

# Asia Pacific Tech Market Outlook For 2017 To 2018

The Region's Tech Spending Will See Moderate Growth In 2017 Before Accelerating To Almost 6% Growth In 2018

by Andrew Bartels and Frederic Giron  
January 24, 2017

## Why Read This Report

CIOs in the Asia Pacific region will continue to face a business environment of modest economic growth in 2017, with 3% growth in tech spending. Better economies in 2018 will push growth closer to 6%. Customers in the region will grow and exert more power, creating challenges that require CIOs to do more — and do it faster. CIOs in China and India will have a more positive environment, while those in Japan will continue to face stagnation. This report will provide guidance on how and where CIOs should be increasing tech spending to keep up with, if not outpace, their competitors.

## Key Takeaways

### **Moderating Economic Growth Leads To Moderate But Accelerating Tech Spending**

Slowing economies in most Asia Pacific markets will mean lackluster 3% growth for technology budgets in 2017, followed by faster growth of 5.7% in 2018. CIOs will have to prioritize their tech budgets based on how aggressive their firms' digital transformation plans are.

### **Japan Remains The Largest Regional Market, While India Will Grow The Fastest**

Japan is expected to spend US\$248 billion on tech goods and services in 2017, which is the largest among all Asia Pacific countries. China is not far behind and will grow much faster. India is a distant third but will have the fastest growth.

### **BT Software Gains A Foothold In Asia Pacific, With Room To Grow**

Few Asia Pacific markets have the maturity to embrace the business technology (BT) agenda to the same extent as the US; BT accounts for 14% of Asia Pacific tech spending, versus 32% in the US. BT spending will grow much faster than IT spending through 2018 as firms work to meet the changing expectations of empowered customers.

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by [Andrew Bartels](#) and [Frederic Giron](#)  
with [Matthew Guarini](#), Robert Valdovinos, and Bill Nagel  
January 24, 2017

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## Notes & Resources

Forrester analyzed data on economic growth from the International Monetary Fund (IMF) as well as tech investment data from the national statistics agencies of Australia, China, India, Indonesia, Japan, Malaysia, New Zealand, Singapore, and South Korea, and the Organization for Economic Co-operation and Development (OECD), using our forecasting model for tech purchases.

## Related Research Documents

- [Asia Pacific Tech Market Outlook For 2016 To 2017](#)
- [The Global Tech Market Outlook For 2017 To 2018](#)
- [The Midyear Global Tech Market Outlook For 2016 To 2017](#)

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## The Asia Pacific Tech Market Will Grow By 3% In 2017 And 6% In 2018

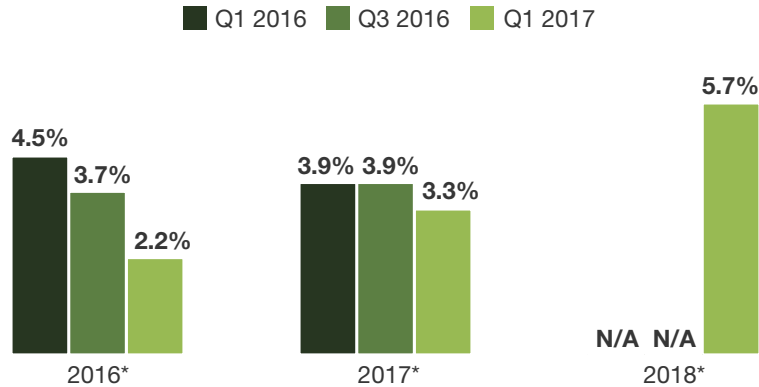
Asia Pacific was once the fastest-growing tech market in the world, but no more — at least until 2018. For the Asia Pacific region as a whole, Forrester now forecasts that business and government spending on tech goods and services in local currency terms will grow by 3.3% in 2017 and 5.7% in 2018. The projected 2017 growth rate is a bit lower than our earlier forecast. In US dollars, growth will be stronger — 5.5% in 2017 — thanks to the dollar's weakening against most currencies. In 2018, stronger economies will lead to the same 5.7% growth in constant currencies (see Figure 1).

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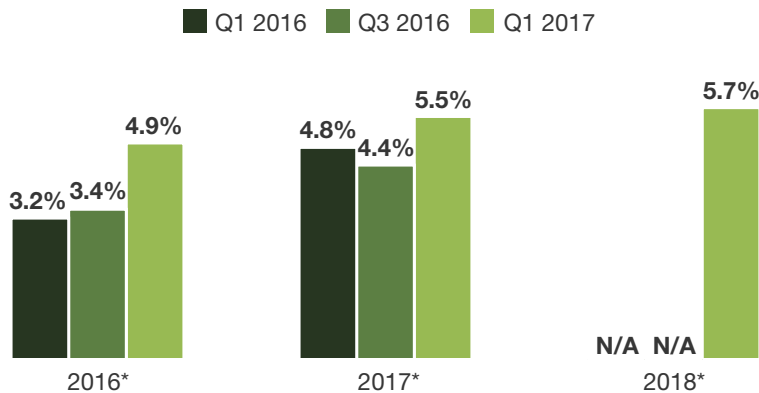
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**FIGURE 1** Asia Pacific Tech Markets Will Grow By 3.3% In 2017 And 5.7% In 2018 In Constant Currency

**Forrester's forecasts for Asia Pacific tech purchase growth for 2016 to 2018 in exchange-rate-adjusted US dollars**



**Forrester's forecasts for Asia Pacific tech purchase growth for 2016 to 2018 in US dollars**



Source: "The Midyear Global Tech Market Outlook For 2016 To 2017" Forrester report and "Asia Pacific Tech Market Outlook For 2016 To 2017" Forrester report

\*Forrester forecast

**Software And Services Will Lead Asia Pacific Tech Market Growth**

In the US and Europe, software and tech consulting services have become two of the largest and fastest-growing tech budget categories. The Asia Pacific region has not reached this point yet, as many countries are still assembling the hardware infrastructure that underpins modern technology. But it is heading in that direction, with software becoming the third-largest tech market category in

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the region after computer equipment. More important, software and tech consulting services — both foundational elements of a BT strategy — will be the fastest-growing categories in 2017 and 2018 (see Figure 2). We believe that:

- › **Software and services spending will rise by 7% to 8% in constant currency.** Software purchases in constant currency terms will grow by 7% in 2017 and 8% in 2018. In US dollars, growth will be 8% to 9%. Software will reach US\$129 billion in 2018. Business process apps will be the largest and fastest-growing software category. Tech consulting and systems integration services will increase by 7% in constant currency terms in both years; in US dollar terms, the US\$80 billion for this category in 2017 will be 9% larger than in 2016. Outside of Australia, New Zealand, and Japan, tech outsourcing services are small but will see 10% US dollar growth (8% in constant currencies) in 2017 and 7% growth (both methods) in 2018.
- › **Hardware spending will expand by 4% to 6%.** Computer equipment, the second-largest tech category, will grow by 5% and 6% in US dollars and 3% and 6% in constant currencies. Communications equipment, the fourth-largest tech category, will grow by 4% and 6% in US dollars and 2% and 6% in constant currencies.
- › **Telecom and hardware maintenance spending will see modest growth.** Telecom services, the largest area of spending, will be flat or grow by 2% to 4% in constant currency terms. Hardware maintenance, which Forrester normally includes in the tech outsourcing category but breaks out separately in Asia Pacific because of its size, will show 0% to 1% increases.

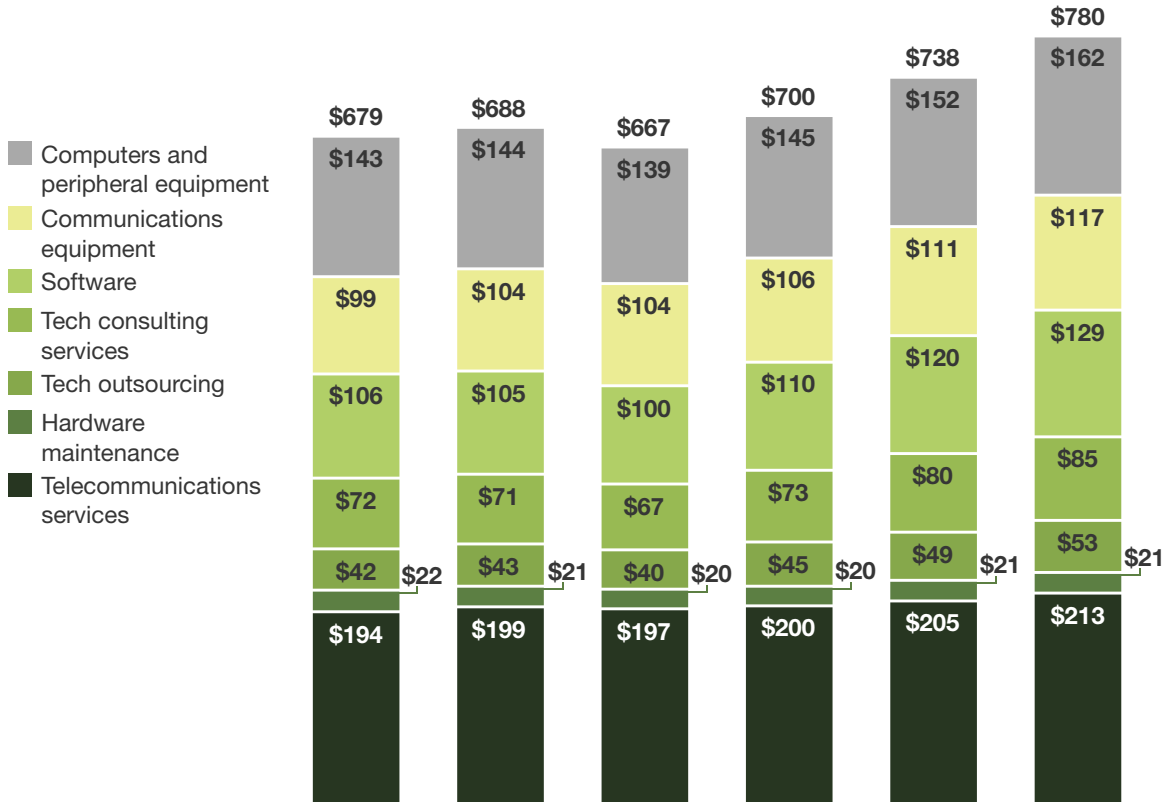
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**FIGURE 2** Forecast: Asia Pacific Tech Purchases, 2016 To 2018

**2-1 Asia Pacific tech purchases in US dollars in 2017 will be \$738 billion, up 5.5% from 2016**

**Asia Pacific business and government purchases of tech goods and services**  
(US\$ billions)



% change from prior year	2013	2014	2015	2016*	2017*	2018*
Computers and peripheral equipment	-4%	1%	-3%	4%	5%	6%
Communications equipment	1%	5%	-1%	3%	4%	6%
Software	-7%	-1%	-5%	10%	9%	8%
Tech consulting services	-8%	-1%	-7%	10%	9%	7%
Tech outsourcing	-5%	1%	-6%	11%	10%	7%
Hardware maintenance	-9%	-4%	-8%	3%	1%	2%
Telecommunications services	0%	2%	-1%	2%	2%	4%
<b>Total tech purchases</b>	<b>-3.2%</b>	<b>1.3%</b>	<b>-3.0%</b>	<b>4.9%</b>	<b>5.5%</b>	<b>5.7%</b>

\*Forrester forecast

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**FIGURE 2** Forecast: Asia Pacific Tech Purchases, 2016 To 2018 (Cont.)

 The spreadsheet associated with this figure contains additional data.

**2-2 Software and services will lead constant-currency growth of 3.3% in 2017 and 5.7% in 2018****Asia Pacific business and government purchases of tech goods and services**

(Percentage change from prior year in exchange-rate-adjusted US dollars)

	2013	2014	2015	2016*	2017*	2018*
Computers and peripheral equipment	5%	4%	5%	1%	3%	6%
Communications equipment	10%	9%	8%	0%	2%	6%
Software	2%	3%	4%	7%	7%	8%
Tech consulting services	0%	3%	2%	7%	7%	7%
Tech outsourcing	3%	5%	3%	8%	8%	7%
Hardware maintenance	-1%	0%	1%	0%	-1%	2%
Telecommunications services	10%	6%	8%	-1%	0%	4%
<b>Total tech purchases without telecom</b>	<b>5.5%</b>	<b>5.1%</b>	<b>5.6%</b>	<b>2.2%</b>	<b>3.3%</b>	<b>5.7%</b>

\*Forrester forecast

**Japan Is Still The Largest Tech Market, But Others Are Growing Faster**

The tech markets in the largest Asia Pacific countries tend to reflect the underlying economic growth in those countries, but the size and structure of tech markets will be determined by their economic maturity and levels of tech adoption. Countries like Australia, Japan, Singapore, and South Korea are highly developed economies, with high levels of tech usage in business and government operations. In those countries, tech spending will be in excess of 3% of GDP. In China and Association of Southeast Asian Nations (ASEAN) countries other than Singapore, economies are not as developed and tech adoption rates not as high. And in other countries like India, both economic development and tech adoption still lag behind other Asia Pacific countries. As a result, while the tech market growth in a country tends to reflect its economic growth, the size of a country's tech market is only loosely correlated to the size of its economy. When we look at the country-level tech market trends, we see that (see Figure 3):

- › **Japan's slow-growth tech market is Asia's biggest — but not for long.** Japan is expected to spend US\$248 billion and on tech goods and services in 2017, which is the largest among all Asia Pacific countries. Measured in yen, growth will be low: 1% in 2017 and 0.4% in 2018.<sup>1</sup> The large but saturated domestic market will drive technology providers to pursue new revenue streams and

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deliver operational excellence to their clients through robotics and automation. Tech outsourcing will grow by around 3% and remain the largest segment of the Japanese tech market; tech consulting services will grow by 2% to 3% in 2018. Software spending will rise slightly. Spending on computer and communications equipment will decline, while telecom spending will be flat.

- › **China's tech market will continue to shift from hardware to software and services.** Forrester projects that China's tech market spending will grow at 7% in yuan renminbi in 2017 (3% in US dollars). Telecom services, computers and peripherals, and communications equipment will remain the top three categories in terms of overall spending. However, hardware markets will continue to mature; state-owned enterprises will continue to replace foreign products with local alternatives; and cloud adoption will reduce the need for capital expenditures.<sup>2</sup> BT investments will ramp up significantly in 2017 as the leading players in traditional industries learn from digital giants like Baidu, Alibaba, and Tencent. This will drive strong software growth of 10% with the increasing adoption of big data, the internet of things (IoT), and eCommerce. Chinese firms will rely on technology service partners to implement these emerging technologies. As a result, tech outsourcing and consulting services will enjoy the highest growth rates.
- › **India's tech spending will maintain the highest growth rate in Asia Pacific.** India's total tech purchases will increase by 8% in 2017 and by 10% in 2018 in rupees (5% and 8%, respectively, in US dollars). A robust economy, combined with government-led initiatives like Digital India and Make in India, will spur increased investment in the software, services, and outsourcing segments. Meanwhile, hardware growth will be subdued as companies lift and shift their computing resources to the cloud. Major cloud providers Amazon Web Services and Google have recently announced India-based data centers, which will accelerate CIOs' adoption of cloud services in a move to drive agility over efficiency. Forrester's research also indicates that 72% of Indian enterprises will prioritize spending on customer experience (CX). This will require more in-house digital skills, such as design and analytics, and better digital experiences backed by agile back-end systems. Although telecom will remain the largest segment in India, Forrester expects only modest growth in 2017 and 2018.
- › **South Korea's tech market will grow moderately.** South Korea's tech spending is expected to grow by 2% in both 2017 and 2018 in Korean won. Communications equipment will remain the largest tech market segment; Korean providers like Samsung Electronics and SK Hynix are leading vendors in that area. Under the Creative Economy strategic plan, Korea aims to become a regional tech startup hub. The government is investing US\$3 billion in the program, which will boost spending on emerging technologies and related tech services. The public and private sectors will also work closer on technology initiatives: Samsung and SK Telecom seek to transform the city of Daegu into an IoT test hub with modern infrastructure for connected cars and mobile health.<sup>3</sup> In the private sector, Lotte, the largest retailer in South Korea, announced in late 2016 plans to partner with IBM to deliver cloud-based IBM Watson solutions across the group.<sup>4</sup>



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- › **Australia's tech focus has shifted to digital operational excellence.** In 2017, around half of the tech investment in Australia will go to software, tech outsourcing, and consulting services. These will also be the top three categories in terms of growth, at rates of 6%, 6%, and 5%, respectively. Australian businesses have made deep investments in digitizing CX and will begin to master digital operational excellence in 2017. CIOs will help the business to implement the platforms and technologies in support of this goal. Digital talent — especially mobile developers, data specialists, and security experts — will continue to be in high demand. Cloud will enable companies to reduce the complexity of their back-end systems and leverage scale and automation to drive innovation and business agility. Around 36% of Australian and New Zealand businesses have invested in machine-to-machine or IoT solutions or will do so over the next 12 months to automate or optimize the back end or to create new revenue opportunities from existing or new products or services.
- › **ASEAN tech spending will grow by 5% in 2017.** Hardware will remain the largest category of tech purchases in the ASEAN countries of Indonesia, Singapore, Malaysia, and Thailand and will account for 76% and 74% of total tech purchases in 2017 and 2018. To realize its Smart Nation vision, Singapore, the biggest tech market in the region, will aggressively increase its investments in network coverage for the city-state.<sup>5</sup> Singapore is trying to drive productivity by deploying robotics and automation solutions at an industry level.<sup>6</sup> Software, tech outsourcing, and consulting services will grow robustly to support these initiatives. In the broader region, spending on software will rise by 9% and on tech outsourcing by 12% in 2017 as leading countries in the region push for new technology solutions in the public and private sectors. The second-largest ASEAN market, Indonesia, lifted its bans on foreign eCommerce investments.<sup>7</sup> With around 70% of the country's internet traffic originating from mobile devices, the spending focus will be on eCommerce and mobile software technology.

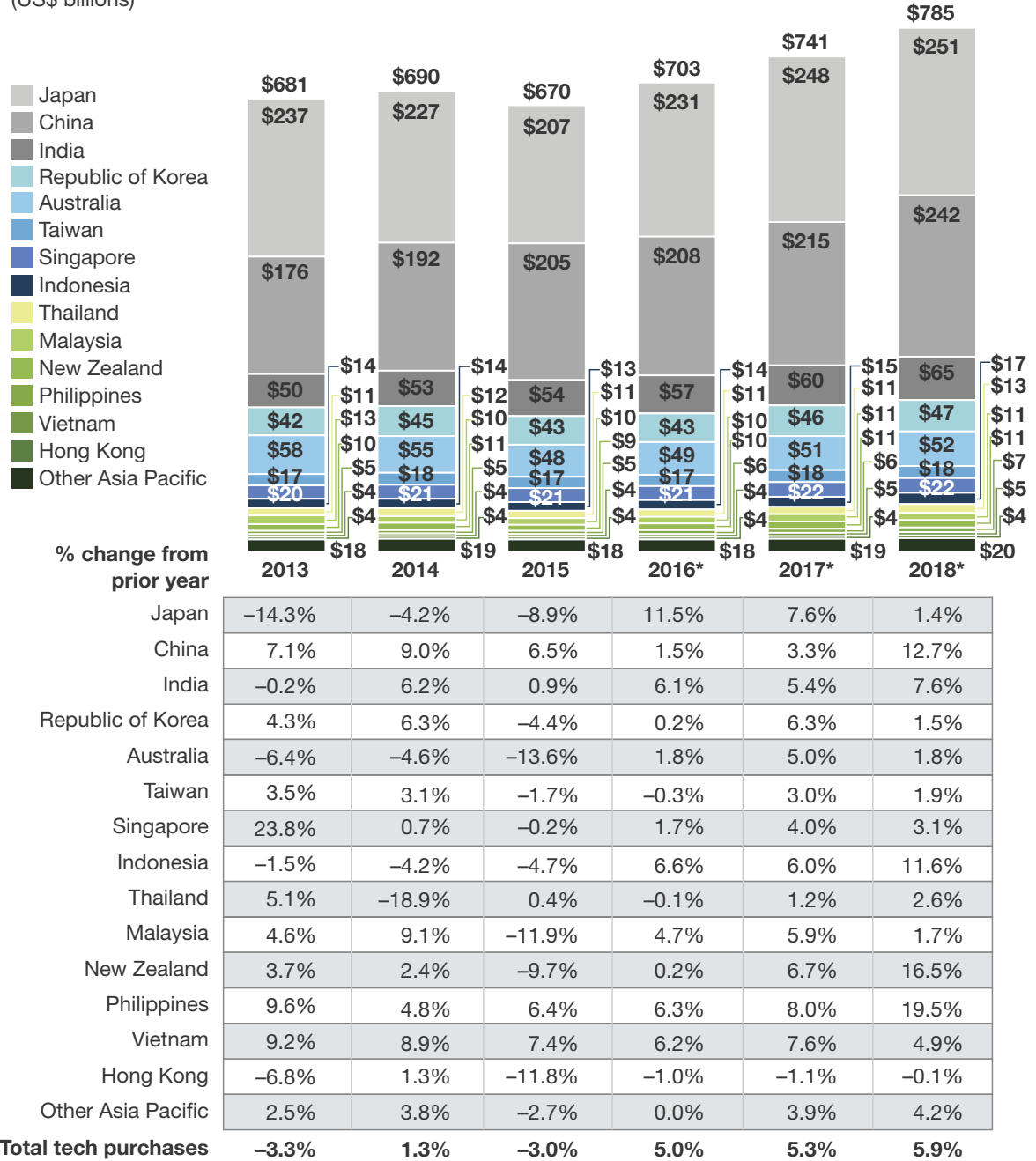
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**FIGURE 3** Forecast: Asia Pacific Tech Purchases By Country, 2016 To 2018

**3-1 Japan and China dominate the Asia Pacific tech market with more than a 60% share**

**Asia Pacific business and government purchases of tech goods and services**  
(US\$ billions)



\*Forrester forecast

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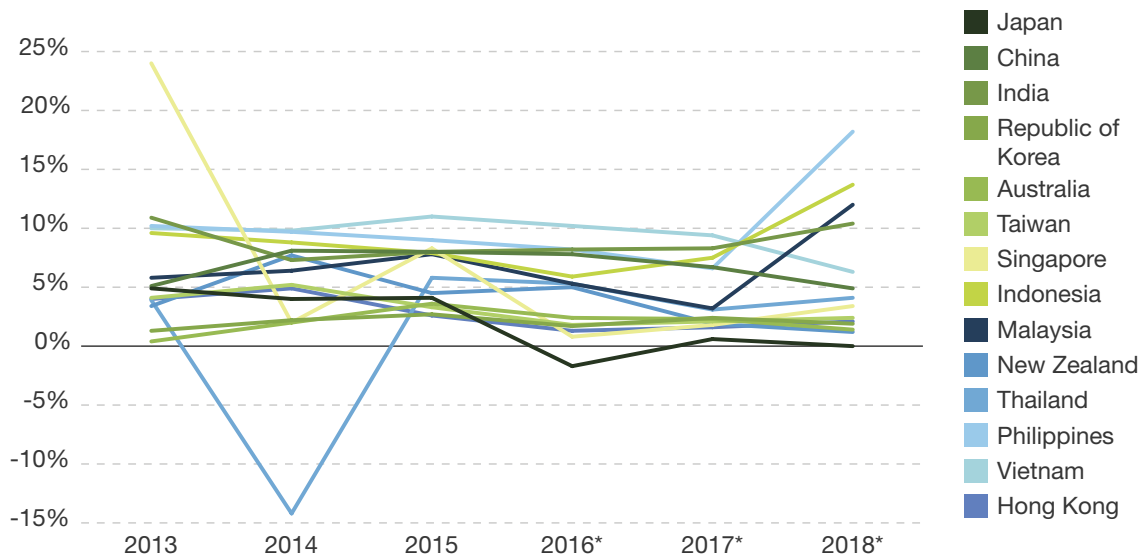
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**FIGURE 3** Forecast: Asia Pacific Tech Purchases By Country, 2016 To 2018 (Cont.)

 The spreadsheet associated with this figure contains additional data.

**3-2 ASEAN countries like Indonesia, Malaysia, the Philippines, and Vietnam will have the fastest tech market growth**

**Asia Pacific business and government purchases of tech goods and services**  
(Percentage change from prior year in local currencies)



\*Forrester forecast

**Most Asia Pacific Economies Will Converge On 3% To 6% GDP Growth**

Economic growth is the most important factor in defining tech market growth, so behind our Asia Pacific tech market lie some assumptions about growth in the region. Here is the economic review of the major economies (see Figure 4):

- › **China's economic growth will continue to decelerate to 6%.** China's leaders are trying to support the transition from a command economy led by investment and exports to a market economy led by consumer spending. While it has made progress, the government continues to make spasmodic attempts to reassert control over stock prices, currency movements, and lending and has continued its support for loss-making state-owned enterprises. Liberal lending policies have kept real GDP growth above 6%, but at the cost of ballooning debt loads. This balancing act is likely to keep China's economy on this growth path, but industrial activity has been slowing and private investment growth has been less than 5% in recent quarters, raising risks of weakening tech demand.<sup>8</sup>

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- › **Japan's economy remains in a deflationary trap.** Despite the efforts of Prime Minister Abe and the Japanese central bank to stimulate the economy, real GDP growth continues to be stuck at 1% or less, and with inflation barely above zero, nominal GDP is only growing by 1.1%. An aging and shrinking workforce doesn't help; neither will a return to zero growth in public spending after three supplementary spending packages in 2016. On the positive side, exports have been strong despite the rising yen, and the OECD predicts that business investment will rise by 1.7% in 2017 and 3% in 2018. That will include similar increases in tech spending.<sup>9</sup>
- › **Australia's and South Korea's economies will grow by 2.5% to 3%.** Both economies have shrugged off the effects of slowing exports to China. In Australia, the slump in the natural resources sector from reduced demand and lower commodity prices has bottomed out, raising the prospect of a revival of business investment after several years of decline. Meanwhile, fiscal stimulus and rising wages have kept consumer spending strong and the housing sector has been on a tear thanks to rising home prices. In South Korea, the critical manufacturing export sector has suffered from weak demand from China, Japan, and Europe, but increased government spending and low interest rates have sustained consumer spending and housing investment. Business investment has remained solid, which will help the tech sector.<sup>10</sup>
- › **India's economy remains the Asia Pacific star with growth above 7%.** Strong consumer spending, bolstered by higher government wages and pensions and improving farm production, will continue to drive Indian economic growth. But business investment has been weak, and the Indian government's withdrawal of high-denomination rupee notes has not helped. The leading Indian tech services companies are seeing slowing revenue growth as overseas outsourcing growth flattens. With inflation running at 5% annually and nominal GDP at around 12%, our projected 8% to 9% growth in tech spending will be slower than growth in the overall economy.<sup>11</sup>
- › **ASEAN economies will grow by 3% to 7%.** Indonesia, Malaysia, the Philippines, Singapore, Vietnam, and the other ASEAN nations will continue to post solid economic growth in 2017 and 2018, thanks to stimulative government spending, solid consumer spending, and continuing demand for goods from China and the US.<sup>12</sup>

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**FIGURE 4** Asia Pacific Economic Growth Will Improve In 2017 And 2018**Leading Asia Pacific countries' real economic growth**

(Percentage change from prior year)

	2015	2016*	2017*	2018*
Japan	0.5%	0.6%	1.0%	0.8%
China	6.9%	6.7%	6.4%	6.1%
Australia	2.4%	2.8%	2.6%	3.1%
South Korea	2.6%	2.7%	2.6%	3.0%
India	7.6%	7.6%	7.6%	7.7%
Singapore	2.0%	1.0%	2.2%	2.6%
Taiwan	0.6%	0.7%	1.7%	1.9%
Philippines	5.9%	6.4%	6.7%	6.8%
Hong Kong	2.4%	1.6%	1.9%	2.8%
Indonesia	4.8%	5.0%	5.1%	5.3%
Vietnam	6.7%	6.0%	6.2%	6.2%
Thailand	2.8%	3.0%	3.3%	3.1%
Malaysia	5.0%	4.3%	4.6%	4.7%

Source: OECD for Japan, China, Australia, South Korea, India, and Singapore; IMF World Economic Outlook database for other countries

\*IMF forecast

**The Yuan Will Weaken Against The US Dollar; Other Currencies Will Strengthen Marginally**

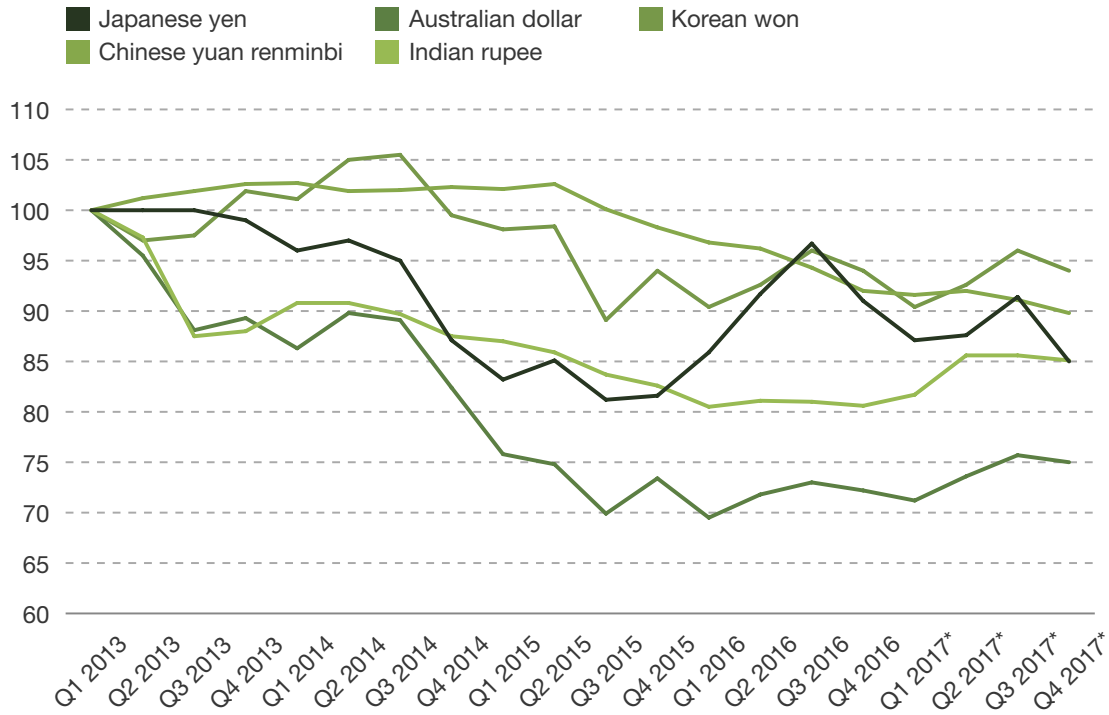
Currency movements are a second factor that influences tech markets, especially when the prices for tech goods and services are converted into US dollars, as is the case for US-based tech vendors. But currency movements in the region are contradictory: China's currency has been falling against the dollar as Chinese businesses and citizens move funds offshore, while Japan's currency has been rising in value. The Australian dollar, the Indian rupee, and the South Korean won, which had fallen in value through mid-2015, have stabilized and fluctuated within a narrow band since then, with small increases on tap for 2017 (see Figure 5).

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**FIGURE 5** China's Currency Will Weaken Against The Dollar In 2017, While Others Will Strengthen**Foreign currency per US dollar**

(Q1 2013 = 100)



Source: Forrester Research, based on quarterly average exchange rates from Oanda

\*Forrester forecast

## BT And Cloud Drive Software And Services Growth

Behind the pattern of tech market growth lies to profound trends in the technology landscape: the rise of business technology, and shift to cloud.

### Business Technology Starts To Become A Driver Of Software And Services

The BT agenda includes technologies that help firms win, serve, and retain customers. Compared with the US, where BT spending represents 32% of overall tech spending, BT investments still comprise a marginal portion — just 14% — of the total technology spending in Asia Pacific (see Figure 6). BT's share of tech spending ranges from a high of 26% in Australia and New Zealand to a low of 9% in India, with China at 14% and Japan at 20%. Still, the BT share of tech purchases in the region is

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rising and will reach US\$106 billion in 2017 and US\$113 billion in 2018. Interest levels in BT vary from organization to organization and the nature of these investments highly depends on the digital maturity of these organizations, as:

- › **Australian organizations start the complex transformation of their operations.** Most Australian organizations have invested in digital customer experience (DCX) technologies for a number of years. In 2017, they will shift their focus toward digital operational excellence. Case in point: Telstra, the largest telecom operator in Australia, announced in mid-2016 that it would invest A\$1 billion through 2019 to accelerate the digitization of its operations.<sup>13</sup>
- › **Chinese, Indian, Korean, and Thai firms invest in DCX to win empowered consumers.** Online consumers in metropolitan areas in India and China are leading the move toward digital empowerment in Asia Pacific.<sup>14</sup> They have extremely high mobile internet penetration rates and expect brands to engage with them in their mobile moments of need. Digital leaders like Amazon in India and Tencent in China are already serving these empowered consumers; incumbents will have to accelerate their DCX investments if they want to remain relevant.<sup>15</sup> In Southeast Asia, Thailand is quickly joining this group of countries, also driven by empowered consumers' fast-changing consumption behaviors.<sup>16</sup> In South Korea, banks and retailers are catching up after years of underinvestment to fight the threat of digital disruptors.
- › **Japan is a laggard from a BT adoption point of view.** While the country has a reputation of being tech-savvy, its technological innovations often evolve in ways that are unique to Japan, and smartphone penetration still lags that of other developed markets. Last but not least, the majority of online population in Japan is very slow to embrace digital services — so the market is not benefiting from the main driver of BT adoption found in other Asia countries.
- › **Other markets are still early in their BT transformation journeys.** Countries like Indonesia and Vietnam, which have better economic growth prospects, are not yet ready to use most BT. At this point in time, BT initiatives will mostly focus on mobile commerce, taking advantage of rising consumer adoption of smartphones and other mobile phones in the ASEAN countries.

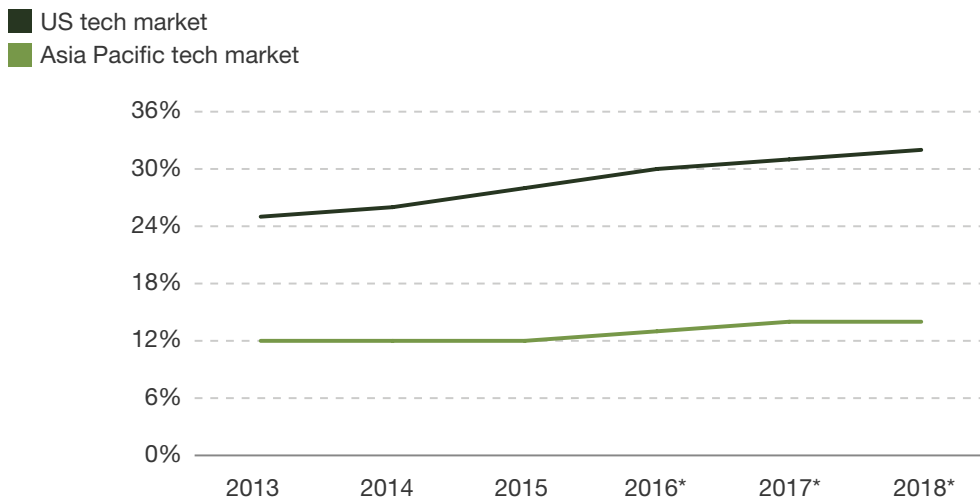
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**FIGURE 6** Asia Pacific's BT Purchases Are Small But Growing Faster Than IT Purchases

**6-1 BT's share of Asia Pacific tech purchases is lower than its share of US tech purchases**

**Business technology (BT) as percentage of total tech market purchases**



Source: Forrester Research

\*Forrester forecast

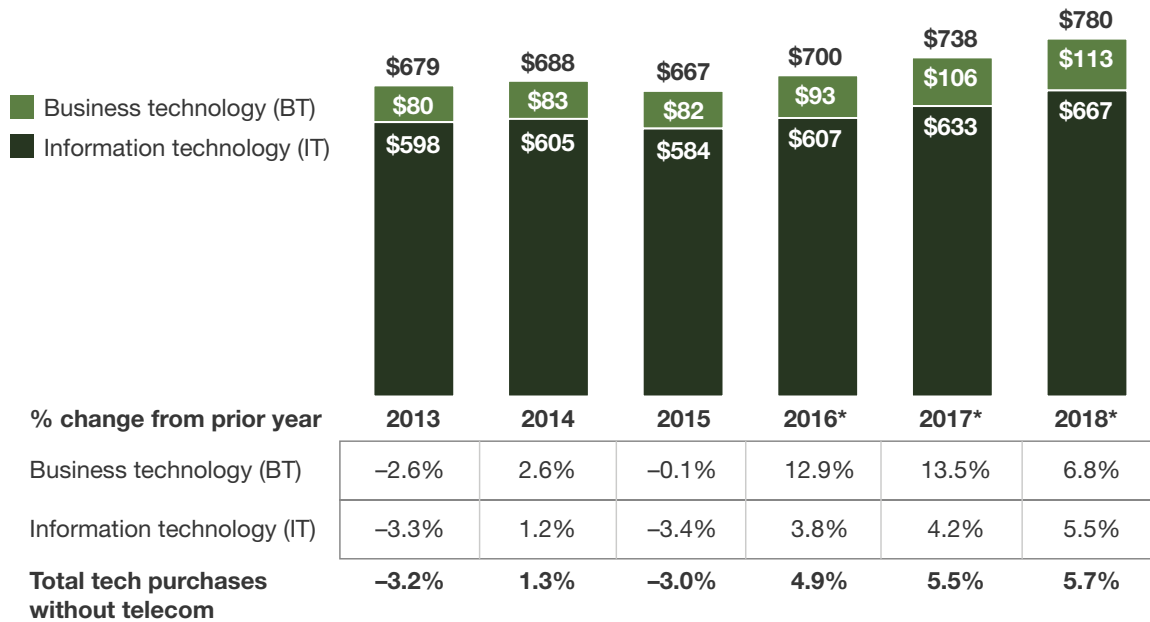


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**FIGURE 6** Asia Pacific's BT Purchases Are Small But Growing Faster Than IT Purchases (Cont.)**6-2 Asia Pacific BT purchases are smaller than IT purchases but are growing faster**

**Asia Pacific business and government purchases of tech goods and services**  
(US\$ billions)



\*Forrester forecast

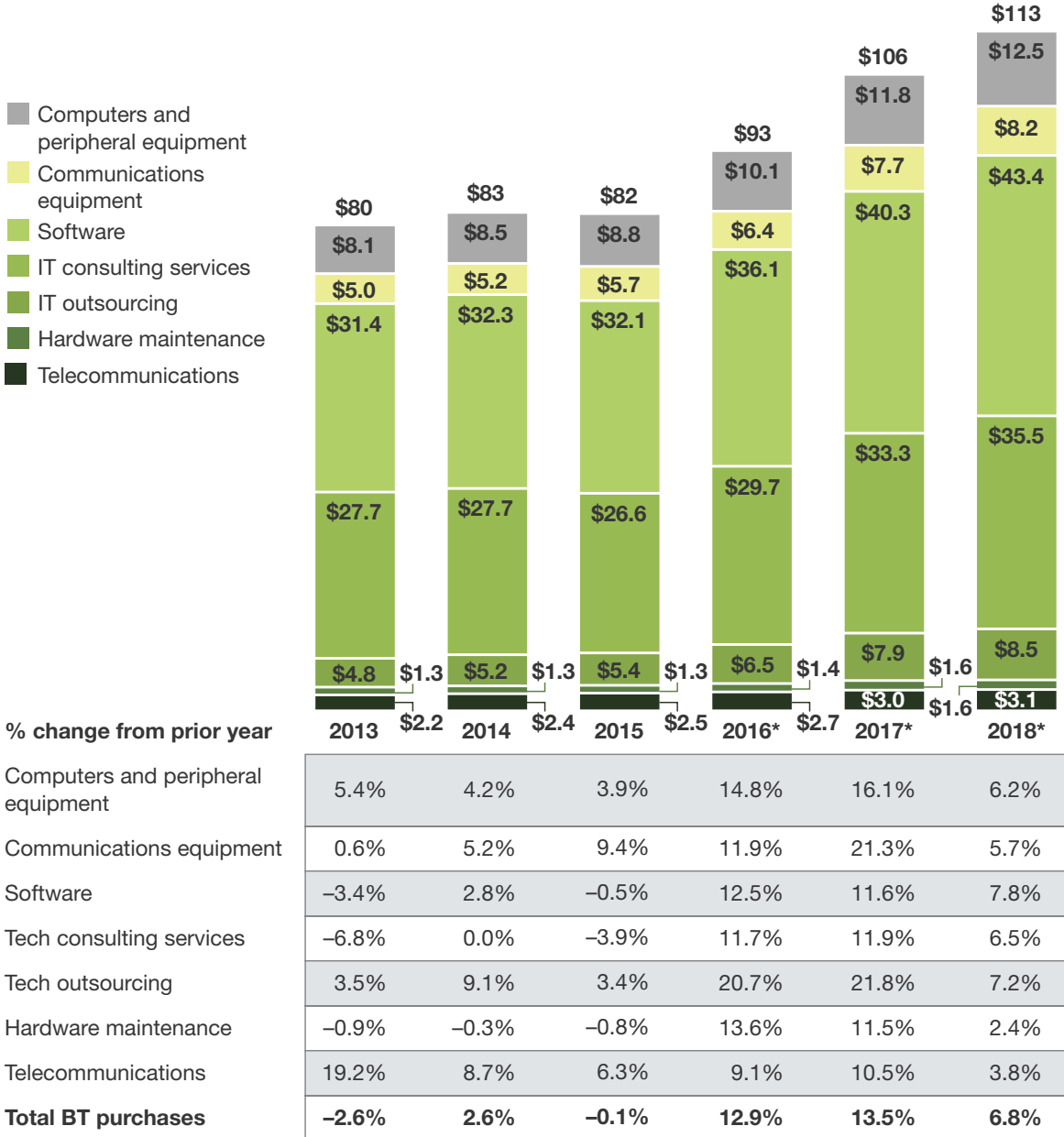
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**FIGURE 6** Asia Pacific's BT Purchases Are Small But Growing Faster Than IT Purchases (Cont.)

**6-3 Asia Pacific BT purchases by category**

**Asia Pacific business and government purchases of BT goods and services**  
(US\$ billions)



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**Cloud Applications Lead Cloud Adoption**

Public cloud services continue to gain traction in Asia Pacific markets as organizations seek to execute their BT agenda. While business teams initially drove the adoption of public cloud services, attracted to the cost model, speed of implementation, and ease of use, CIOs are now embracing public cloud services to enable digital transformation within their firms. Forrester predicts that the public cloud services market in Asia Pacific will grow from US\$10 billion in 2015 to US\$20 billion in 2018 at a compound annual growth rate (CAGR) of about 24% (see Figure 7). Specifically:

- › **Cloud will reach 18% of software spending and 9% of outsourcing spending.** While cloud offerings in their various flavors still have a small 3% share of the Asia Pacific tech market, they are growing rapidly. They're becoming significant parts of the software market and transforming the outsourcing market (where we count cloud platform services).
- › **Cloud applications or software-as-a-service will remain the largest category.** The market for public cloud applications will double in size from US\$8 billion in 2015 to US\$16 billion in 2018 at a CAGR of 25%. Early growth centered on software-as-a-service (SaaS) categories like CRM, content and collaboration, and productivity applications. But over the past two or three years, adoption has increased in categories like field service management and learning and talent management, as well as for SaaS enterprise resource planning (ERP) solutions that complement on-premises core transactional applications.
- › **Cloud platform services will grow the fastest.** The public cloud platform services market will grow from US\$1 billion in 2015 to US\$4 billion in 2018 at a CAGR of 69%. As cloud platforms mature, become more available in Asia Pacific countries, and serve more use cases, they are becoming a viable option for deploying on-premises enterprise systems and application development platforms. Public cloud platforms are becoming popular for customer-critical applications because they offer rapid access to innovations through APIs, accelerate resource provisioning, bring financial flexibility, and provide scale whenever required.<sup>17</sup>
- › **Middleware SaaS subscription services will follow cloud applications' success.** This category includes application integration services, database-as-a-service, file-sharing services, and any other public cloud services that do not fall into another category. Middleware SaaS subscription services will grow from US\$2 billion in 2015 to US\$4 billion in 2018 at a 20% CAGR. As businesses adopt more public cloud application services, their need to integrate cloud and on-premises applications and to store and share ever-growing volumes of electronic content will drive increased adoption of middleware cloud services. But cannibalization of existing license software sales will hold back total middleware growth during the transition.

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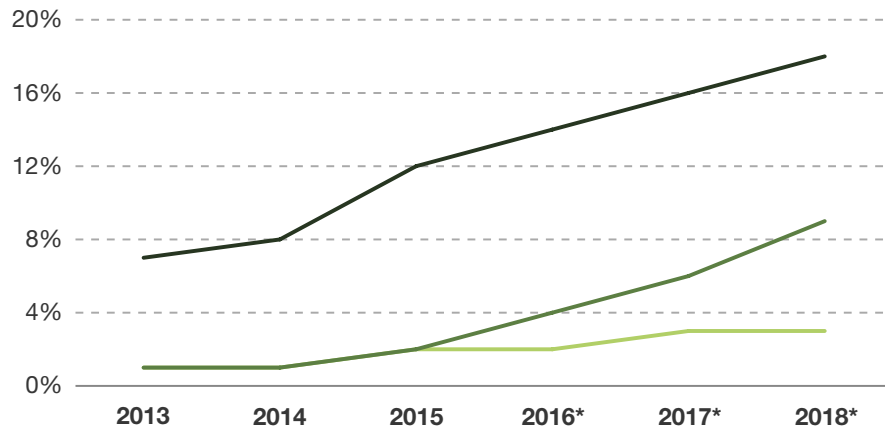
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**FIGURE 7** Cloud Is Growing Rapidly In The Asia Pacific Tech Market But Is Still Just 3% Of Total Tech Purchases

**7-1 Cloud will reach 20% of software spending by 2018, but just 3% of all spending**

**Cloud as a percentage of Asia Pacific tech purchases**

- Percentage of software spending
- Percentage of outsourcing spending
- Percentage of total tech purchases



Source: Forrester Research  
 \*Forrester forecast

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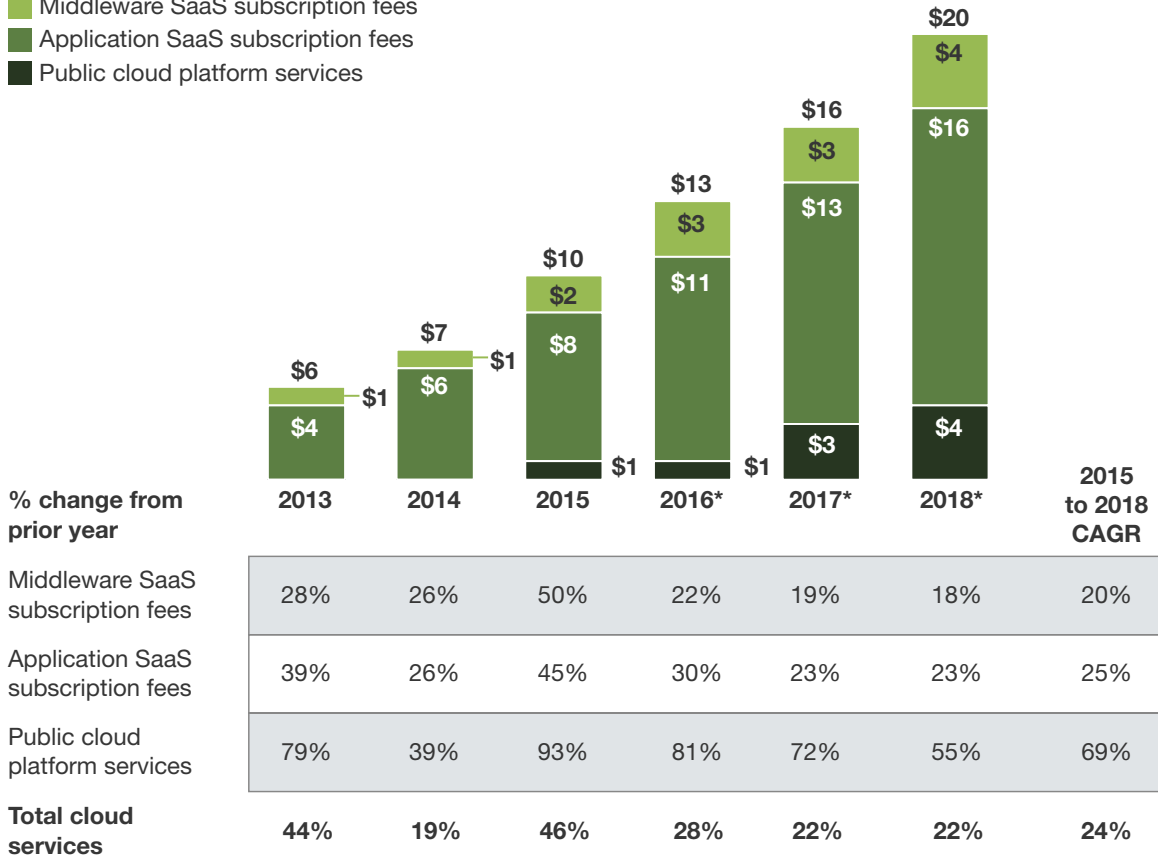
**FIGURE 7** Cloud Is Growing Rapidly In The Asia Pacific Tech Market But Is Still Just 3% Of Total Tech Purchases (Cont.)

**7-2 Cloud platform services are growing the fastest in the region**

**Asia Pacific business and government spending on cloud software and services**

(US\$ billions)

- Middleware SaaS subscription fees
- Application SaaS subscription fees
- Public cloud platform services



Source: Forrester Research

\*Forrester forecast

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**Software Gains In Asia Pacific With Higher Spending On Applications, Especially For SaaS**


The Asia Pacific software market is experiencing three trends (see Figure 8):

- › **Applications are becoming a large share of software purchases.** Three years ago, the region's spending on applications was not much larger than its spending on middleware and operating system software. The US\$43 billion the region will spend on application purchases in 2017 will be almost 45% higher than the US\$30 billion it will spend on middleware and operating systems combined — and in 2018 that ratio will rise to 55%.
- › **Licensed on-premises software is starting to give way to SaaS.** Owing to lack of availability, uncertain network reliability, and intrusive government security measures, SaaS has been slower to gain adoption in most of the region, with the exceptions of Australia, Japan, South Korea, and New Zealand. In 2013, application license and maintenance fees were more than three times larger than subscription fees; for middleware the ratio was 11 to one. But SaaS adoption is growing and spreading into China and ASEAN as US- and Europe-based SaaS vendors expand into the region to compete with local vendors. SaaS subscription fees for applications will exceed combined license and maintenance fees in 2018.
- › **Custom-built software is flattening out.** The Asia Pacific region has relatively few native software vendors that sell to businesses and consumers, and most software vendors (apart from IBM, Oracle, and SAP) have been slow to adapt their products to Asian languages and currencies or set up sales and support operations.<sup>18</sup> As a result, custom-built software has had a big share of the Asia Pacific market, especially in India, Japan, and South Korea, where large tech services firms have played this role. But the rise of companies like Kingdee and Yonyou in China and the expansion of US- and Australia-based SaaS vendors like Salesforce, NetSuite, and Xero are starting to reduce the need for custom software.

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**FIGURE 8** Forecast: Asia Pacific Software Purchases, 2016 To 2018

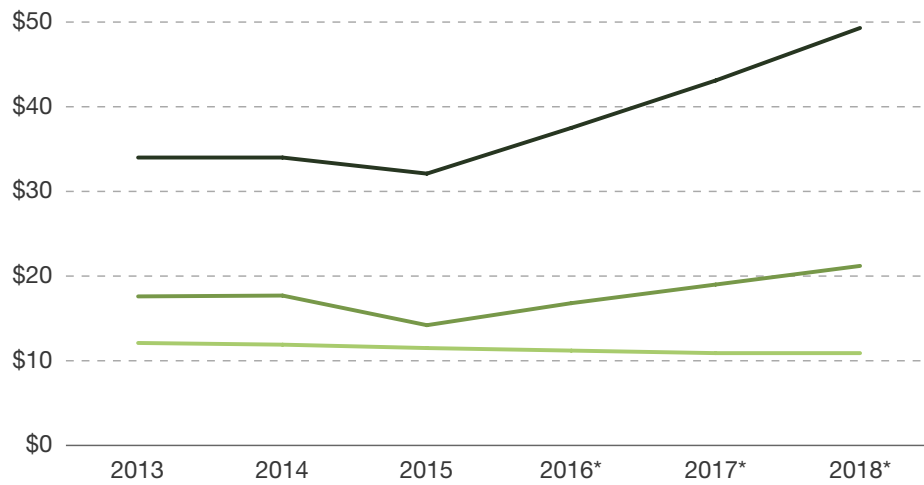
 The spreadsheet associated with this figure contains additional data.

**8-1 Most Asia Pacific business and government software spending will go to applications**

**Asia Pacific business and government purchases of software**

(US\$ billions)

-  Operating systems
-  Middleware
-  Applications



\*Forrester forecast

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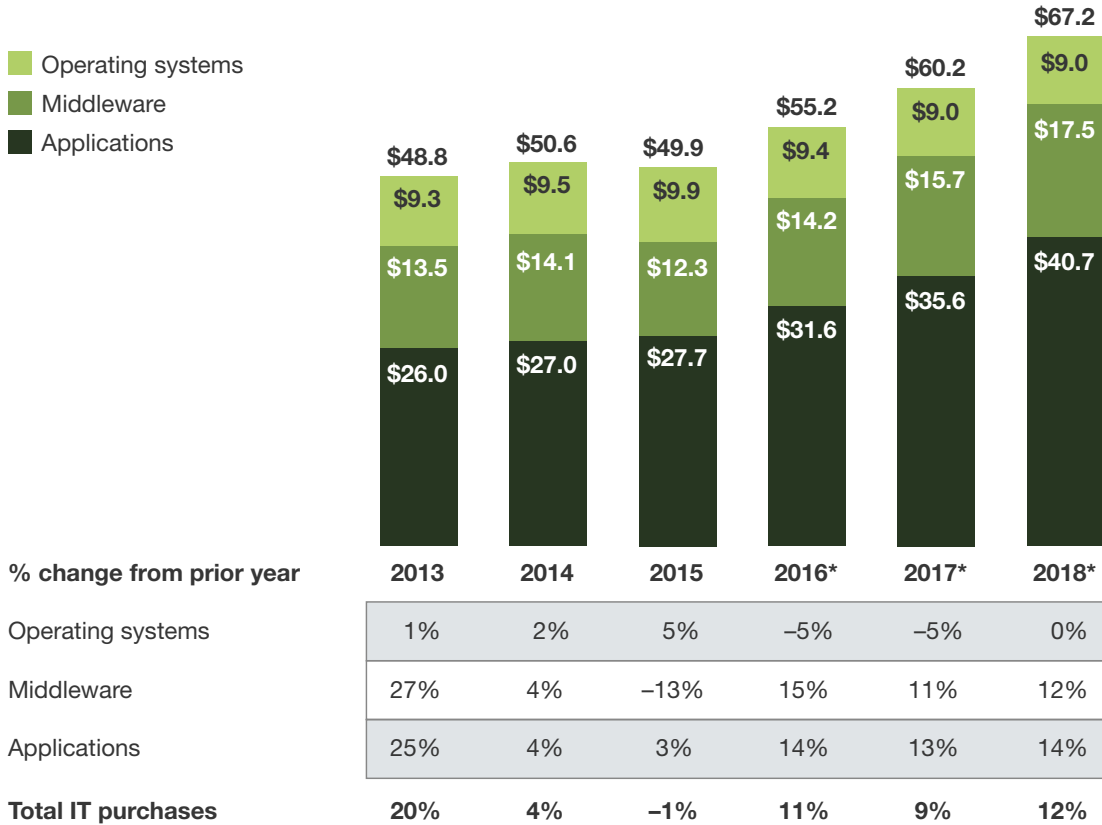
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**FIGURE 8** Forecast: Asia Pacific Software Purchases, 2016 To 2018 (Cont.)

**8-2 Asia Pacific software purchases will grow by 7% to 8% in local currencies, driven by SaaS**

**Asia Pacific business and government purchases of software**

(Percentage change from prior year in exchange-rate-adjusted US dollars)



\*Forrester forecast

**PCs And Tablets Will Do Better Than Servers And Storage**

Even with the growing importance of software and tech services for Asia Pacific firms, computer equipment remains a large part of the region's tech market. PCs and tablets are the largest and fastest-growing parts of the hardware market, driven by the expanding white-collar workforce in the expanding markets of China, India, and the ASEAN countries. Lenovo will continue to be the main beneficiary, although Apple, Dell, HP, Microsoft (with its Surface tablet), and Samsung are sharing in the growth. Servers will grow more slowly as prices from Dell, Fujitsu, HP, Lenovo, IBM, and others continue to decline. Storage device spending from Dell (now including EMC), Hitachi, HP, NetApp, and IBM will be flat for similar reasons (see Figure 9).

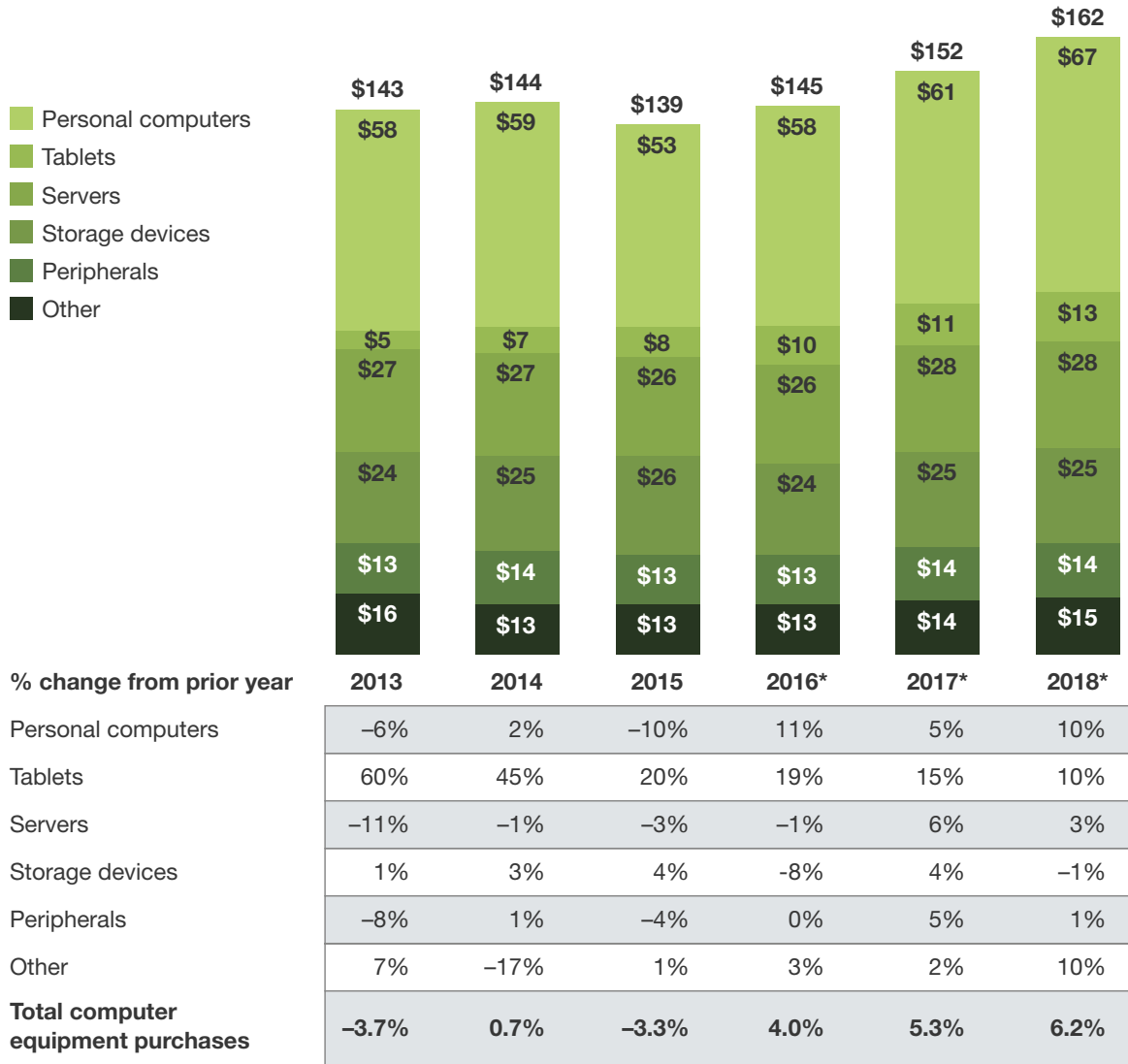


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**FIGURE 9** Forecast: Asia Pacific Hardware Purchases, 2016 To 2018**9-1 Asia Pacific computer equipment purchases will rise by 5% in 2017 and 6% in 2018 in US dollars**

**Asia Pacific business and government purchases of computer equipment by type**  
(US\$ billions)



\*Forrester forecast

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**FIGURE 9** Forecast: Asia Pacific Hardware Purchases, 2016 To 2018 (Cont.)

 The spreadsheet associated with this figure contains additional data.

**9-2 Asia Pacific computer equipment purchases will grow by 3% in 2017 and 6% in 2018 in local currencies**

**Asia Pacific business and government purchases of computer equipment by type**  
(Percentage change from prior year in exchange-rate-adjusted US dollars)

% change from prior year	2013	2014	2015	2016*	2017*	2018*
Personal computers	2%	5%	-2%	8%	2%	10%
Tablets	74%	50%	31%	16%	13%	10%
Servers	-3%	2%	6%	-4%	4%	3%
Storage devices	10%	7%	13%	-10%	1%	-1%
Peripherals	0%	5%	4%	-3%	3%	1%
Other	16%	-14%	10%	0%	0%	10%
<b>Total computer equipment purchases</b>	<b>5.0%</b>	<b>4.4%</b>	<b>5.3%</b>	<b>1.2%</b>	<b>3.2%</b>	<b>6.2%</b>

\*Forrester forecast

## Recommendations

### Shift Your Focus To Business Technology Software And Services

The role of the CIO and tech management organization is changing in the Asia Pacific region. The task of providing the information technology infrastructure of computing, communications, and core transaction, ERP, and database systems, which has long been a reality in the developed economies like Australia, Japan, and South Korea, is now being achieved by mainland China, India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam. Leading firms in the first group of countries are moving to the next generation of cloud-based infrastructures, at least for now with a hybrid approach that blends on-premises and cloud resources. But in all countries, CIOs now need to turn their attention to working with their business partners to find the right commercial software and related tech services to support their strategic objectives. With most countries, apart from Japan, projected to enjoy solid economic growth, a key strategic objective is certain to be revenue growth. Forrester's recommendations for CIOs:

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- › **In Australia and New Zealand (ANZ), implement a customer-obsessed operating model.** In 2016, CIOs in ANZ embraced the digital revolution as a way to remain relevant. In 2017, ANZ CIOs need to accelerate the changes to the technology team that will make them fast, agile, and customer-obsessed. This includes making Agile development a standard practice, training technology teams on human-centered design principles, and changing key performance indicators to reflect customer outcomes.
- › **In China, continue to digitally transform.** China's economy will remain in slowdown for the foreseeable future, and the result of the US presidential election has only increased the unpredictability of China's business environment. CIOs and tech management leaders must take the lead and devote their time to accelerating digital transformation and boosting digital business. To prioritize investments correctly, involve all relevant stakeholders in the technology purchasing process.
- › **In India and Southeast Asia, coordinate customer-focused initiatives across functions.** Firms in these countries are moving from strategies focused on customer acquisition to ones focused on customer experiences. This means that every enterprise function beyond sales and marketing will need to spend on customer-focused initiatives. CIOs need to ensure that this technology money is spent wisely across functions in coordinated initiatives, taking care of dependencies.
- › **Don't fear cloud — profit from it.** Cloud computing is not only a viable option for a broad range of technology workloads; it has also quickly become the preferred method for reaching new markets faster and staying ahead of the competition.<sup>19</sup> CIOs should not make the mistake of thinking that this doesn't apply to their organization. What's more, leading public cloud providers like Amazon Web Services, Microsoft Azure, and Google have all made investments in various markets in the region to alleviate CIOs' concerns about security, data residency, and local regulations.

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## Supplemental Material

### Online Resource

The underlying spreadsheet detailing the forecast in Figures 1 through 9 is available online.

### Methodology

- › **Step 1: Collect official data on nominal GDP and on tech investment for major markets in the Asia Pacific region.** We collected data on nominal GDP from the International Monetary Fund's semiannual World Economic Outlook, with real GDP growth rates updated using the most recent consensus of economic forecasts published each week in *The Economist*. We also collected data on investment in computer equipment, communications equipment, and software for the major countries in the Asia Pacific region (Australia, Japan, New Zealand, Singapore, and South Korea) from national statistics agencies or from the Organization for Economic Cooperation and Development (OECD). We adjusted the country data on investment in software to exclude the

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value of "own-account" or internally developed software, which Forrester includes in IT staff costs. We excluded 35% of the total value of software, based on US data on the distribution of software between own-account, packaged, and customizable software. In most cases, this data was available through the second or third quarters of 2016.

- › **Step 2: Collect data on business and government spending on tech consulting and systems integration services, tech outsourcing services, and telecommunications services.** We collected data on gross output of the information and communications industry and the subindustries of telecommunications services and IT and other information services from the statistics agencies of Australia, Japan, New Zealand, Singapore, and South Korea or from the OECD. We adjusted the country data on telecommunications services to exclude consumer spending (using data from personal consumption reports where available, or ratios from similar countries). We split IT and other information services into tech consulting and tech outsourcing using ratios from the US and other countries where we can find that level of detail. In most cases, this data was available through the second or third quarters of 2016.
- › **Step 3: Estimate tech purchases for China, India, Indonesia, and other large emerging economies in Asia Pacific.** For markets like China, Hong Kong, India, Indonesia, Malaysia, the Philippines, and Vietnam for which detailed data on tech investment is generally not available, we used available data on gross fixed capital formation and GDP to estimate their tech spending.
- › **Step 4: Estimate tech spending for other Asia Pacific markets.** For markets in the other developing countries in Asia Pacific where national statistical or OECD data was not available, we estimated total tech purchases by multiplying their GDP by the tech-purchases-to-GDP ratios for OECD countries at similar stages of economic development, such as Mexico, Greece, and Turkey. We adjusted these proxy ratios for individual countries based on analyst judgments about their state of technology adoption.
- › **Step 5: Forecast tech market growth by product and country for all of 2016, 2017, and 2018.** Our forecasts were driven by our forecasting model, which includes IMF forecasts for nominal GDP growth, tech adoption patterns, and currency projections.
- › **Step 6: Estimate Asia Pacific breakdown into subcategories of computer equipment and software.** Using historical data for the US on business and government investment in servers and mainframe computers, personal computers, storage devices, peripherals, and other computer equipment, we estimated 2013 to 2016 purchases of these subcategories of computer equipment. We compared this data with that of leading hardware vendors on their revenues from sales of these subcategories of computer equipment for the US and in Asia Pacific; then, using adjustments from the US to bring data from the vendor and from the US Department of Commerce in line, we estimated the global value of purchases of these subcategories of equipment. Using data from leading software vendors, we estimated the amount of software revenues received from sales of operating system software, middleware software, application software, and software custom-built for companies by contractors and tech services vendors for the Asia Pacific region.

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## Endnotes

- <sup>1</sup> The yen gained strength against the dollar in 2016, so dollar growth was 12% in 2016 and will be 8% in 2017, before subsiding to 1% in 2018.
- <sup>2</sup> See the Forrester report "[Market Overview: SaaS Is Gaining Momentum In The World's Largest Digital Market.](#)"
- <sup>3</sup> Source: Gedalyah Reback, "Following Cisco, Samsung aims to turn Daegu into South Korea's first major smart city," Geektime, March 28, 2016 (<http://www.geektime.com/2016/03/28/following-cisco-samsung-aims-to-turn-tiny-daegu-into-south-koreas-first-major-smart-city/>).
- <sup>4</sup> Source: "Lotte announces agreement with IBM to leverage Watson for retail," PR Newswire press release, December 20, 2016 (<http://www.prnewswire.com/news-releases/lotte-announces-agreement-with-ibm-to-leverage-watson-for-retail-300382289.html>).
- <sup>5</sup> Source: Irene Tham, "Smart Nation push to see \$2.8b worth of tenders this year," The Straits Times, May 24, 2016 (<http://www.straitstimes.com/singapore/smart-nation-push-to-see-28b-worth-of-tenders-this-year>).
- <sup>6</sup> Source: "Transforming our economy through enterprise and innovation," Singapore Budget ([http://www.singaporebudget.gov.sg/budget\\_2016/pb.aspx#s3](http://www.singaporebudget.gov.sg/budget_2016/pb.aspx#s3)).
- <sup>7</sup> Source: Nadine Freischlad, "More ecommerce opportunity in Indonesia as foreign investment bans are lifted," Tech in Asia, June 1, 2016 (<https://www.techinasia.com/indonesia-lifts-ban-on-ecommerce-investments>).
- <sup>8</sup> Source: "China - Economic forecast summary," OECD, November 2016 (<http://www.oecd.org/china/china-economic-forecast-summary.htm>).
- <sup>9</sup> Source: "Japan - Economic forecast summary," OECD, November 2016 (<http://www.oecd.org/japan/japan-economic-forecast-summary.htm>).
- <sup>10</sup> Source: "Australia - Economic forecast summary," OECD, November 2016 (<http://www.oecd.org/australia/australia-economic-forecast-summary.htm>) and "Korea - Economic forecast summary," OECD, November 2016 (<http://www.oecd.org/korea/korea-economic-forecast-summary.htm>).
- <sup>11</sup> Source: "India - Economic forecast summary," OECD, November 2016 (<http://www.oecd.org/india/india-economic-forecast-summary.htm>).
- <sup>12</sup> Source: "Indonesia - Economic forecast summary," OECD, November 2016 (<http://www.oecd.org/indonesia/indonesia-economic-forecast-summary.htm>).
- <sup>13</sup> Source: Rick Molinsky, "Telstra invests big for customers in networks of the future and digitisation," Telstra Exchange, August 11, 2016 (<https://exchange.telstra.com.au/2016/08/11/telstra-invests-up-to-extra-3-billion-on-next-generation-network-leadership-digitisation-and-customer-experiences/>).
- <sup>14</sup> See the Forrester report "[Brief: Introducing Forrester's Empowered Customer Segmentation In Asia Pacific.](#)"
- <sup>15</sup> See the Forrester report "[Amazon Prime Launches In India.](#)"
- <sup>16</sup> Source: "Digital wallets surge popularity in APAC," Mastercard Intelligence press release, February 18, 2016 (<http://www.mastercardintelligence.com/content/intelligence/en/research/press-release/2016/digital-wallets-surge-popularity.html>).
- <sup>17</sup> See the Forrester report "[The Forrester Wave™: Public Cloud Platforms In China, Q4 2016.](#)"
- <sup>18</sup> Leading Asia Pacific enterprise software companies include Kingdee and Yonyou in China; TrendMicro in Japan; Aconex, Altium, Atlassian, MYOB, and TechnologyOne in Australia; Hancorn in South Korea; and Xero in New Zealand.
- <sup>19</sup> See the Forrester report "[Don't Fear The Cloud — Profit From It.](#)"

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