

Advanced analytics: Poised to transform Asian companies

McKinsey Analytics

Executives in Asia are increasingly aware of the tremendous impact that advanced analytics could have on their organization. Now they must take concrete steps to adopt these technologies.



Data and analytics are transforming industries, disrupting established business models, and providing unprecedented insight into markets and customers. Savvy organizations are harnessing their data and using analytics to boost revenues and create cost efficiencies. One Indian automotive original equipment manufacturer (OEM), for example, increased its sales conversion by 50 percent by deploying predictive analytics to identify the most promising leads. Such success stories have caught the attention of Asian executives: McKinsey research found that levels of awareness about the value of data and analytics among business leaders in the region increased ninefold from 2011 to 2016.

Despite this rising recognition, many Asian organizations lag behind in actual adoption and risk ceding a competitive advantage to companies that have built advanced analytics capabilities. Our discussions with more than 100 Asian executives reveal that many still struggle to pinpoint the most valuable use cases and fear their organization may lack the strategic path, technology, processes, and talent to implement an analytics program. However, these business leaders can learn from other companies within Asia that have successfully adopted analytics. With this understanding, Asian organizations can confidently take the first steps toward harnessing the full potential of data and analytics.

Increased recognition of advanced analytics' value in Asia, but adoption trails

Over the past six months, we conducted more than 100 conversations with Asian executives. It's clear that Asian companies increasingly see the potential value of advanced analytics to their top and bottom lines. A study of the financial statements of more than 2,600 listed companies with revenues above \$1 billion in 11 sectors and 39 industries across 14 Asian countries confirms the trend. The presence of analytics keywords (such as big data, machine learning, and artificial intelligence) in these statements was used as a proxy for awareness of analytics, since greater emphasis in investor communications implies at least a basic level of interest and investment in analytics capabilities. According to this metric, awareness grew from 3 percent of companies in 2011 to 27 percent in 2016, rising to 40 percent when press mentions of companies associated with advanced analytics keywords were included.¹ (For more research findings, see sidebar, "Country and sector comparisons of advanced analytics awareness.")

But has this increased awareness of advanced analytics translated to greater use of these technologies? Overall, Asian companies (with the exception of China) lag behind their North American counterparts on the level of analytics adoption. Senior executives across Asia cite the following four main barriers to incorporating advanced analytics into their organization's regular business practices:

1. Companies resist adopting analytics and executing the necessary operational changes due to a lack of evidence on its business impact.
2. Organizations with poor data quality struggle to determine whether to fix the issue before scaling or simultaneously as they build out their analytics at scale.

¹ The research included a keyword search of companies by name on Dow Jones DNA, a news aggregator platform, to identify press mentions that included terms associated with advanced analytics. These results were added to the review of financial statements and annual reports.

Country and sector comparisons of advanced analytics awareness

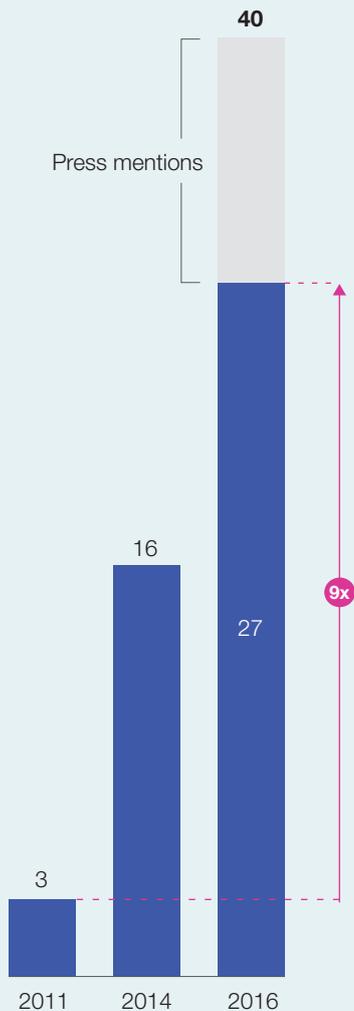
Our review of financial statements from more than 2,600 companies in Asia represents more than 70 percent of the total market capitalization of major Asian stock exchanges. Including press mentions, we found that Singapore demonstrated the broadest awareness levels, with 55 percent of listed companies with revenue above US\$1 billion mentioning advanced analytics. Taiwan and Hong Kong followed at 52 and 49 percent, respectively (Exhibit 1).

Exhibit 1 **Asia awareness level¹**

Asia average

Advanced analytics keyword mentioned, %

Based on number companies



Country comparison

Advanced analytics keyword mentioned, annual reports and press mentions, 2016, %

Based on number of companies

Based on market capitalization



¹ Sample includes listed companies in Asia with 2016 revenue >\$1 billion in which an online annual report is available. Countries under coverage are Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, Taiwan, Thailand, and Vietnam. Market cap is as of December 30, 2016. Analysis is based on listed location.

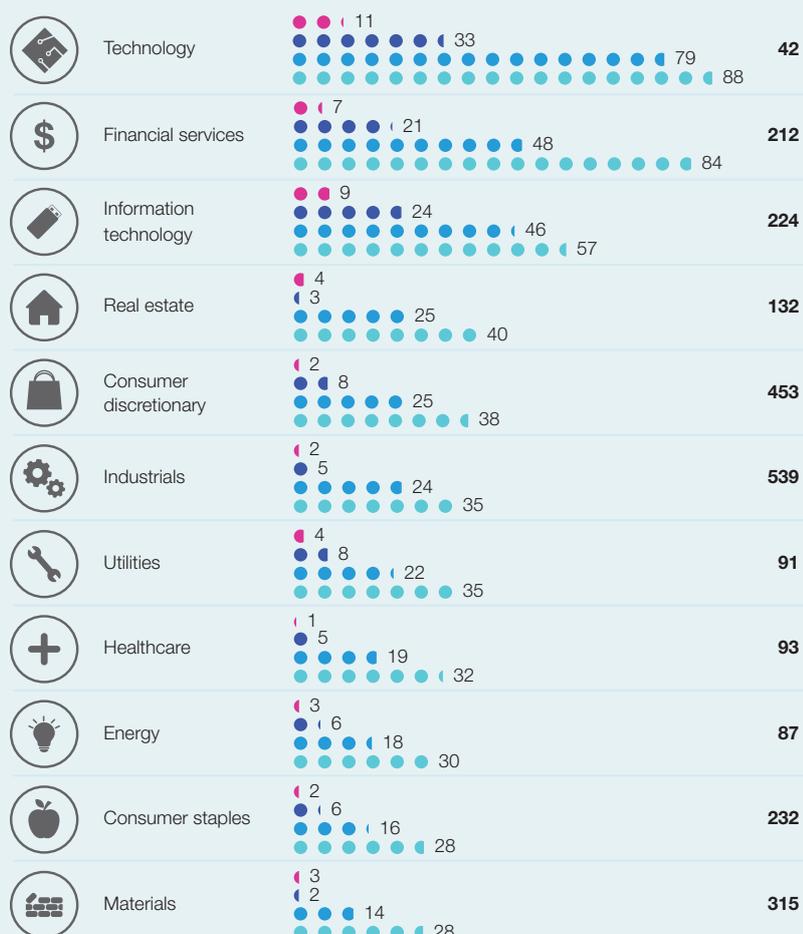
Among sectors, telecommunications, financial services, and information technology were the leaders in awareness of advanced analytics. Our research found that the portion of financial services companies with awareness of advanced has increased significantly, growing from 20 percent in 2013 to around 50 percent in 2016 (or 84 percent if we include press mentions). Conversely, the consumer staple and materials industries exhibited the lowest levels of awareness of advanced analytics (Exhibit 2).

Exhibit 2 Technology, financial services, and IT are the pioneering sectors that recognized the importance of advanced analytics¹

● 2011 annual report ● 2013 annual report ● 2016 annual report ● 2016 annual report and press mentions

Industry comparison (by # of companies)

Advanced analytics keyword mentioned, %
Based on number companies '16N =



¹ Sample includes listed companies in Asia with 2016 revenue >\$1 billion in which an online annual report is available. Countries under coverage are Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. Market cap is as of December 30, 2016.

3. Many companies, having made significant up-front investments in technology without seeing tangible returns, are reticent to commit additional resources.
4. Due to high employee turnover, companies are left without the deep bench of analytics talent to lead and implement analytics efforts.

These barriers are surmountable, and analytics leaders in Asia and other regions provide valuable lessons as to why it's worth overcoming these challenges—as well as how to do so.

Advanced analytics adoption: Worth the effort

The use of advanced analytics enables organizations to identify new growth opportunities, become more agile, and understand customer behaviors in more depth. Recent McKinsey research, for example, found companies that use analytics to gain customer insights are more likely to outperform the competition on profits, sales, and return on investment.² In Asia, companies have harnessed analytics to support business strategy in four primary ways.

Extract more value from technology

Asian companies are increasingly investing in technologies to become more digital and agile, in part just to keep pace with digitally savvy Asian consumers. The Asia-Pacific region has 2.7 billion unique mobile subscribers, a number that will rise to 3.1 billion by 2020.³ Asian consumers use their smartphones for a range of commercial activities such as banking, shopping, ordering meals, and hailing rides. B2C players have transitioned from physical to digital applications to meet consumer expectations. Since companies are generating more data across multiple customer touch points, they are increasingly employing analytics to track performance, segment customers, and provide the deep insights that help shape strategy.

Experienced leaders start executing data strategies with a focus on high-value use cases and then continually refine based on learnings and results.

² Lars Fiedler, Till Großmaß, Marcus Roth, and Ole Jørgen Vetvik, "Why customer analytics matter," May 2016, mckinsey.com.

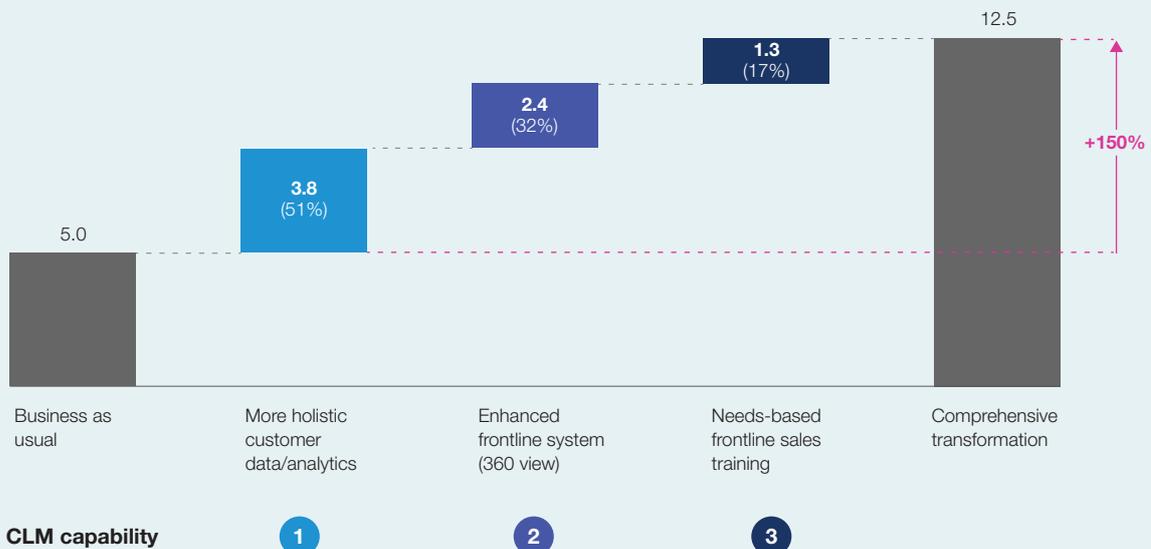
³ "China and India to account for half of all new mobile subscribers added by 2020, finds new GSMA study," GSMA, June 28, 2017, gsma.org.

Analytics in action: Asian bank example

One Asian bank, for example, underwent a full analytics-driven transformation in how it supports the customer life cycle. As part of this process, the bank sought to address its falling cross-sell rates among online and mobile customers. Collectively, analytics supported activities throughout the full customer life cycle of marketing, sales, and support across both digital (online and mobile) and physical (call center) channels. The bank developed algorithms to provide call center agents with “next best offers” and guidance, suggest similar products through online channels to customers, and create targeted digital advertising and online experiences. Thanks to these efforts, the bank was able to increase sales conversion rates by 150 percent (exhibit). Investments in analytics also helped the bank build customer lifetime-management capabilities to aggregate more data, enhance frontline systems, and train sales staff to use these new analytics tools and systems.

Exhibit **Advanced analytics can improve the overall customer life cycle of a business**

Sales conversion rate (%) and total lift (%) by customer life cycle management (CLM) capability



Increase performance across the value chain

Advanced analytics can also create value by improving decision making and visibility across the entire value chain and ensuring that executives have the insights to manage operations more effectively. In the oil and gas industry, for example, advanced analytics, including applications for capital expenditure reporting, maintenance and inventory, and working capital, accounts for almost 60 percent of all value generated by four categories of technology investments (exhibit). This finding is all the more impressive because the other three types of technology are already in widespread use in the industry.

Exhibit Oil and gas opportunity affects the entire value chain—with advanced analytics holding greatest potential

■ <5% ■ 5–15% ■ ≥16%

% of total cash flow improvement potential per barrel of oil equivalent

	Exploration	Drilling	Field development	Operations and maintenance	Process digitalization	SG&A ¹	Total
Advanced analytics	16%	4%	2%	30%	5%		56%
Process digitization		3%	6%	2%	4%	1%	17%
Robotics and automation		1%	2%	3%	2%	2%	9%
Business model innovations		3%	6%	7%	1%	1%	18%
Total	16%	11%	15%	43%	11%	3%	100%

¹ Selling, general, and administrative expenses.

Source: McKinsey analysis

Identify opportunities for collaboration across business units

Many major Asian economies (Indonesia, Japan, South Korea, and Thailand) are led by large conglomerates: in 2010, conglomerates accounted for 16 percent of the nearly 8,000 Asian companies with more than \$1 billion in annual revenues, a share forecast to increase to 37 percent of the 15,000 companies in this segment by 2025.⁴ Beyond process digitization and automation, Asian conglomerates have a tremendous opportunity to use analytics to drive deeper insights, collaborate across their holdings and business units, and uncover new growth opportunities. The same potential exists for state-owned enterprises.

⁴ Åsa Björnberg, Heinz-Peter Elstrodt, and Vivek Pandit, “The family business factor in emerging markets,” *McKinsey Quarterly*, December 2014.

Analytics in action: Large Asian conglomerates example

Today, many conglomerates are finding ways to spur collaboration between their holdings and business units. For example, large Asian conglomerates are harnessing data from their telcos to support the expansion into financial services by using rich stores of existing but unconventional data to inform the loan review and approval process. These conglomerates, along with newer credit verification companies such as Kabbage, Lenddo, and LendUp, are analyzing data collected via mobile phones and apps and social networks to infer trustworthiness. This approach has enabled companies to both reduce the risk of provisioning loans and extend the reach of loan offerings to unbanked and underserved communities.

Unlock capability at scale

The pace of growth in Asia means that attracting, developing, and retaining top talent is an ever-present challenge. Fortunately, current advanced analytics solutions can uncover insights to help even novice employees improve decision making without requiring years of analytics training.

Analytics in action: Asian retailer example

For example, one Asian retailer was looking to expand its locations in greater Tokyo. The retailer had traditionally deployed one business unit's top management team to scout new locations—a substantial commitment of time and resources. The retailer estimated that this team had devoted 60 to 70 percent of its time to visiting more than 3,000 potential store locations over the past ten years. Unable to delegate such an important task, the retailer was motivated to try an analytics-driven approach. Using an AI-powered research platform that considered billions of potential combinations of factors, its team created a model to pick out the key factors associated with high- and low-performing stores. With analytics, the retailer identified more than 1,000 locations in just a few weeks, a considerable cost savings to the organization. This solution accelerated and enhanced the location selection process while enabling management to turn its focus to higher-value activities. Based on this initial success, the retailer rolled out the same process to other areas, allowing less experienced employees to gain the insights to make more effective decisions in less time.

What it takes to begin a successful analytics transformation

Analytics can have an enormous impact on organizations, but getting started can be a daunting challenge. New investments in technology could be required, new processes must be designed and implemented, and companies must promote analytics-driven decision making, which can be a radically different way of working. To position their companies for success, executives should focus their efforts in four areas.

Be pragmatic about data and embrace use cases. Experienced leaders start executing data strategies with a focus on high-value use cases and then continually refine based on learnings and results. This approach should be supplemented with a more forward-looking strategy to improve data quality within an organization. Once the initial use cases have been tested and optimized, companies can focus on building out specific models to support the long-term adoption of advanced analytics. Transformations typically start with two to three use cases that can achieve solid results as a way to build momentum and broad support. Over time, leaders develop a use case road map approved by all relevant internal parties to get leadership and top management on board for future planning.

Build technology investments to be agile. Analytics requires the right infrastructure to aggregate and store the necessary data. The most successful companies design their data architecture on a modular technology stack with the flexibility to support the business strategy. This IT infrastructure comprises five building blocks: an underlying data hardware infrastructure, master data management system, streaming data processing, data lake for unstructured data, and an integrated data warehouse both for structured data and reporting.⁵ Each of these components can be built modularly, with the suite of components tailored to specific business needs. The layers should be deployed first as a pilot, typically with a six- to nine-month testing window that features a quick, iterative approach. After verifying that technology components clearly meet defined business needs, the full infrastructure can then be rolled out to support the deployment of solutions at scale.

Analytics in action: Asian industrial company example

Many companies have extended their efforts to the entire organization, educating employees on how to use data and analytics for better decision making to promote a collective sense of ownership of analytics and business performance. One Asian industrial company, for example, created an analytics school to educate staff on the importance of data-driven decision making and its implications for daily tasks. The program trained select managers as “translators” who oversee analytics-backed business projects. Employees learned how to assemble a multifunctional team of business, digital, analytics, and IT experts as well as how to apply analytics in all areas of operation—from defining the right problem to increasing adoption at the front line. Without such capability-building programs, analytics may well end up being just another black box that doesn’t create value, no matter how smart it is.

⁵ The research included a keyword search of companies by name on Dow Jones DNA, a news aggregator platform, to identify press mentions that included terms associated with advanced analytics. These results were added to the review of financial statements and annual reports.

Focus on developing talent. Leaders should define a broad range of attractive career paths for their analytics talent, ranging from data science to business-oriented leadership tracks. Although many Asian companies have yet to create these tracks, technology titans Google and Microsoft have long established separate technical and management career tracks that enable

Analytics in action: Multinational life insurer example

A multinational life insurance company with operations across Asia wanted to build an analytics model to increase sales from existing customers. It set up an analytics company as a separate entity to uncover regional insights, identify high-value customers, and demonstrate that analytics could increase sales within existing channels. The company chose a country in Southeast Asia to develop a use case and channel engagement strategy to ensure leads were used. Project leaders worked with the analytics company and agents from the region to develop a revamped lead-tracking system, which fed analytics-generated leads into an easy-to-use interface. Agent feedback was incorporated into the system design, which eased the challenge of getting user buy-in. Training was provided to agents so that they could make the most of the analytics-generated leads, and key performance indicators were put in place both for adoption and results. Thanks to these measures to create buy-in and accountability, the pilot was a success and led to subsequent nationwide rollouts across seven Asian countries.

talent to develop into executive-level roles. Further, smart leaders combine efforts to develop internal talent with external hires.

Promote adoption across the organization. Advanced analytics can unlock value only if it is adopted by business users. Executives should define their analytics agenda and hold business-line leaders accountable for both adoption and results. In addition, advanced analytics teams must involve business users as they develop the models.



Executives across Asia recognize the value that advanced analytics can unlock, but so far they have struggled to identify and pursue analytics opportunities within their organization. Regardless of industry, we believe it is imperative for companies to take concrete steps to integrate analytics into strategy and operations. The benefits, in the form of greater productivity, visibility, and agility, will be critical to competing in a digital world. ■

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