactions process and delivery fulfilment process.

Given the low penetration rates of credit cards and debit cards in Vietnam,¹⁰⁷ NganLuong designed a payment wallet solution, offering multiple types of settlement methods including credit and debit cards, bank transfers, mobile phone billing, ATM payments and others. And while it was not easy to obtain the required e-payments licence from the State Bank of Vietnam, Nguyen feels that Vietnam's e-commerce laws and regulations do not unduly restrict commercial development.

NganLuong also offers an escrow service, where NganLuong holds funds transferred from buyers, and only proceeds to release the money to the seller once the buyer has confirmed receipt of the goods or services purchased. According to Nguyen, "the escrow service is very important in building trust for first time buyers who have had no prior experience with online transactions." To better protect retailers and consumers, in 2012 PeaceSoft signed an agreement with Visa's CyberSource payment management company to adopt CyberSource's payment gateway services, as well as Decision Manager, CyberSource's global fraud-management portal for e-commerce. Retailers benefit from the integration of Decision Manager to prevent online fraud, while consumers benefit from CyberSource's Tokenization service which is built into NganLuong, helping to secure sensitive customer payment details.¹⁰⁸

Revenue and Innovation

NganLuong's payments revenues come from two main sources: the e-commerce payments business, and from games and digital content. Significantly, only 30% of revenues now come from within the PeaceSoft ecosystem, while 70% come from independent merchants involved in B2C and C2C services. NganLuong is connected to 20,000 merchants, three mobile operators, and 24 banks in Vietnam. By December 2014, NganLuong had recorded three million users, 80,000 daily transactions and a monthly transaction volume of USD30 million. Further innovation is taking NganLuong into the m-payments space, developing a mobile-POS and m-payment platform for the Vietnamese market. While online payments will not be replacing CoD any time soon, innovators like NganLuong are helping to slowly introduce consumers and sellers to new forms of payments, opening the doors to a range of online services.

Nguyen has his eyes set on a bigger market, with what he terms "digitalized commerce or d-commerce", meaning an evolution from Internet-based e-commerce to the digitalization of more traditional forms of commerce. According to Nguyen, e-commerce accounts for only 0.6% or USD700 million of transactions each year, compared to a total annual retail market worth USD110 billion.

Regional Outreach

Currently NganLuong only has presence in the domestic market, although it does support overseas merchants who would like to target Vietnamese buyers, particularly gamers. For example eBay.vn only supports domestic C2C transactions, and the sale of products from the US. However Nguyen has outlined his ambitions to expand the service overseas and target cross border e-commerce in Indonesia, Malaysia and South India. The strategic investment from MOL, for example, which bought a 50% stake in NganLuong, turning it effectively into a joint venture, is likely to see both companies partnering in Vietnam and Malaysia.

¹⁰⁷ Ericsson Consumerlab (2014), "Mobile Commerce in Emerging Asia", <http://www.ericsson.com/res/docs/2014/consumerlab/m-commerce-asia.pdf>

¹⁰⁸ CyberSource (2012), "Vietnam's PeaceSoft Brings Enhanced eCommerce Security to Network of Online Retailers via Deal with CyberSource", http://www.cybersource.com/about/news_and_events/view.php?page_id=2401

Takeaways

- Companies such as NganLuong are offering ways that encourage customers to trust and experiment with other forms of online payments, such as m-payment, as complementary to traditional methods by operating as an online bank that processes the seller's cash into their e-wallet account.
- NganLuong offers an escrow service to give buyers a peace of mind, and employs internationally recognized secure payment and fraud prevention solutions, such as CyberSource. Building trust is the critical ingredient to the successful development of a digital transactions market, supported by an online payments system.
- 35% of NganLuong's customers are using mobile for access. Building a mobile friendly platform is critical in markets like Vietnam, and other PeaceSoft platforms are all built to be mobile friendly, creating a synergy across the group of companies and services.
- Clarity and transparency are the touchstone of good laws and regulations. In Vietnam while neither is guaranteed, it is the case that government policy is to encourage the growth of e-commerce as a lead sector towards a more broadly-based digital economy.

E-learning in Vietnam

A digital economy is a knowledge-based economy of people with the skills required to design, create, produce and provide digital goods and services to the community. E-learning provides one of the direct links in this transformation. One area in which online learning can play a very constructive role is in the delivery of professional and on-the-job training. For example, Nguyen Thi Thanh Hoa, an employee of the Vietnam Bank for Investment and Development, told Xinhua that the costs of an e-learning course on banking payment had been a fraction of those of a traditional course, and had provided the flexibility to learn whenever convenient:

"The course will last for three months, and the fee is only one-tenth compared to that of the similar traditional training course. I have to pay 400,000 VND (USD20) for the course, rather than 4 million VND (USD200) for a traditional course," Hoa said.¹⁰⁹

The global market for e-learning is around USD30 billion. In Vietnam e-learning is just beginning to take-off, estimated in 2013 to be roughly USD50 million, and growing annually at over 40%, with estimates that there were between 3 to 5 million Vietnamese people taking e-learning courses in 2014.¹¹⁰ This is not unexpected given Asia is the second largest market for e-learning, based on revenues for e-learning products.¹¹¹

Investments into e-learning in Vietnam began in 2011 in mainly two areas: English-language training and practice for university entrance exams, and is now extending rapidly. Free Internet access is provided to 29,500 schools across Vietnam for 26 million students and teachers, and ICT applications including e-books, e-schools, and e-learning are provided through an agreement between the government and telecoms operator Viettel.¹¹² Within schools, the government has focused on developing English-language learning for students in PreK-12 schools, licensing a million copies of the LiveABC English language learning software developed by Taiwan-based LiveABC Interactive Corporation.¹¹³

¹⁰⁹ L. Phuong (2014), "Feature: E-learning Market in Vietnam Still Untapped", http://news.xinhuanet.com/english/sci/2014-09/12/c_133638455.htm

¹¹⁰ L. Phuong (2014), "Feature: E-learning Market in Vietnam Still Untapped", http://news.xinhuanet.com/english/sci/2014-09/12/c_133638455.htm

¹¹¹ Ambient Insight (2014), "The 2013-2018 Asia Self-paced eLearning Market", <http://www.ambientinsight.com/Resources/Documents/AmbientInsight-2013-2018-Asia-Self-paced-eLearning-Market-Executive-Overview.pdf>

[/AmbientInsight-2013-2018-Asia-Self-paced-eLearning-Market-Executive-Overview.pdf](http://www.ambientinsight.com/Resources/Documents/AmbientInsight-2013-2018-Asia-Self-paced-eLearning-Market-Executive-Overview.pdf)

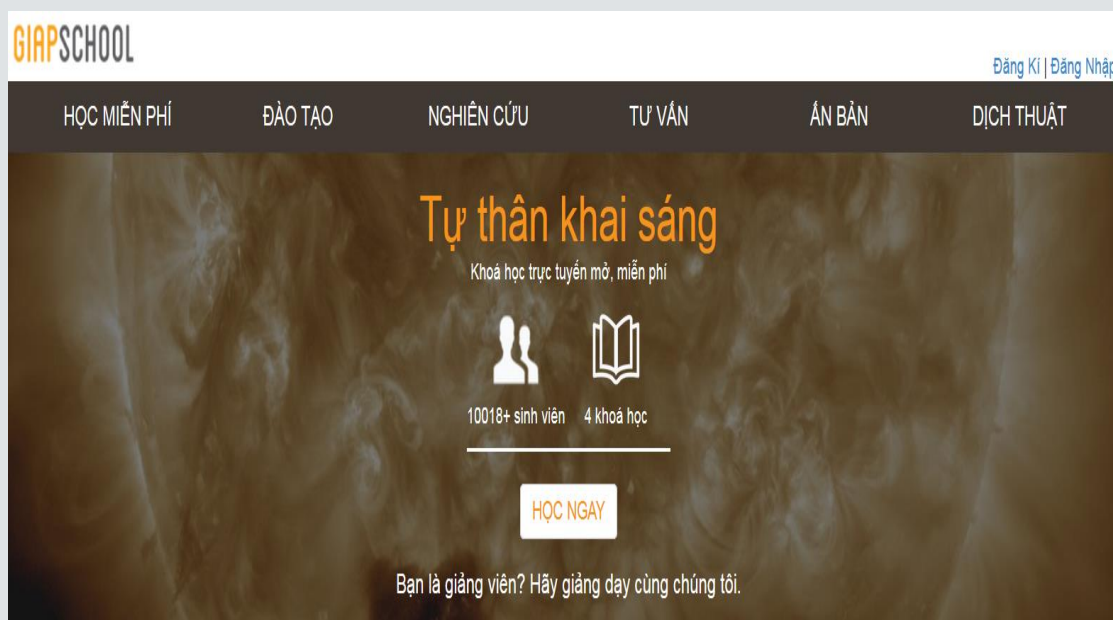
¹¹² Ambient Insight (2014), "The 2013-2018 Asia Self-paced eLearning Market", <http://www.ambientinsight.com/Resources/Documents/AmbientInsight-2013-2018-Asia-Self-paced-eLearning-Market-Executive-Overview.pdf>

¹¹³ Ambient Insight (2014), "The 2013-2018 Asia Self-paced eLearning Market", <http://www.ambientinsight.com/Resources/Documents/AmbientInsight-2013-2018-Asia-Self-paced-eLearning-Market-Executive-Overview.pdf>

Case: GiapSchool

In 2013, former research chemist, Dr Giap van Duong left his position at the National University of Singapore to return to Vietnam to build an online education platform using his own money and relying upon his own knowledge. He is among the pioneers. “In Vietnam, there are some e-learning platforms, but they are all at initial stages.” Initially Dr Giap’s plan was to translate scientific and technical books from English to Vietnamese, but due to the global boom in massive open online courses (MOOCs) he decided instead to create GiapSchool.¹¹⁴ On 31 Aug 2013, the GiapSchool portal was officially launched as a Vietnamese-language MOOC similar to international MOOCs such as Coursera and Khan Academy.

Courses offered on GiapSchool range from core subjects such as academic English, mathematics, macro-economics, to soft skills such as communication, and many more. Courses cater to a range of ages and education levels from lower school to higher education. Dr Giap has also managed to sign up 100 lecturers who have volunteered to provide material and online lectures in other subjects such as fine arts.



GiapSchool is run as a social enterprise, offering courses free of charge, and can be accessed through various devices including computers, tablets, and smartphones. Students who sign up for courses can listen to lectures, complete exercises, take tests, partake in group discussions, and talk to lecturers. In comparison to other forms of e-learning in Vietnam, GiapSchool provides opportunities for students to interact with other students and lecturers, which was missing in prior e-learning ventures. This is an important point. In his view, “e-learning has failed worldwide, except in some small branches of corporate professional training... ironically the failure of e-learning is due to e-teaching. We don’t know how to teach online effectively.” The biggest challenge is to encourage students to stay the course. In a separate interview for VNS, Dr Giap quoted the experience of South Korea and Singapore, stating that close ties between enterprises, universities, and research institutes are needed for innovation.¹¹⁵

As identified by Quipper School marketing director, Takuya Homma, Southeast Asia is leading the

¹¹⁴ H. Pham (2013), “Research Chemist Launches Vietnam’s First MOOCs Site”, <http://www.universityworldnews.com/article.php?story=20130918163502988>

¹¹⁵ Viet Nam News (2014), “Innovation Key to National Development”, <http://vietnamnews.vn/economy/255084/innovation-key-to-national-development.html>

world in mobile learning due to three main factors, mainly (i) mobile-first growth, (ii) bring-your-own-device (BYOD), and (iii) test preparation.¹¹⁶ GiapSchool is part of this on-going trend towards mobile learning, and ensures all its courses are made to be mobile-friendly to complement the growing adoption of smartphones in Vietnam.

GiapSchool was not formed to disrupt the local education system or displace teachers and affect jobs, but to complement existing courses, and offer an avenue of learning for those who may not be able to afford them otherwise. GiapSchool courses are not certified by any external agency, according to Dr Giap, “MOOC doesn’t grant the students any certificates. It’s just open to anyone who loves to learn.”¹¹⁷ Yet despite the lack of certification, there were 1,300 university and high school students who signed up for GiapSchool’s first course on “Understanding Communication” in September 2013. GiapSchool appeals to Vietnamese students as it provides a wide range of courses in the Vietnamese language, as many may not be as comfortable taking such courses from international MOOCs offered in English.

While GiapSchool is offered as a free service now, Dr Giap shoulders all the maintenance fees including hosting, bandwidth and CPU hours himself, he does see opportunities for partnerships with class-room based education, but “GiapSchool will be free as it promised from the beginning. However, I am not sure if I can keep it ad-free forever as I will have to find some way to finance it.” The search for a sustainable business model is for the future. For the present, it is about demand. After just a few months “I have about ten thousand registered students.”

Takeaways

- Demand for MOOCs is proving to be high from both students and from staff wanting to upgrade their skills. Free courses are obviously attractive, but emerging examples (e.g. Vietnam Bank for Investment) point to the commercial possibilities.
- GiapSchool succeeds because it engages with specialists who can produce high quality course materials, and is accessible from multiple devices, including PC, tablet, feature and smartphones.
- GiapSchool courses are not certified. This offers employees self-taught opportunities that can be assessed by employers on-the-job. Indeed, it raises the prospect of a change in the role of learning to one better suited to the fast-changing needs for on-the-job skills experience and skills upgrading opportunities possibilities throughout a person’s working life.

¹¹⁶ T.R. Husada (2015), “Why Southeast Asia is the next hotbed for mobile education”, <https://www.techinasia.com/mobile-learning-in-south-east-asia/>

¹¹⁷ Info.vn News (2013), “First Model of Online Study Launched in Vietnam”, <http://news.com.vn/science-and-education/faculty/119775-first-model-of-online-study-launched-in-vietnam.html>

Recommendations

1. Although the laws and regulations governing e-commerce are designed to encourage the development of the sector, there remains a lack of clarity over the obligations and responsibilities of e-commerce companies, especially where foreign partners and investors are concerned. This issue is perhaps most acute in areas that involve content and social media. The authorities should work as closely as possible with the industry to ensure transparency and avoid regulatory risk on the part of investors.
2. While it is good that regulations and licensing for economically strategic areas such as e-payments are rigorous, at the same time the business processes of applications, assessments and the issuing of licenses, approvals and registrations should be as efficient and transparent as possible. The government can help this process by improving regulations to loosen restrictions for businesses looking to employ the Internet as part of their businesses, as well as clearing uncertainty and encouraging the use of the Internet for all businesses.
3. Restrictive Internet policies, even when not specifically targeting certain sectors such as e-commerce or online education, still have a chilling effect on growth and innovation on the overall digital economy. Restrictions on *any* Internet service sends the industry negative signals on the direction the government is heading towards and only adds to the uncertainty and fear that investments on using the Internet may face restrictions in the future. The government needs to encourage certainty that such restrictions will not overflow to other sectors of the digital economy, and is open to public consultations and engagement with the industry to loosen all restrictive regulations in the future.
4. Vietnam is not lacking in the capacity to plan, but is still in the early stages of developing human resource capacity, especially in skills and knowledge associated most closely with information management systems, business processes and the use of cyber resources such as the cloud and online administration. Promoting awareness and the development of such knowledge and the acquisition of these skills should be included among national economic and industrial priorities. Online e-learning is one very important area that needs further support and promotion.
5. Facilitating a close link between universities and colleges and industry for job creation in areas of software development skills is further area that should be high on the list of policy priorities.

Conclusion

Given its importance for a digital economy, the Internet, and policies towards it, should not be regarded in isolation, as a sector within itself. Rather, its cross-cutting role should be the focus of attention. This comes out most clearly if networks not only interconnect with each other, and thereby parallel the any-to-any principle of the Internet itself, but their platforms and operating systems become interoperable, allowing apps and content to be shared and used across multiple devices and multiple networks. This is the essence of a 'connected' digital economy. Applying these principles to areas such as e-health, e-education, and e-commerce is the road to a fully digital society.

An all-pervasive Internet is the foundation of a digital economy. In developing countries, more often than not this is accomplished by means of mobile wireless devices, and therefore the achievement of national network coverage, notably of backbone and mobile networks, has to be an important policy goal. While online digital services in developed countries originally developed across fixed-line networks and mobile adaptations were added later with the coming of 3G, in developing countries it is the use of mobile networks and platforms that is kick-starting some of the most exciting and innovative online services, apps and content. Further, as 3G and now 4G networks are becoming available in countries such as India, Indonesia and Vietnam, opportunities to 'go global' are opening up.

Each of the five markets surveyed provides examples of this, either negatively or positively. Indeed, within all of the case

studies of the five countries covered, a combination of progress and constraints was found to exist. Often policies to promote an Internet economy and the transition towards a digital economy ran up against laws, regulations or procedures that slowed down or impeded the process. Positively, wherever these impediments were eased or lifted, there were entrepreneurs, start-ups and new entrants willing to invest time, money and energy to innovate.

Some have been very successful, and have even gone global. Others are changing the digital landscape of their domestic markets, while others still are filling major needs hitherto not catered for. Some are struggling to find the right model, while others are experimenting at the margins of a traditional industry. The common factor is that the Internet, when released from restricted usage, is transforming traditional economies and societies. For the three developing countries in this study, India, Indonesia and Vietnam, they have it within their means to make the transition to fully digital economies and societies as seen in Japan and South Korea. Of course, to get there, each of these developing markets require the infrastructure to enable access to the Internet – an issue that must be focused on and prioritised. But no longer is this a 'build it and they will come' model; now what we find is that people, communities and economies often have the services and opportunities ready and are prepared to find ways to push for the necessary connectivity.

Recommendations

1. Have Vision: A digital economy is a fully ‘connected’ economy, enabled by ubiquitous affordable Internet access. Progress towards a digital economy therefore calls for governments to be able to state a clear vision for digital advancement, accompanied by equally clear priority areas for state action and enablement.

2. Transparency: Government policies designed to create an environment that attracts investment and encourages entrepreneurship, need to be transparent, regulations consistent and predictable, and they need to encourage appropriate standards of technology, safety and security.

3. Regulatory Harmonisation: Recognizing that a key advantage of the digital economy is the access local SMEs have to global markets, governments need to ensure that local regulations in areas such as payments, security and consumer protection are compatible with other regional economies and trading partners. Harmonisation efforts not only enable local companies to scale but also facilitates inward investment into the local market.

4. Build the Digital Ecosystem: Progress towards a fully developed digital economy also implies the emergence of a domestic digital ecosystem, including the creation of auxiliary sectors, such as distribution, or operational and design skills.

5. Lifelong Human Capacity Building: An adaptable focus on human resources is vital if the benefits of a digital economy are to be

fully and continuously realized. Both fulltime education, and on-the-job skills and knowledge training need to be reviewed regularly and promoted in light of what the Internet can offer online and interactively.

6. Simplify Business Processes: Reviewing and addressing procedures that keep business costs high is fundamentally important, especially in developing economies, if the digital economy is to become pervasive, particularly for start-ups. The greater use of digital technologies and a streamlining of processes for business applications, approvals, payments and registrations should be a priority goal.

7. Unintended Impacts Minimised: Regulatory over-reach can have a chilling effect upon investment and innovation in the Internet economy. Where regulation is necessary, such as with national security or consumer protection, it should be ‘smart’ and not create uncertainty or negative unintended consequence.

8. Consult and Engage with Industry: By understanding the multi-sector impact of the Internet, for example in areas such as agriculture, health and education services, government should engage with industry directly in two ways. First, to assist and inform better the national policy-planning process to strengthen a holistic approach to the creation of a digital society. Second, to encourage the widespread adoption of industry standards, of interoperability, safety and security and codes of conduct for social protection.

Appendix

Partners

NASSCOM®

NASSCOM is the industry association for the IT-BPM sector in India. A not-for-profit organisation funded by the industry, its objective is to build a growth led and sustainable technology and business services sector in the country.

Established in 1988, NASSCOM's membership has grown over the years and currently stands at 1,400. These companies represent 95 percent of industry revenues and have enabled the association to spearhead initiatives and programs to build the sector in the country and globally.

NASSCOM members are active participants in the new global economy and are admired for their innovative business practices, social initiatives and thrust on emerging opportunities.

www.nasscom.in



The E-Commerce Association of Indonesia (**IDEA - Indonesian E-Commerce Association**) is the voice of the E-Commerce industry in Indonesia. With the rapid growth of E-Commerce in Indonesia there is a need for greater communication between E-commerce players with industry partners, including the government. idEA is the bridge for this on an ongoing basis, including with the government in terms of regulations relating to the interests of industry, and with other associations that are becoming important in the industry's ecosystem.

www.idea.or.id

GLOCOM

The **Center for Global Communications (GLOCOM)** was established as an affiliated research institute of the [International University of Japan](http://www.ij.u-tokyo.ac.jp/) in 1991.

- Executive Director: SHONO Jiro
- Main activities: Commissioned research, joint research, research seminars, member projects, etc,
- Total number of members: 135 (as of April 1, 2014)

www.glocom.ac.jp



Korea's youth, with their unlimited potential, are the future of our society. We at the **Asan Nanum Foundation** believe their youthful passion and energy move society forward.

Asan once said that "those who believe that anything is possible will be able to achieve everything." We believe Asan's guiding principle is also applicable for today's youth.

The Asan Nanum Foundation seeks to share Asan's unrelenting spirit and determination with the young adults today: the passion to dream, the challenge to create, and the responsibility to share.

The Asan Nanum Foundation aims for an open society that allows its members to reach their full potential.

www.asan-nanum.org



Vietnam Chamber of Commerce and Industry (VCCI) is a national organization which assembles and represents business community, employers and business associations of all economic sectors in Vietnam. The purpose of VCCI is to protect and assist business enterprises, to contribute to the socio-economic development of the country and to promote economic, commercial and technological co-operations between Vietnam and the rest of the world on the basis of equality and mutual benefit. VCCI is an independent, non-governmental, non-profit organization having the status of a legal entity and operating with financial autonomy.

www.vcci.com.vn



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