asia cloud computing association

The Asia Pacific SME Cloud Computing Attractiveness Index 2015

Commissioned by the Asia Cloud Computing Association
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The ACCA's Asia Pacific SME Cloud Computing Attractiveness Index

This Index provides an evaluation of the attractiveness of cloud computing to small and medium enterprises (SMEs) by ranking the 14 Asia Pacific economies currently being covered by the Asia Cloud Computing Association. The Index consists of an evaluation according to five key criteria: 1) the size and attractiveness of the addressable market; 2) the capability and suitability of the economy as an early adopter of SME cloud based tools; 3) the existing and nascent demand drivers in the market; 4) the relative affordability of those tools in the economy; and 5) the levels of existing government and financing support for SMEs, IT programs, and cloud computing adoption.

The following rankings have been calculated according to publicly available market assessments, in-market surveys, and extensive on-the-ground research and interviews. As cloud computing interest, adoption and usage picks up across the region, SMEs stand to be both the biggest beneficiaries and biggest users of cloud computing services and cloud-based productivity tools.

We have provided this Index as a means for SMEs to assess the relative merits, strengths and constraints in each market for cloud computing, for policymakers to target areas for improvement so as to accelerate adoption and development by SMEs, and, finally, for Cloud Service Providers to know where their own competitive advantage may best lie.

The Pillars

I.	Addressable Market	The Addressable Market parameter provides an indication of the attractiveness of the potential market size in the immediate to mid-term future based on the number of SMEs in the marketplace and their readiness, awareness, and capacity for accessing cloud computing services.
II.	Early Adoption Suitability	The Early Adoption Suitability parameter indicates which sectors within the economy are likely to be the early adopters of cloud computing services and how important those are within the overall economy.
III.	Demand Drivers	The Demand Drivers parameter looks at the current strength of *nascent* demand for cloud computing services across SMEs in the economy through estimates of current take-up (in particular of SaaS services), and various proxies such as the push towards digital and online technologies and tools, and the readiness of directly relevant case study material that is being used to promote the benefits of cloud computing services. As identified in the report the latter issues appears to be particularly important for driving early take-up across the SME markets.
IV.	Affordability	The Affordability parameter assesses how affordable cloud computing services are in each economy on a comparative and absolute basis, and whether there is clarity around cost, value, the services being provided, and how to go about product comparison and purchase.
V.	Government and Financing Support	The Support parameter looks specifically at whether there is an institutional framework for supporting SMEs, whether there are already official cloud computing (or relevant IT) promotion campaigns in place (and whether they are effective), and whether there is market financing programmes that both user SMEs and cloud-focused start-ups can tap into.

Introduction

SMEs spent about USD2 billion on cloud computing services in developed and emerging Asia Pacific in 2014, with the growth rate for cloud computing services for emerging Asia Pacific running at around 42%. Despite this growth, current statistics underrepresent and underplay the opportunity and impact of cloud computing services on the SME landscape across Asia.

The Approach of the Index

This SME Cloud Market Attractiveness Index has been created as an accompaniment to the Asia Cloud Computing Association (ACCA) in-depth White Paper on the SME Cloud Computing Markets in Asia. It extracts and builds on material collected for that research conducted across the 14 Asia Pacific markets currently covered by the ACCA, and was complemented by a short web-based non-statistically significant survey conducted in late-2014 to market participants in the field, along with a series of in-market interviews and the input of the authoring company's experts and associates. Given that the results are not compiled from an extensive survey, it should be seen as indicative and reflective of participants currently working in and across these markets.

One of the surprising limitations in looking into the market for cloud computing solutions for SMEs across Asia is the almost absolute dearth of comparable statistics– including comparable definitions of an SME in each of these markets, and how much they are spending on IT hardware and services currently. This is surprising on two fronts. First, the absolute importance of the SME sector to each of these economies and to Asian growth overall - SMEs comprise variously between 60-99% of all businesses in Asia, 50-98% of all employment in any given economy, and between 35-70% of GDP (the only exception is India which we will explain later). Second, cloud computing promises to be the great leveller, bringing enterprise grade tools and capacity within reach of SMEs. In addition, it will bring next generation infrastructure benefits within reach of emerging economies without the need for crippling capital expenditure. Almost all governments across the region are targeting both the SME sector as an engine of growth as well as the IT sector as an engine of innovation. Despite this, there are almost no comparable measurement benchmarks to assess the effectiveness of current investments for SMEs. Therefore, our research has found no meaningful framework to see how to direct investment, resources and support can effectively fast track such opportunities for the SME sector or to 'leapfrog' into areas of new growth.

It is within this context, and the extensive grass roots research conducted to compile the market reports in the SME Cloud Computing White Paper, that this Index was compiled to provide a first line in identifying areas for focus.

The Pillars

The Index focuses on five Pillars: market size, market coherence, market demand, price, and government support. The first and fourth (size and price) are largely based on existing public measures such as GDP and published price lists. But, as indicated, even here there are very few

solidly comparable measures. There is no standard definition of SMEs between economies, and, often sometimes even within an economy. This is underscored by the experience in India - a market holding a huge promise for cloud computing and a very significant SME market –which officially recognises the SME contribution to GDP at slightly above 6%. Obviously, this has much to do with the definitions, statistical capture, and the nature of the informal (or 'grey') economy in India. Cloud computing services are, by definition, subscription services and therefore, on a pricing power basis should be immediately comparable across markets, *and* lend themselves to becoming an area of competitive advantage in economies with competitive currencies or where governments see a strategic advantage and provide pricing incentives. However, obtaining and calculating usage cost for an SME is in most cases so impenetrable as to almost render comparability of cost – particularly in the PaaS and IaaS space – moot.

Fuller explanations of the pillars and their sub-components are provided in the section preceding this introduction and in the latter part of this report.

Size Matters…

The Index results are skewed heavily by market size, as would be expected. This happens from three different directions:

- the absolute size of the market and the number of SMEs – here, of course, China and India stand in a league of their own with 40.5 and 36.2 million SMEs a piece. Indonesia too stands out, because of a rather more liberal definition of an SME, with some 56 million SMEs, even with a far smaller population base than the two Asian giants. But it is the primary reason that Indonesia is viewed with such potential by many players wanting to enter the market;
- the percentage contribution that the SME base makes to GDP – while there may be a lot of SMEs, if they aren't generating significant economic activity as a group, then they will have little resource (or motivation) to focus on IT solutions, and vendors and service providers will have little reason for focusing on them. This is where India falls away initially, with only 6.2% contribution to GDP by that group of 36.2million SMEs. Of course, many cloud computing companies now actively involved in India would push back on this assessment, and protest that there is far more activity, and demand, than such numbers indicate. This is obviously an area that policy makers need to look into; and
- the economic size of the market (i.e. comparable size of GDP) – this is where a powerhouse such as Japan, not otherwise necessarily thought of as a SME economy in the first instance comes into view, as do mid-tier or small economies such as Australia and New Zealand, who punch far above their weight in economic impact and GDP contribution.

…. But So Does Policy and Market Approach

Singapore and Hong Kong place second in the Index, behind Japan, and ahead of Korea and China, as a result of the strength of their SME economies and, in Singapore's case, the focus that the government gives to supporting the SME sector through on-boarding schemes, adoption and training programmes and, where necessary, subsidy systems. Taiwan too takes a very top-down supportive approach to the SME sector, albeit on a more selective and strategic basis. As a result,

Taiwan, with a fraction of its mainland neighbour's population, places 6th in the Index, just behind China, with less than a point separating the two economies. While China may have the size and the allure of the market and is undoubtedly going to become a global leader in cloud computing, including across the SME space, Taiwan has retained its nimble approach to employing policy to supporting strategic initiatives and is far more focused on this part of the economy.

Somewhat separately, Hong Kong remains largely market driven, exceedingly entrepreneurial and opportunistic, and still leveraging its status and position as an onramp into the Chinese economy for many multinational participants. What comes through in interviewing market players is the consternation – surprising in many ways for such an entrepreneurial and SME-driven economy – that 'the government is not doing enough' to support, regulate (advocate) and drive cloud computing adoption in the territory.

The Great Leveller?

The great promise of cloud computing is the immediate access to enterprise grade software and next generation Information Technology solutions that enables SMEs *anywhere* to expand their market reach, delivery and service, and customer interaction. Suddenly a games development house in Vietnam can not only develop a game or programme that flies around the world, but can potentially service orders and customer care, coupled with in-app advertisements and monetization opportunities, and provide sandboxes for collaboration to expand further development, without having to undertake extensive and expensive infrastructure investment *beforehand*. Theoretically, they could build organically as they grow – allowing them to compete with their larger and far better heeled competitors in China, Korea, Japan or the US. This is the promise.

The Index shows that with the promise at varying levels of readiness across Asia Pacific markets, a mind-set shift still needs to occur to make it far more apparent.

The first issue that is increasingly being recognized is that the buying approach of SMEs is vastly different to enterprises, even when they may be interested or benefitting from the same tools and doing the same job. Cloud computing to date has largely been sold on the basis of reducing cost, through outsourcing internal expense and operation. *But SMEs don't spend to save money. SMEs spend to make money, or to increase the chances for increasing revenues. SMEs spend to increase reach and relevance.* And in this regard, vendors, service providers and governments all have a role to play.

Ease of access, fear of vendor lock-in, simplicity of pricing, intuitive return on investment. These all become extremely important considerations when dealing with SMEs.

In Indonesia, a market of enormous potential, access and awareness – simply understanding the benefits – remains problematic. As does affordability, all of which brought the sleeping giant's Index rating down. The Philippines and Thailand, somewhat by contrast have focused quite heavily on new IT solutions enabling their overall economic growth and supporting new cloud computing programmes. The Philippines, in particular, is actively looking at what cloud will mean for the business process outsourcing (BPO), a mainstay of growth in the country. Thailand too has been

promoting cloud computing for many of its key sectors, but struggles with a divergent economy and multiple drivers, as well as promoting affordable programmes and focussed support.

Takeaways

Population, not surprisingly, is the most telling factor in the size of an SME market and hence the Indonesian, Chinese, and Indian markets all remain strongly appealing for their immense size. Although the sheer size of the Indian and Indonesian markets can seem tempting for cloud entrepreneurs, these are two of the harder markets to approach successfully. Cloud computing requires a relatively stable and sophisticated IT infrastructure, which is still problematic in a number of the Asia Pacific emerging economies. Likewise, cloud business services that are currently being offered may prove to be too expensive for lesser-developed countries. Both India and Indonesia have highly innovative tech firms and strong developer communities. Both have rapidly growing mobile populations and are showing an enormous appetite for cloud computing solutions. But to successfully access and enable these markets cloud service offerings will need to take on more affordable, more accessible, more flexible frameworks.

The value of each SME market across Asia differs greatly by size. Somewhat counterintuitively, SME markets in the developed world often have a much larger role in the economy as a whole despite having lower numbers. Witness developed countries like Australia, Hong Kong and Japan where over half of their GDP was contributed from SME activities; these SMEs have a greater potential to be able to afford cloud computing solutions.

For countries with low IT penetration in the business sector, reducing costs means improving the efficiency of workers by giving them new tools for their jobs. For those situations business managers need to know what cloud computing can do for them. This is a nearly universal obstacle to cloud uptake broadly amongst SMEs; namely, ignorance of cloud computing solutions. In Indonesia, for example, only 3% of business owners understood the basics of what cloud computing was about. Surprisingly, the figures for more technologically well-informed countries weren't much better.

Four final points are worth noting. First, cloud computing services in those markets where mobile computing has a larger share than traditional PC-based computing may have a far larger and more active customer base across Asia. In this regard, many emerging economies such as Indonesia and Vietnam with large mobile users will do very well with cloud computing.

Second, it is vitally important to clarify the definition of an SME if they are to be successfully targeted and serviced. Vietnam, for example, has the largest SMEs in employment size, with an average of 134 employees per enterprise. Japan and Malaysia also have SMEs with large employee numbers. The explanation is definitional with Japan and Vietnam - both considering businesses of up to 300-500 employees to be SMEs – while Indonesia by contrast has four different definitions of what an SME *is*.

Third is the issue of pricing. If pricing is not competitive, clear or if cloud options are limited to national players, the result is that the market drops markedly in both take-up and in attractiveness. This is most evident in most of the emerging economies such as India, China, and Vietnam. Finally, the issue of government support. In this regard there are some clear winners such as Singapore and Taiwan that have targeted both the cloud computing market and the SME sector as fundamentally important to overall economic development.

SME Markets Across Asia

Contribution Indicators

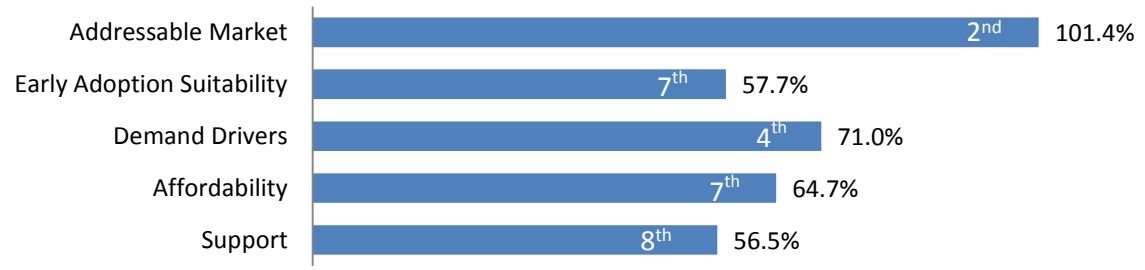
RANK ECONOMY	Population	No. of SMEs	As Percent of Total Business	Percent of Total Employment	Contribution to GDP
Japan	127.1m	979,135	99.7%	70%	53%
Singapore	5.74m	407,298	99%	70%	50%
Hong Kong	7.2m	316,432	98%	35%	54%
South Korea	49m	566,954	99.9%	87.7%	46.4%
China	1.4b	40.5m	99.7%	85%	60%
Taiwan	23.4m	1.3m	97.7%	78.1%	30.23%
Australia	22.5m	248,358	99.8%	68%	57%
New Zealand	4.5m	142,100	98%	99%	42%
Philippines	107.7m	73,509	99.6%	61%	35.7%
Indonesia	254.6m	700,000	99.9%	97.2%	57.1%
Malaysia	30.1m	645,136	97.3%	57.4%	32.7%
Thailand	67.7m	2.9m	99.8%	83.9%	36.6%
India	1.2b	36.2m	80%	51%	40%
Vietnam	93.4m	88,664	97%	75%	40%

SME Cloud Computing Market Attractiveness Index

Overall Ranking

RANK	ECONOMY	Addressable Market	Early Adoption	Demand Drivers	Affordability	Support	OVERALL SCORE
1.	Japan	101.4	57.7	71.0	64.7	56.6	**70.2**
2.	Singapore	25.7	78.0	68.7	73.0	73.8	**63.8**
2.	Hong Kong	29.3	75.7	66.7	75.3	72.3	**63.8**
4.	South Korea	40.3	67.7	78.0	70.7	58.8	**63.1**
5.	China	141.9	37.3	36.3	29.3	59.0	**60.8**
6.	Taiwan	27.6	73.3	62.7	66.7	73.0	**60.6**
7.	Australia	44.3	56.7	72.0	80.3	46.0	**59.9**
8.	New Zealand	28.3	72.3	71.3	77.7	48.8	**59.7**
9.	Philippines	17.8	66.0	52.7	54.3	52.8	**48.7**
10.	Indonesia	76.8	39.7	39.3	31.3	52.0	**47.8**
11.	Malaysia	20.6	57.3	41.0	53.0	60.8	**46.5**
12.	Thailand	22.4	50.0	47.0	48.7	56.8	**45.0**
13.	India	39.3	39.3	24.3	43.7	42.0	**37.7**
14.	Vietnam	6.2	41.0	26.0	34.7	35.5	**28.7**

1. Japan – 70.24



SME Market Indicators	
Population	127.1m
No. of SMEs	979,135
No. of Micro-SMEs (MSMEs)	4.1m
Percent of total business	99.7%
Percent of total employment	70%
Percent contribution to GDP	53%

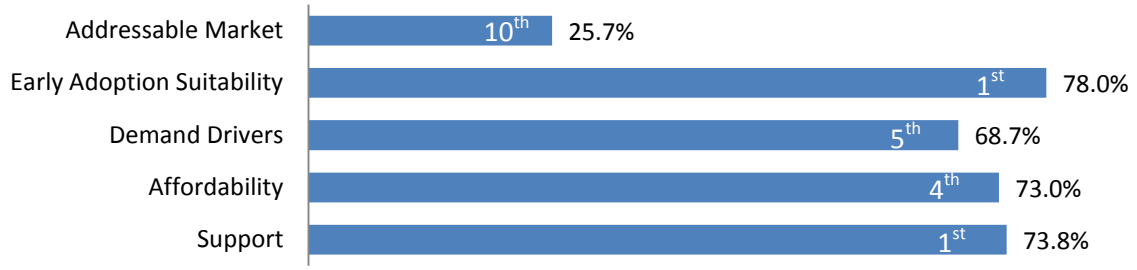
Lead Adoption Sectors
1. Information and communications
2. Transportation
3. Wholesale and retail trade

Two archetypes have come to represent the SME market in Japan: the manufacturing subcontractor and the highly skilled craftsman. Manufacturing subcontractors make up the hidden backbone of major manufacturing and exporting industries. 98% of manufacturing firms are SMEs that are in a constant struggle to maximize efficiency on the floor and minimize defects. Cloud computing offers the ability to save costs on data collection and storage, and to have a common place where management can access schedules, payrolls and contract information. In a country where quality is emphasized, the ability to always have the best software and hardware capabilities is very appealing.

Businesses based on highly skilled craftsmen or processes based on generational knowledge cover a variety of sectors from accommodation to retail. Experts in these businesses are not experts in hiring, taxes, law, and so on. If cloud computing can be marketed as a way to cut administration time in an understandable way, the gap between old and new can possibly be bridged. These archetypes are not only symbols; they are large segments of the SME population and create unique challenges for cloud computing adoption and adaptation.

Most SMEs can be found in the following categories: wholesale and retail trade; construction; food and beverage; accommodation services; manufacturing; and medical, health care, and welfare. These are the largest potential SME sectors and have the largest potential for sales of cloud computing solutions. And yet, while there are many cloud computing solutions that are uniform to all categories of the SME sector, there are also unique solutions that will be attractive to only certain segments. For instance, solutions for manufacturing, wholesale, retail, accommodation and medical services should be prioritised as it is clear that these solutions won't necessarily appeal to other sectors. What we have observed is that sectors such as transportation, telecommunications, electric machinery; financial services are showing promise as early adopters.

2. Singapore – 63.8



SME Market Indicators	
Population	5.74m
No. of SMEs	407,298
No. of Micro-SMEs (MSMEs)	407,298
Percent of total business	99%
Percent of total employment	70%
Percent contribution to GDP	50%

Lead Adoption Sectors
1. Commerce (wholesale and retail)
2. Accommodation and food services
3. Property
4. ICT

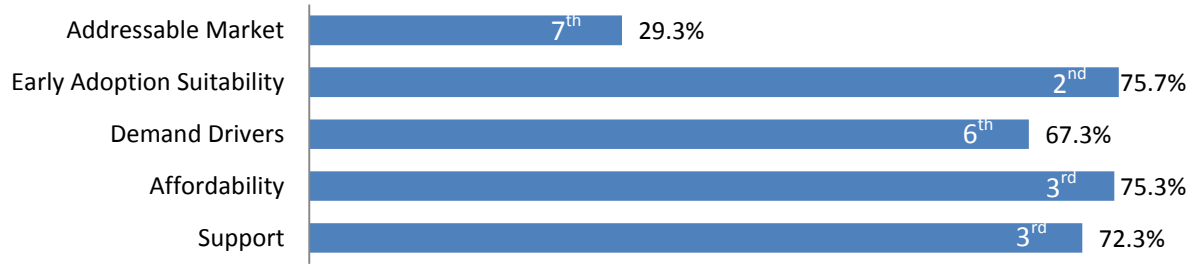
Singapore is a small and comparatively well-connected country with a general expectation for business productivity tools to be in place. Singapore is seen as a leader regionally in the adoption of technology tools and there is sizeable awareness and ready demand for business-oriented solutions, and for basic office management solutions.

There is also an expectation in Singapore that businesses should have basic IT access and provisioning. Current cloud offerings are seen to be commercially accessible with common SaaS packages running at between 0.42-5.21% of SME IT spend, and common PaaS access running at between 1.63-13.63% of SME IT spend.

The Singapore government has put extensive effort into promoting IT tools and next-generation infrastructure and services for SMEs over many years. In recent years the government has re-focused its efforts on cloud computing services, putting various incentives, training and support programmes in place to try to help push SMEs along the development trajectory. Programmes of particular note include the Productivity and Innovation Credit (PIC) scheme, which grants businesses 400% tax deductions for each of five years against the acquisition of cloud computing services and IT equipment, and SPRING Singapore's Capability Development Grant (CDG), which can defray up to 70% of SME project costs as they relate to ten key capabilities including cloud computing.

There is much that can be adopted by other economies from Singapore's example in driving this area. However, incentives alone may not be sufficient to drive uptake, and Singapore could provide a case study to explore what combination of blended and balanced set of conditions need to be in place for strong adoption and usage.

3. Hong Kong – 63.8



SME Market Indicators	
Population	7.2m
No. of SMEs	316,432
No. of Micro-SMEs (MSMEs)	316,432
Percent of total business	98%
Percent of total employment	35%
Percent contribution to GDP	54%

Lead Adoption Sectors
1. Information and Communications
2. Real Estate Services
3. Commerce

Hong Kong is a technically advanced and prosperous economy with approximately the same per capita gross domestic product (GDP) as the United States. The territory serves as the gateway to mainland China as well as a hub for commerce and innovation. Mobile phones and broadband Internet are nearly ubiquitous in the population and connection speeds are among the best in the world. The Hong Kong business community enjoys one of the most advanced IT infrastructures in the world.

Use of cloud computing is strong in certain segments; about 30% of businesses in ICT use cloud computing, 14% for real estate, and 5% for commerce. Not surprisingly, each of these sectors is data-heavy.

The leading demand drivers for cloud computing services are reductions of capex, fewer IT upgrades and elastic capacity. In addition, Hong Kong is also unique in the region due to its limited land space – this creates a premium for storage space. As a result, there is a large potential for cloud computing applications for inventory management that can help facilitate collaboration across national borders, particularly given Hong Kong's dependence on international trade as entrepôt.

The government has created a number of support programs for SMEs, including specific measures to promote cloud computing usage. The Expert Group on Cloud Computing Services and Standards (EGCCSS) is focused on the promotion of cloud solutions for SMEs in the Hong Kong market. In terms of financial support, the government has committed about HKD40 billion p.a. in SME support schemes.

4. South Korea – 63.1

SME Market Indicators	
Population	49m
No. of SMEs	566,954
No. of Micro-SMEs (MSMEs)	3.4m
Percent of total business	99.9%
Percent of total employment	87.7%
Percent contribution to GDP	46.4%

Lead Adoption Sectors
1. Financial services and insurance
2. Information and communications
3. Manufacturing
4. Education

South Korea is an economy composed predominantly of services industries. However, because South Korea has transformed so rapidly, the country still maintains a large manufacturing sector and is more dependent on exports than most developed countries.

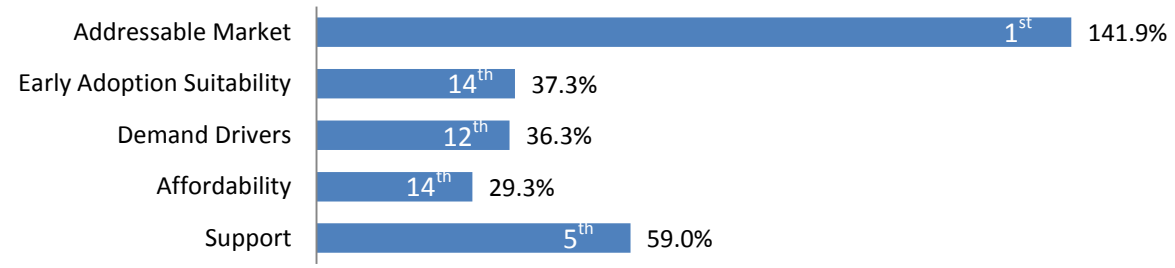
In 2013, the government directed USD500 million towards cloud computing as part of its vision to establish a creative economy ecosystem and strengthen the country's capabilities in R&D and innovation. Not surprisingly, demand for cloud computing solutions have largely been driven first by government and secondly by large enterprises. The three drivers for cloud computing investment are:

1. Improving the business efficiency process;
2. Improved governance; and
3. New routes to market.

Cybercrime has been cited as the number one concern for prospective cloud computing consumers. And there is good reason for South Koreans to be concerned: South Korea is ranked 14th in Bloomberg's survey of countries with the most cybercrime (3rd in Asia, behind China and India). In 2009 a distributed-denial-of-service attack crippled 80,000 Korean computers, creating a sense of insecurity over the Internet in South Korea in general. Any cloud computing provider that hopes to be successful in Korea must therefore have solid security measures in place.

Mar 2015 Update: On 3 Mar 2015, Korea's National Assembly passed a new Act called The Development of Cloud Computing and Protection of Users ('the Act'). The Act aims to raise Korea's national competitiveness. It reverses previous restrictions around the use of cloud computing for security reasons.

5. China – 60.8



SME Market Indicators	
Population	1.4b
No. of SMEs	40.5m
No. of Micro-SMEs (MSMEs)	40.5m
Percent of total business	99.7%
Percent of total employment	85%
Percent contribution to GDP	60%

Lead Adoption Sectors

1. Manufacturing
2. Information transmission, computer services, and software
3. Wholesale and retail trade

The number of SMEs in China has risen rapidly in recent years, and are recognized to play an important role in boosting economic growth and employment. The growth in the number of SMEs and wider Internet access will help fuel the growth of the cloud computing market. According to one estimate, the mainland SME cloud computing services market will hit USD5.5 billion in 2016.

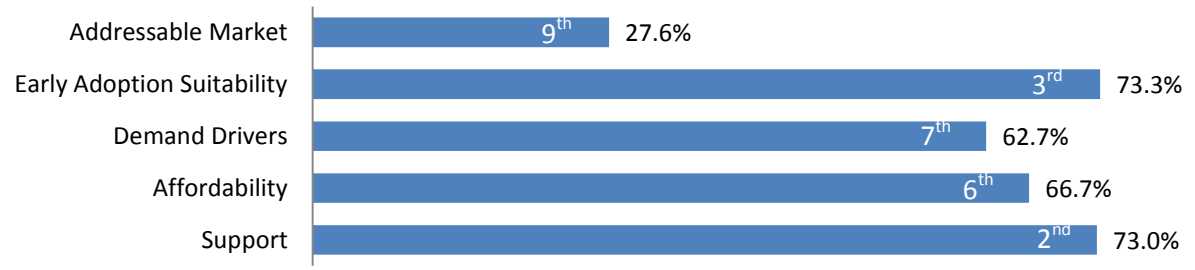
The Chinese government at various levels pays close attention to cloud computing, not least to enhance pubic services efficiency and capability and save administrative costs. In the 12th Five Year Plan, the government intends to devote significant resources to utilise the strengths of cloud computing. Currently growth rate has been exponential with the establishment of Government-cloud centres in, among others, Beijing, Shanghai, Chengdu and Hangzhou.

Outside of government, the industry sectors that have been identified as most likely to adopt cloud computing in China include: the manufacturing, information transmission, computer services, software industry and the wholesale and retail sectors.

With government support, coupled with a thriving Internet environment, China's SMEs both represent and stand to benefit from a huge opportunity emerging for the adoption of cloud computing. However, stumbling blocks still exist in the form of high costs as well as the uncertainty and concerns over the stability and security of cloud computing.

Mar 2015 Update: In January, China's State Council published Guiding Opinions for Promoting the Innovation and Development of Cloud Computing to Cultivate New Types of Information Industry Services, which lays the basis for further policies and regulations. During the National People's Congress in Mar 2015, Lee Keqiang announced a new concept of "Internet Plus" for China's 2015 Government Work Report, which involves the holistic integration of citizen life, with new technologies like big data and cloud computing, e-commerce, and other applications of the Internet.

6. Taiwan – 60.6



SME Market Indicators	
Population	23.4m
No. of SMEs	1.3m
No. of Micro-SMEs (MSMEs)	1.3m
Percent of total business	97.7%
Percent of total employment	78.1%
Percent contribution to GDP	30.23%

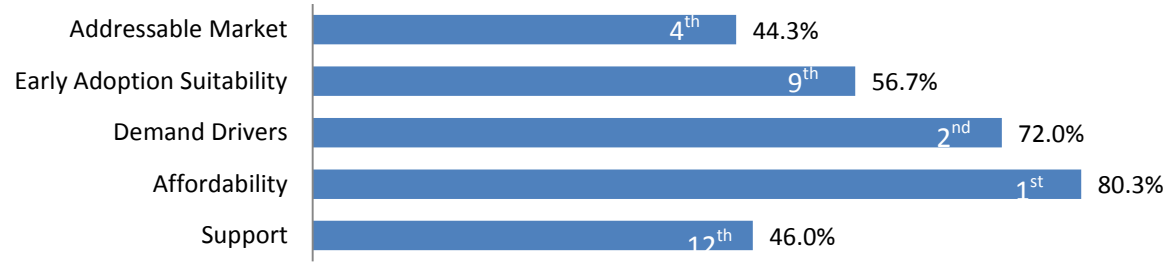
Lead Adoption Sectors
1. Information and communications
2. Education
3. Manufacturing

In 2010, the Taiwan government invested USD744 million into the development of a full-fledged ecosystem for cloud solutions and services; promoting the adoption of cloud solutions in private and public sectors. A Steering Committee for the Development of the Cloud Computing Industry was created along with the Cloud Computing Industry Promotion Office. Taiwan's Cloud Valley, subsequently launched by the Cloud Computing Association of Taiwan was initiated to encourage the creation of more SMEs in the supply chain sector.

Total R&D and IT spend by SMEs has been rising every year since 2000, indicating an increasing orientation of using technology as a fundamental component of all business processes. This is driven, for the most part, by the government. With the government's emphasis on developing Taiwan as a cloud computing centre, there are already numerous programs to encourage cloud computing adoption.

The government is also actively deploying cloud solutions in schools, hospitals, and government offices. Given the government activity in promoting cloud computing for citizens and businesses in Taiwan, it is only a matter of time before SMEs catch on in a more significant way.

7. Australia – 59.9



SME Market Indicators	
Population	22.5m
No. of SMEs	248,358
No. of Micro-SMEs (MSMEs)	2,076,068
Percent of total business	99.8%
Percent of total employment	68%
Percent contribution to GDP	57%

Lead Adoption Sectors

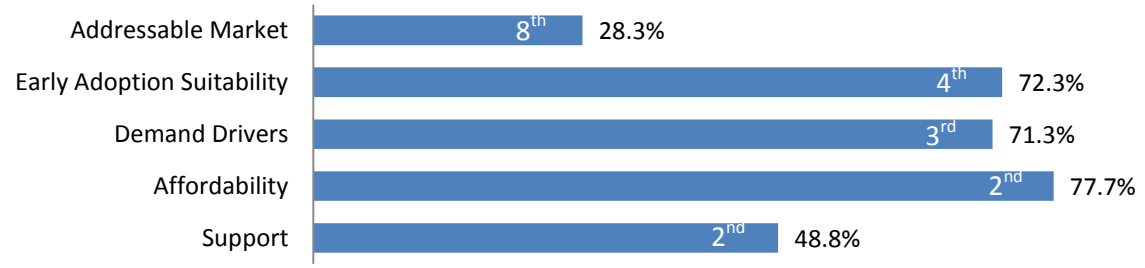
1. Financial and insurance services
2. Property and business services
3. Professional, scientific and technical services

The Australian economy is in transition. Growth in industries outside the resources sector is becoming more important for sustainable growth of the Australian economy. The relationship between high ICT usage and economic growth is not limited to certain industries or business sizes, indicating that digital engagement is linked to growth across the spectrum of business size and industry.

The Australian SME market has above average entry and exit rates when compared to other Asian countries. This makes the conditions for start-ups and nascent small businesses critical to maintaining the status quo. About 3.4% of the population is engaged in creating or operating a small business – well above the global average – but more government policies need to be geared towards incentivising business ownership, The good news is that government resources for small businesses are readily available, and in essence, it is relatively easy to do business in Australia.

Nevertheless, the Australian market is a highly competitive environment where increases in productivity, savings and innovation are necessary to grow. In such an environment, SMEs either look to – or can be encouraged to look to - ICT for a necessary competitive edge. Without applications and online services to streamline administrative tasks, not only can businesses lose the time needed to make enough money, they lose the passion for running a business because of the undue focus on such administration.

8. New Zealand – 59.7



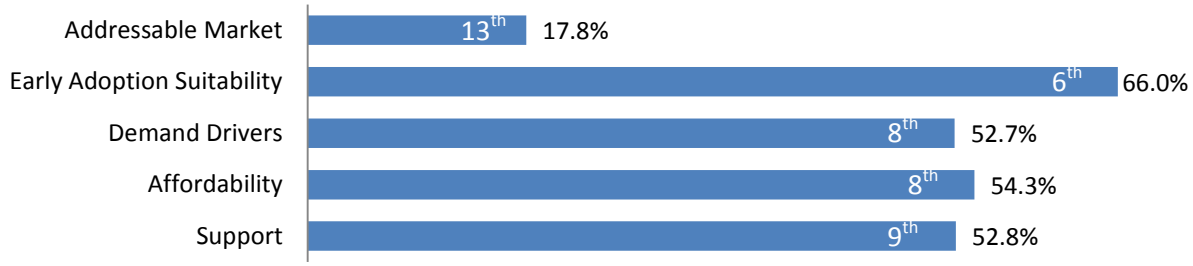
SME Market Indicators		Lead Adoption Sectors
Population	4.5m	1. ICT
No. of SMEs	142,100	2. Tourism
No. of Micro-SMEs (MSMEs)	459,300	3. Financial services
Percent of total business	98%	
Percent of total employment	99%	
Percent contribution to GDP	42%	

New Zealand has a highly entrepreneurial culture, spearheaded by entrepreneurs who are ambitious and hard working. They operate within a broader New Zealand culture which values informality, egalitarianism, directness and honesty. Decision makers—particularly within SMEs—are generally accessible and do not require extensive relationship building before being prepared to meet and seriously consider well-reasoned and persuasive business cases.

In 2013, only 10% of New Zealand SMEs were using cloud computing services; but, by 2014 this was up to 32%. Sixty percent of New Zealand businesses reported that they use, or intend to use in the near future, at least one type of cloud computing technology.

In August 2012, the New Zealand Government adopted a "cloud-first" policy towards its own IT developments and has a highly developed policy and roadmap for a transition to cloud computing. In addition, the government has made Universal Fast Broadband rollout a flagship policy and created a NZD1.5 billion revolving fund to subsidise its construction. These measures, combined with the industry's development of a Cloud Computing Code of Practice, make the country a leader in cloud computing policy and infrastructure. However, there has been little in the way of policy specifically around encouraging cloud computing uptake by SMEs.

9. Philippines – 48.7



SME Market Indicators	
Population	107.7m
No. of SMEs	73,509
No. of Micro-SMEs (MSMEs)	816,759
Percent of total business	99.6%
Percent of total employment	61%
Percent contribution to GDP	35.7%

Lead Adoption Sectors
1. Business process outsourcing (BPO)
2. Technology start-ups
3. Retail services

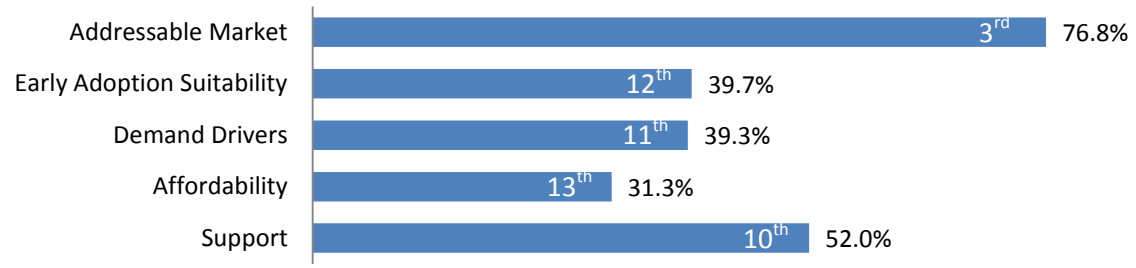
With the Philippines tipped to enter a promising period of economic development with the country now one of Asia's fast growing economies, with an annual growth rate of over 6% since 2012. Consequently, the SME sector is seen to be poised to also reap a windfall and government see them as an engine of forthcoming national growth.

The Philippine government, previously noted for its slow technology adoption, has recently begun an aggressive push for cloud computing. This includes GovCloud - a private cloud for government agencies and their employees along with basic cloud applications such as GovMail (unified government e-mail system), web hosting and payment gateway applications - as well as the Cloud Top Project which is designed to reduce hardware and software cost through the use of 'thin clients' for a variety of cloud applications.

The emphasis on SMEs has also increased. The current "Magna Carta for Micro, Small and Medium Enterprises" states: "To promote the productivity and viability of MSMEs by way of directing and/or assisting relevant government agencies and institutions at the national, regional and provincial level towards the provision of support for product experimentation and research and development activities as well as access to information on commercialized technologies."

Yet, despite the regulations, the sector's contribution to the country's economy has remained small to date, contributing around 35% to GDP, while making up 99.6% of all businesses. The ability to increase both reach and productivity while controlling costs is therefore seen to be a compelling proposition, not only for the mid- and large enterprises, but for the SME sector as well. Cloud solutions that can help ease the entry of start-ups into the market are being touted as particularly attractive.

10. Indonesia – 47.8



SME Market Indicators	
Population	254.6m
No. of SMEs	700,000
No. of Micro-SMEs (MSMEs)	56,534,591
Percent of total business	99.9%
Percent of total employment	97.2%
Percent contribution to GDP	57.1%

Lead Adoption Sectors

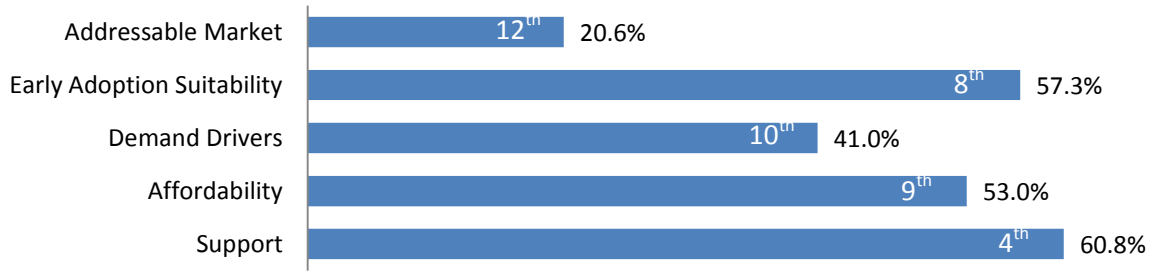
1. Financial institutions
2. Wholesale and retail trade, restaurants and hotels
3. Transport, warehousing, communications
4. Creative industries

Indonesia is the world's fourth most populous country with some 250 million people. Of these, 74 million are already defined to be middle-class and affluent consumers, a figure that is projected to double by 2020. While the current demand for cloud computing by SMEs is still relatively low, the take-up rates and the potential of cloud computing in Indonesia are impressive: in 2013, the growth rate of cloud computing adoption among Indonesian SMEs was 100%. The main driver is the need for Indonesian SMEs to increase productivity and to be able compete locally, domestically, or globally.

Cloud computing services have been identified by a number of groups as a key growth area for Indonesia with the total market value for cloud computing forecast at almost USD1 billion by 2017. Government support through a variety of initiatives such as the Master Plan for Acceleration and Expansion of Indonesia Economic Development (MP3EI) has latched onto this potential, particularly as it concerns enabling the vast SME markets and become one of the main drivers for SMEs adopting cloud computing.

Taken as a whole, cloud computing solutions for Indonesia needs to be targeted and marketed on the basis of removing a specific point of pain (e.g., business management software tool), or *increasing revenue and growth opportunities* (e.g., expanding global market access). Using the traditional IT industry approach of cost savings will likely be unsuccessful for the broad expanse of Indonesian SMEs – they would not *spend* money to learn the lesson on savings.

11. Malaysia – 46.5



SME Market Indicators		Lead Adoption Sectors
Population	30.1m	1. Transportation and storage
No. of SMEs	645,136	2. Wholesale and retail trade
No. of Micro-SMEs (MSMEs)	645,136	3. Arts, entertainment and recreation
Percent of total business	97.3%	4. Repair of motor vehicles
Percent of total employment	57.4%	
Percent contribution to GDP	32.7%	

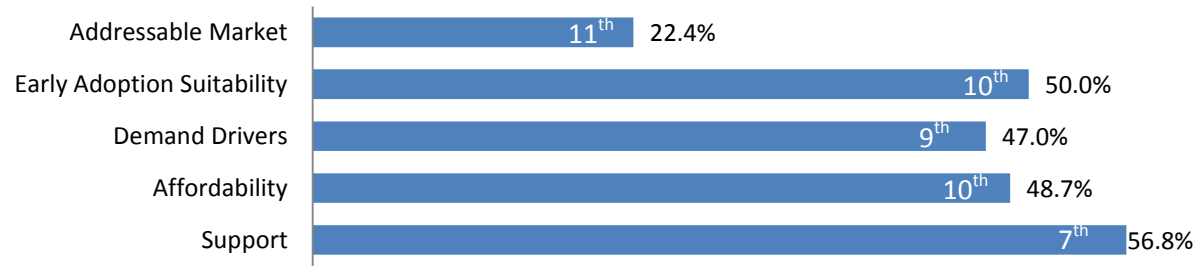
Most Malaysian SMEs are still involved in low-tech and traditional businesses. However, as Malaysia continues its transition to a digital economy, more of these traditional businesses are being replaced by modern companies. According to the government some 73% of SMEs do not use ICT in conducting their business. Of the 17% who do, 67% utilized the Internet in their business. That said, only 12% had their own websites.

A changing mind-set and the government's vision to transform Malaysia into a digital economy is beginning to lead to a greater amount of financing used for improving production processes, or the use of hardware and software to improve efficiencies. Innovation and technology adoption is one of the six focus areas under the SME Masterplan 2012-20. This includes SME cloud computing under the Multimedia Development Corporation (MDeC), providing 6-month subscription fee rebates or up to MYR1,500 of the total subscription fee from any SaaS solutions from any MSC Malaysia Status companies.

Similarly, the Product Development and Commercialisation Fund (PCF) helps local MSC companies accelerate the development of products and solutions to commercialization, with a focus upon areas such as the Internet of Things and Big Data.

The services sector, which accounts for 90% of SMEs, will likely be the most attractive sector to target for increasing adoption of cloud computing services. Simple cloud computing solutions in each of these areas such as enabling enterprises to save costs and reach further customers are becoming an attractive option. These could help improve communications with different employees in the enterprise or other partners, help streamline workflows through better documentations and scheduling, create databases for inventory, and help bid for projects and tenders online.

12. Thailand – 45.0



SME Market Indicators	
Population	67.7m
No. of SMEs	2.9m
No. of Micro-SMEs (MSMEs)	2.9m
Percent of total business	99.8%
Percent of total employment	83.9%
Percent contribution to GDP	36.6%

Lead Adoption Sectors
1. Telecoms and finance
2. Trade (wholesale and retail)
3. Education

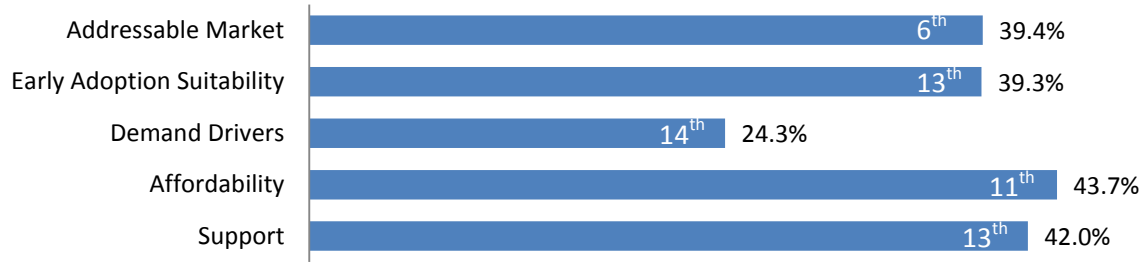
Overall the potential for bringing cloud computing services into Thai businesses appears huge by raising awareness and educating SMEs on the benefits of cloud, and thereafter through trial and demonstration. Moreover, since the Thai government has been heavily involved in enhancing cloud use in government agencies, creating ties with the government is an important step since SMEs in the country are supported by and rely on these government institutions.

There are three pillars to the Government's Smart Thailand 2020 Strategy: Smart Government, Smart Network and Smart Province. Currently, Cloud computing adoption is primarily driven through Thailand's G-Cloud initiatives such as the 'Open Government IT project' which integrates data and services for citizens in industries such as public health, social welfare, and education. Another initiative is the 'Smart Box' program; an integrated device to provide connectivity and deliver government services through smart card authentication and to be implemented to deliver government services to remote communities. These initiatives are expected to move into the private sector in the near term.

Cloud computing adoption by the private sector in Thailand is still at an early phase due mainly to limited knowledge about cloud computing and a perceived lack of appropriate solutions or applications. Moreover, there are currently few prominent domestic Cloud computing providers. The telecommunication carriers - True and CAT - have been early movers in providing such services, but on a fairly limited scale to date. According to one government report on Thai SMEs, there are three major problems facing SMEs in accessing and adopting technology services:

- Inadequate technology supply;
- Inappropriate technology service provision; and
- Lack of technology knowledge resulting in incompatible solutions.

13. India – 37.7



SME Market Indicators	
Population	1.2b
No. of SMEs	36.2m
No. of Micro-SMEs (MSMEs)	36.2m
Percent of total business	80%
Percent of total employment	51%
Percent contribution to GDP	40%

Lead Adoption Sectors

1. Manufacturing (textile, apparel, jewellery)
2. Retail trade
3. Education

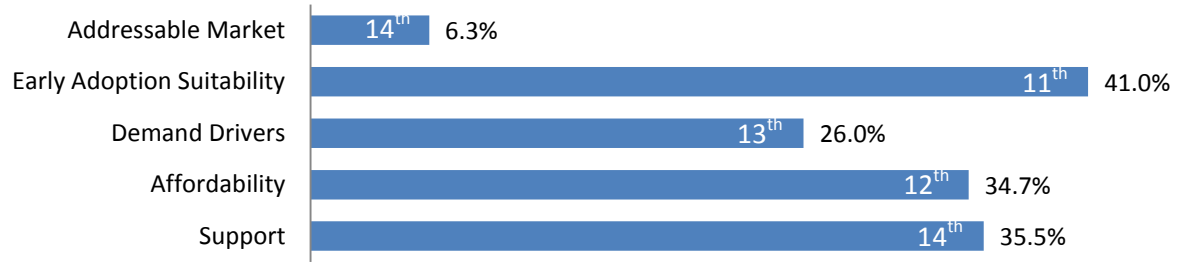
India is a regional IT power with the world's third-largest population of Internet users and home to a significant proportion of the Business Process Outsourcing (BPO) sector. With mobile penetration now running at around 70% and a rapidly growing base of broadband users, India appears to be well poised to meet the cloud computing era.

While success stories of Indian technology start-ups abound, SMEs together in India still show extremely limited use of ICT in their operations. Poor availability of Internet infrastructure, high cost of access and usage, and lack of awareness and low digital literacy are some of the top cited obstacles for technology adoption.

SMEs in India look for cost savings, flexible pricing (such as pay-as-you-go), ease of use and convenience in deployment in cloud but the main drivers will come from increased competition among SMEs, rising popularity of mobile technology and decreasing cost of technology and government leadership to help propel demand for cloud computing.

While the ICT access has been enhanced significantly in recent years, India will have to address the limited speed and relatively high cost of connection, which adds to the cost of cloud offering.

14. Vietnam – 28.7



SME Market Indicators	
Population	93.4m
No. of SMEs	88,664
No. of Micro-SMEs (MSMEs)	303,729
Percent of total business	97%
Percent of total employment	75%
Percent contribution to GDP	40%

Lead Adoption Sectors
1. Commerce (wholesale and retail)
2. Banking and financial institutions
3. Tourism and hospitality services

Cloud computing is emerging as a significant shift for industries in Vietnam with many enterprises now beginning to adopt early service offerings across real estate, insurance and other finance areas, utilizing cloud computing for customer service through web-based customer-oriented applications.

Emerging IT trends, such as e-commerce, are now beginning to facilitate the expansion of SMEs into new markets; allowing companies to establish new supply chains and partnerships. E-commerce sales in Vietnam are expected to reach USD1.3 billion by 2015. Amidst this competitive economic market, SMEs choose not to buy services unless it is the only solution needed. When they engage in one, they go for simple products first. To this end, demand-driven human resources training have been by far more popular than quality management products. At present, the commonly available support services from domestic providers are skills training, partial consulting, marketing, and the like.

Overall, an estimated 25% of enterprises can be seen to be the immediate potential market for cloud computing services and applications - 5% of which are possibly already using (or subscribing to) cloud computing services.

There has however been a lack of financial and marketing support, resulting in difficulty in finding capital mobilization. Government support policies have traditionally left most SMEs out of the loop, dealing with low credit growth and high inflation. In this environment, most MSMEs and SMEs see little network connection to larger enterprises or to international market opportunities. This presents an obvious challenge to providers looking to enter the market, but it also shows quite clearly where the emerging mass opportunity lies.

SME Cloud Computing Market Readiness Assessment Parameters

1. Addressable Market
2. Early Adoption Suitability
3. Demand Drivers
4. Affordability
5. Government and Financing Support

Addressable Market

The Addressable Market parameter provides an indication of the attractiveness of the potential market size in the immediate to mid-term future based on the number of SMEs in the marketplace and their readiness, awareness, and capacity for accessing cloud computing services.

Rank	Economy	Score	Rank	Economy	Score
1	China	141.9	8	New Zealand	28.3
2	Japan	101.4	9	Taiwan	27.6
3	Indonesia	76.8	10	Singapore	25.7
4	Australia	44.3	11	Thailand	22.4
5	South Korea	40.3	12	Malaysia	20.6
6	India	39.4	13	Philippines	17.8
7	Hong Kong	29.3	14	Vietnam	6.3

Components of the Addressable Market Parameter

20%	Relative Size of SME Market	A comparative measure of the number of SMEs in the economy. Score comes from the number of SMEs in that economy as a percentage of total SMEs across the 14 economies surveyed.
20%	Relative Size of Economy	A large number of SMEs will only be attractive if the market is both ready and able to purchase cloud computing services. Score comes from the relative size of economy's GDP as a percentage of total GDP for the 14 economies.
20%	SME Contribution to GDP	GDP measurement alone is not enough if SMEs as a group play a relatively small role in economic development. Calculated as a percentage of overall GDP size.
20%	Market Connectivity/ Accessibility	Based on broadband connectivity (either fixed or mobile), this provides an estimation of SME connectivity across the economy.
20%	Cloud Computing Awareness	Shown throughout the survey to be one of the most important criteria for cloud computing 'readiness', this provides an estimation of SME knowledge of cloud computing benefits.

The first three indicators in the Addressable Market parameter are based upon publically available sources. The last two indicators are a combination of market survey and expert/analyst estimates.

Early Adoption Suitability

The Early Adoption Suitability parameter indicates which sectors within the economy are likely to be the early adopters of cloud computing services and how important those are within the overall economy.

Rank	Economy	Score	Rank	Economy	Score
1	Singapore	78.0	8	Malaysia	57.3
2	Hong Kong	75.7	9	Australia	56.7
3	Taiwan	73.3	10	Thailand	50.0
4	New Zealand	72.3	11	Vietnam	41.0
5	South Korea	67.7	12	Indonesia	39.7
6	Philippines	66.0	13	India	39.3
7	Japan	57.7	14	China	37.3

Components of the Early Adoption Suitability Parameter

33%	SME definition	Assess whether there is a comparatively clear and consistent definition of SME within the economy. (If there is *not* a clear definition, it becomes difficult to either target or support SMEs.)
33%	Level of homogeneity	How easy is it to target SMEs as a group within the economy? Does it require a broad based strategy offering similar tools throughout, or are multiple go-to-market approaches required differing by geography, sector, maturity and size? Is there a strong do-it-yourself/self-service culture, or will implementation and support play a large role?
33%	Level of economic impact of identified early adopter sectors	How significant are the early adopter sectors likely to be - both in terms of size and in terms of influence?

The first indicator in the Early Adoption Suitability parameter is based upon official government definitions in each market. The last two indicators are a combination of national enterprise statistics, market survey and expert/analyst estimates.

Demand Drivers

The Demand Drivers parameter looks at the current strength of *nascent* demand for cloud computing services across SMEs in the economy through estimates of current take-up (in particular of SaaS services). In addition to this, other proxies are useful to consider such as; the push towards digital and online technologies and tools and the readiness of directly relevant case study material being used to promote the benefits of cloud computing services. The availability of useful case-studies is particularly important for driving early take-up by the SME segment.

Rank	Economy	Score	Rank	Economy	Score
1	South Korea	78.0	8	Philippines	52.7
2	Australia	72.0	9	Thailand	47.0
3	New Zealand	71.3	10	Malaysia	41.0
4	Japan	71.0	11	Indonesia	39.3
5	Singapore	68.7	12	China	36.3
6	Hong Kong	66.7	13	Vietnam	26.0
7	Taiwan	62.7	14	India	24.3

Components of the Demand Drivers Parameter

33%	Push to online business	Indicates the momentum and level of expectation within the economy for SMEs to switch to and use online tools for business. This include online registrations and tax filing, through to websites and cloud-based marketing, HR, or accounting packages.
33%	Identification of demand	The levels of existing cloud computing services already in use and the current rate of growth in the market.
33%	Prevalence of case studies	Looks at the availability, relevance, and usefulness of cloud computing case study material or success stories. While in some cases there is a reasonable availability of vendor-based case-studies, they are often neither from the country nor sector in question. This minimises the relevance and impact.

The first indicator in the Demand Drivers parameter is based on government or other market promotion programmes already in place; the second indicator is based upon analyst estimates of the market; the last indicator is based upon anecdotal surveys of each market along with web-based research and vendor and user interviews.

Affordability

The Affordability parameter assesses how affordable cloud computing services are in each economy both on a comparative and absolute basis. In addition, this parameter assesses whether there is clarity around cost, value, the services being provided as well as how to go about product comparison and purchase.

Rank	Economy	Score	Rank	Economy	Score
1	Australia	80.3	8	Philippines	54.3
2	New Zealand	77.7	9	Malaysia	53.0
3	Hong Kong	75.3	10	Thailand	48.7
4	Singapore	73.0	11	India	43.7
5	South Korea	70.7	12	Vietnam	34.7
6	Taiwan	66.7	13	Indonesia	31.3
7	Japan	64.7	14	China	29.3

Components of the Affordability Parameter

33%	Pricing	This indicator is based upon comparisons of the cost of single user SaaS products or a single instance of PaaS or IaaS services as a percentage of GDP per capita and, in some cases, as a proportion of current IT spend.
33%	Clarity of pricing	A measure of how easy it is for an SME to understand the pricing of the service, to buy, and to cross-compare features, value and relevance.
33%	Access to local and international providers	Given the importance of cross-border data transfers (reach, scale, and cost), and the ability to be able to switch providers if required, this indicator assesses the openness of the market to both foreign and local providers, and whether there is a lack of choice and consequent lack of competition for any reason.

The first indicator in the Affordability parameter is based upon public vendor pricings sourced in mid- to late-2014. The latter two indicators are a combination of market survey and expert/analyst estimates.

Government and Financing Support

The Support parameter looks specifically at whether there is an institutional framework for supporting SMEs, whether there are already official cloud computing (or relevant IT) promotion campaigns in place (whether they are yet proving to be effective or not), and whether there is market financing programmes that both user SMEs and cloud-focused start-ups can tap into.

Rank	Economy	Score	Rank	Economy	Score
1	Singapore	73.8	8	Japan	56.5
2	Taiwan	73.0	9	Philippines	52.8
3	Hong Kong	72.3	10	Indonesia	52.0
4	Malaysia	60.8	11	New Zealand	48.8
5	China	59.0	12	Australia	46.0
6	South Korea	58.8	13	India	42.0
7	Thailand	56.8	14	Vietnam	35.5

Components of the Government and Financing Support Parameter

25%	Government institutional framework	Is there a ministry or other leading government agency(s) established to support SME development and respond to concerns or constraints facing SMEs? How effective and well-established is this framework?
25%	Government program for SME Cloud uptake	Are there existing promotion programmes for SME adoption and usage of cloud computing services in place? Do they help to let SMEs try the new services without (initial) obligation or fear of lock-in? Do they help to defray any initial upfront expense, migration or training requirements?
25%	Industry financing support	Is there easy and ready access to industry financing for cloud computing product development or service usage?
25%	Local developer community	How strong and established is the local developer community? How widespread is it? Have they taken an interest in developing relevant cloud computing services programmes?

The first three indicators in the Government and Financing Support parameter are based upon a survey of government and marketplace agencies and programmes through a series of in-country interviews and extensive web-based research of public programmes. The last indicator is based upon local interviews and expert/analyst estimates.

About the Asia Cloud Computing Association

The ACCA is an industry trade association that represents the stakeholders of the Cloud Computing ecosystem in Asia, working to ensure that the interests of the Cloud Computing community are effectively represented in the public policy debate. We aim to promote the growth and development of cloud computing in Asia Pacific through dialogue, training and public education.

We also provide a platform for members to discuss implementation and growth strategies, share ideas, and establish policies and best practices relating to the Cloud Computing ecosystem.

Visit http://www.asiacloudcomputing.org for more information on how to join us, or email info@asiacloudcomputing.org.

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