

# The Formula For Growth: Turn Insights Into Action With Data Science

How Asia Pacific Firms Are Creating  
Growth And How You Can Join Them

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## Executive Summary

Asia Pacific firms are slowly improving their data science capabilities because they believe it will give them a competitive advantage. But is this true? If so, what are high-performing firms doing differently to create differentiation? And how can firms that are behind catch up?

In April 2016, Booz Allen Hamilton commissioned Forrester Consulting to evaluate data analytics maturity and data science practices in the Asia Pacific region. In conducting five interviews and in-depth surveys with 222 business and IT decision-makers responsible for data analytics strategy in Singapore, China, Australia, and South Korea, Forrester found that very mature firms and even firms that are maturing in their data analytics strategy are outperforming those that are not. The highest-performing firms harness the power of data analytics by investing in mature data science practices that not only find insights in data but also connect insight to action in closed-loop systems. We conclude that less mature firms can grow their data science practices by emulating their more mature counterparts. In fact, they must do so in order to avoid falling further behind.

### KEY FINDINGS

Forrester's study yielded four key findings:

- › **Immature firms in Asia Pacific can improve business results quickly by learning from leaders.** Firms with immature data practices are missing out on top- and bottom-line benefits that mature data practices enable. Immature firms should look to emulate how leaders analyze, and more importantly, *implement* insights, or risk falling further behind.
- › **Data science and systems of insight are key areas to focus on.** Very mature organizations understand the importance of creating action out of insights from analytics. They create centralized teams to implement insights from data science and analytics in closed-loop systems to continuously learn from those insights and optimize their business practices.
- › **Improving data science maturity requires training, education, and better access to analytics-ready data.** Lack of access to quality data and lack of data science skills are the top challenges to growing a mature data science practice in Asia Pacific today. In order to move forward, firms must enable the business to easily access

data and invest in resources for educating and training the business on data science.

- › **Asia Pacific firms can find partners to close skill gaps and help them improve data science.** Data science skills are in high demand and a serious bottleneck for immature firms looking to grow their data science practices. To overcome this hurdle, mature firms look to close their skill gaps by working with partners to outsource the expertise they need to continue to grow.

## Immature Asia Pacific Firms Are Falling Behind

Does developing a data analytics vision and strategy actually create the kind of business success that firms in Asia Pacific need? Do the things successful firms do show a common pattern that others can learn from? To find out, Forrester surveyed 222 professionals with influence over their organization's data analytics and strategy in Singapore, Australia, China, and South Korea. The study found that:

- › **Data analytics maturity maximizes the value of investments made.** . . . The study showed that firms with very mature data analytics strategies see more top- and bottom-line benefits (see Figure 1). In fact, the difference between very mature and maturing or immature firms experiencing significant improvement was enormous—more than 50 percentage points. Having strong data analytics is clearly a competitive advantage in Asia Pacific.
- › **. . . which leads to more satisfaction.** Asia Pacific firms that rate themselves as very mature in execution of their

data analytics strategy are a staggering 38 percentage points more likely to be very satisfied with their capabilities.<sup>1</sup> Further, 28% of firms that rate themselves as maturing or immature say their business is only somewhat satisfied or even dissatisfied. This is dangerous, as a lack of business support not only limits the effectiveness of data analytics but can jeopardize the growth of the entire program.

- › **Immaturity stunts growth.** Immature firms were 11 percentage points less likely to have high growth year over year, while very mature and maturing firms showed a less dramatic difference. This correlation between immaturity and low growth creates a mandate: Start growing up or fall even further behind.

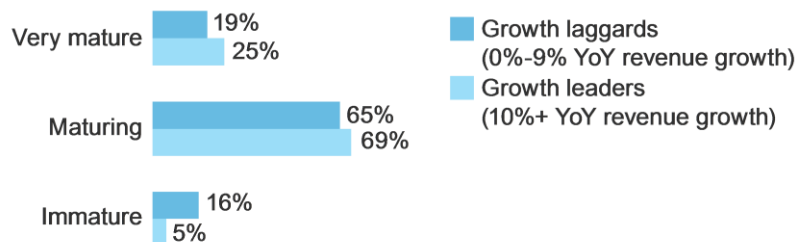
*“I have been able to make decisions where we need to launch new market initiatives and deploy resources by examining data around market saturation. Strong analytics can make a lot of difference in business success.”*

— Sales manager, international technology firm

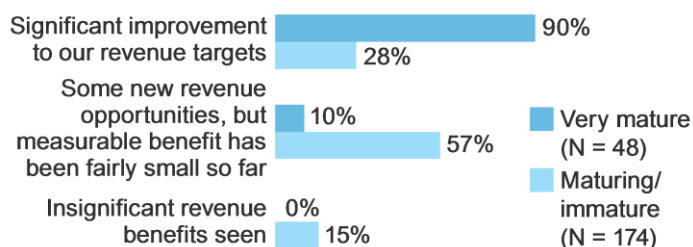
FIGURE 1

Asia Pacific Firms With Immature Data Analytics Practices Are Not Growing As Quickly As Their Competitors

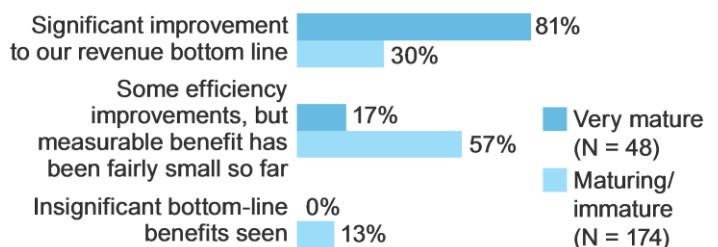
“Please rate your firm’s data and analytics strategy vision and execution.”



“To what extent have your current data and analytics investments created *topline* revenue growth?”



“To what extent have your current data and analytics investments helped improve your firm’s *bottom line* through efficiency and operational excellence?”



Base: 222 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies (percentages may not total 100 because of rounding)

Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

## Mature Firms In Asia Pacific Focus On Doing Three Things Well

Next, the study explored what mature data analytics firms were doing to separate themselves from maturing firms. We found they develop and execute actionable insight in ways that less mature firms cannot, which creates a real competitive difference (see Figure 2). These mature firms add to topline revenue by monetizing data, help to innovate and create new and improved products, and increase the bottom line through efficiency gains like predictive maintenance or better risk management. In their pursuit of action from data, mature firms:

- › **Create insight from diverse data sets using advanced analytics.** Organizations are inundated with data from a variety of sources that can be used to unlock business insights. However, much of this data comes in forms that are difficult to analyze. While nearly all Asia Pacific firms are able to analyze transactional system data, immature firms are far less likely to derive insights from semistructured or unstructured data (see Figure 3). In addition, mature firms are better at using more advanced analytics techniques like predictive and prescriptive

analytics. This means that not only do very mature data firms have more data to work with, but they can do more with that data, increasing the gap between data leaders and laggards.

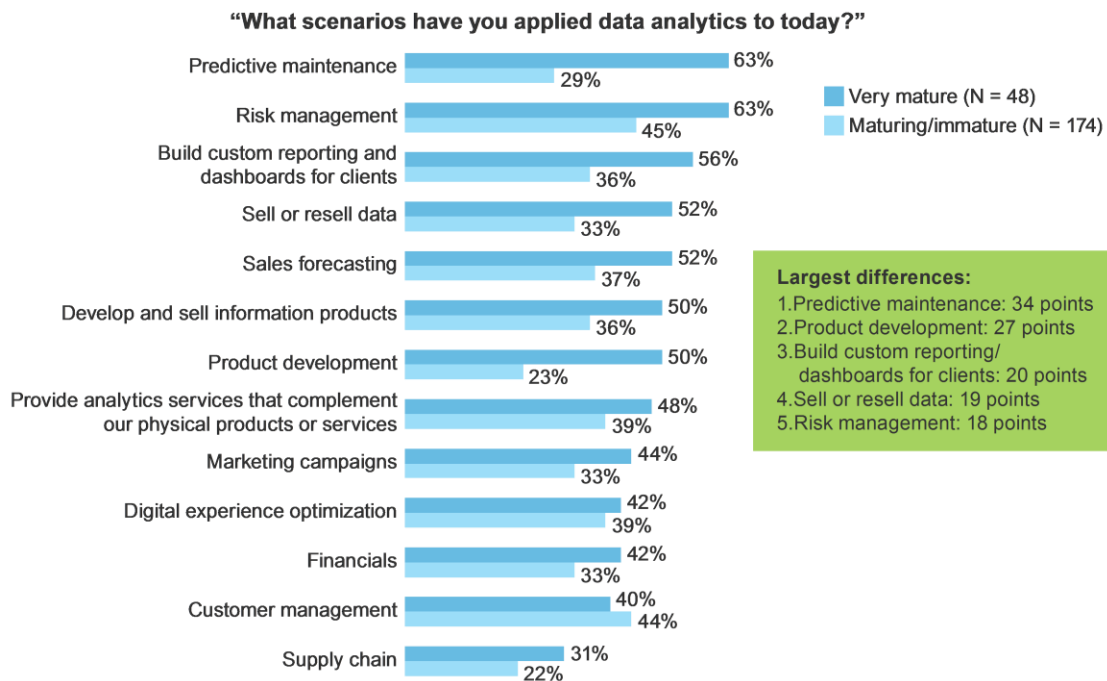
“There is a ton of data — even internally today, I am only seeing one or two perspectives, but if I can see 10 and make decisions on the best one, it’s going to make a lot of impact in the days to come.”

— Southeast Asia channel director, global technology firm

- › **Implement systems that connect data, insight, and action in a closed loop.** Mature firms know it’s not just big data it’s how insights are used to continuously improve business outcomes that allows firms to grow top and bottom line revenue. Forrester calls this ability to turn insights into action “systems of insight.” Our survey results shows that very mature firms in Asia Pacific are more likely to be able to implement systems of insight and find them less challenging, whereas over half of maturing or immature firms struggle working this way (see Figure 4). In order to achieve the highest growth, firms must build and continuously optimize their systems of insight.

FIGURE 2

### Very Mature Data Analytics Firms Apply Data Analytics To Create A Competitive Difference



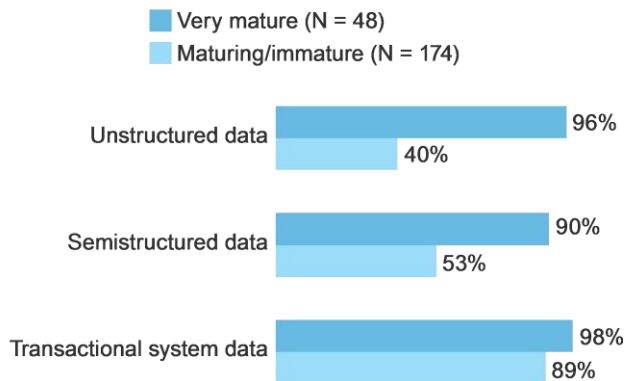
Base: 222 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies

Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

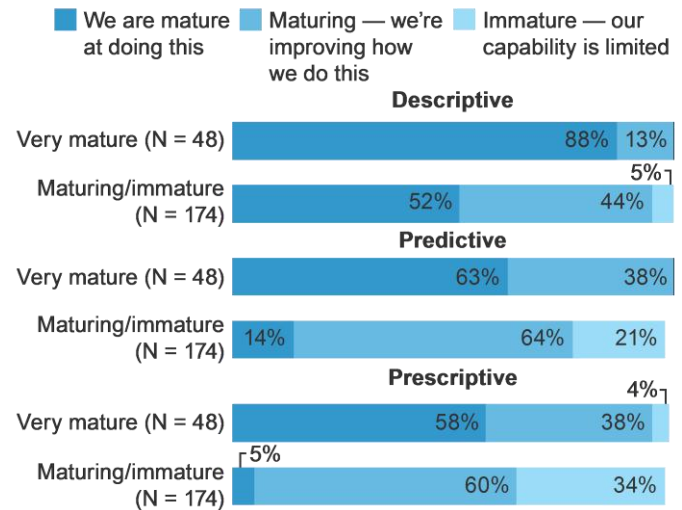
FIGURE 3

## Very Mature Firms Are Able To Apply More Advanced Analytics To Semistructured And Unstructured Data

“To what extent does your organization leverage the following types of data for insight?”  
 (“Using” or “expanding”)



“How mature are you at using the following types of analytic techniques at your organization?”



Base: 222 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies  
 (percentages may not total 100 because of rounding)

Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

› **Build centralized data science organizations.** Very mature data firms have committed the resources to uncover insights in diverse data sets and implement systems of insight in a central data science function. These data science teams are essential for creating and improving the predictive models and systems of insights that create business results. Our survey indicates that very mature firms are 34 percentage points more likely to consolidate data science into a centralized function (see Figure 5). At less mature firms, these steps are more often undertaken organically by different teams, and because of this, the insights may go unused by the larger organization.

“We were more decentralized in the past. We used to manage at a regional level, with every center following their own practice or approach. Now we have a more centralized approach where the same tools, approaches, and methodologies are rolled out globally.”

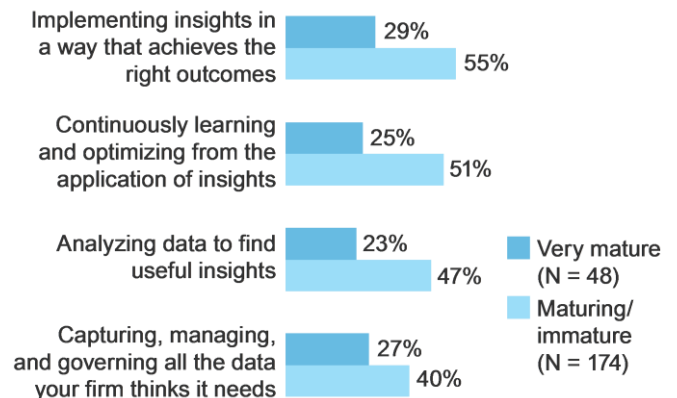
— Sales manager, international technology firm

FIGURE 4

## Very Mature Firms Are Better At Creating Closed-Loop Systems Of Insight

“On a scale of 1 to 5, how challenging are the following for your organization?”

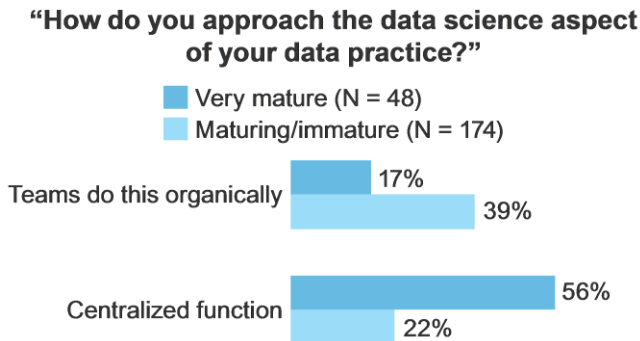
(Answers of 4 —challenging or 5 —very challenging)



Base: 222 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies

Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

**FIGURE 5**  
**Very Mature Firms Are More Likely To Have A Centralized Data Science Function To Turn Data Into Action**



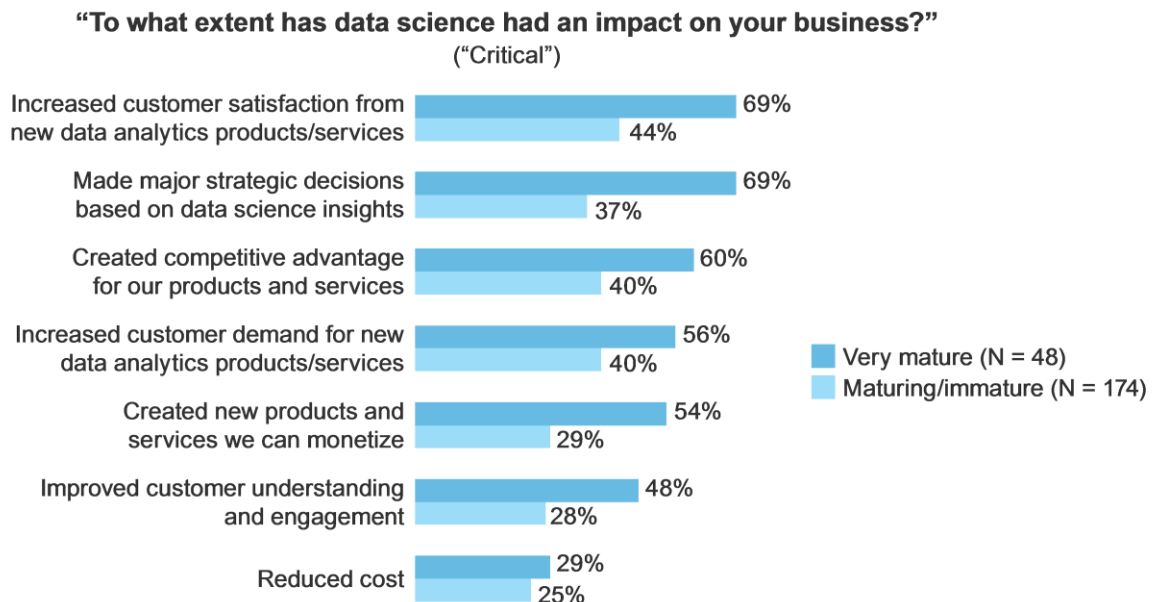
Base: 222 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies

Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

## SCIENCE

Forrester sees a lot of firms focusing on advanced analytics and big data. Our study suggests this is the wrong priority for Asia Pacific firms because insights from big data analytics do not create action by themselves. And it is action that creates growth. Our study revealed data science is having a critical impact for mature firms, creating growth-oriented benefits such as increased customer satisfaction, more competitive products and services, and increased demand (see Figure 6). Instead of starting with big data analytics, Asia Pacific firms should focus on building a data science team. They should then direct and empower that team to build applications that implement insights in closed-loop systems, and then focus on adding more data.

**FIGURE 6**  
**Data Science Plays A Critical Role In Driving Business Success**



Base: 219 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies

Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

## Take Four Steps To Mature Your Data Science Capability

For many, growing data science will take significant time and resources. Our survey shows that although data maturity varies widely by country, most Asia Pacific firms are just beginning their data science practices. Most data science teams in Asia are less than five years old and have fewer than 10 people (see Figure 7). This is in part because data scientists are in high demand worldwide, and it is difficult to find enough expertise to grow teams quickly. Thirty-four percent of organizations said that data science skill shortages were a top three challenge in executing their data strategy, which is a problem that is far more prevalent in less mature organizations.

“There needs to be a five- to 10-year timeframe on data science — you can’t champion these initiatives for a few quarters; you need a five- to 10-year timeframe.”

— Customer team director, global beverage distributor

Building a data science team with the right skills and expertise takes time. Young teams need to be given the opportunity and resources to grow in order to reap the benefits that mature data organizations are seeing today.

### Data Science Maturity Varies Throughout AP

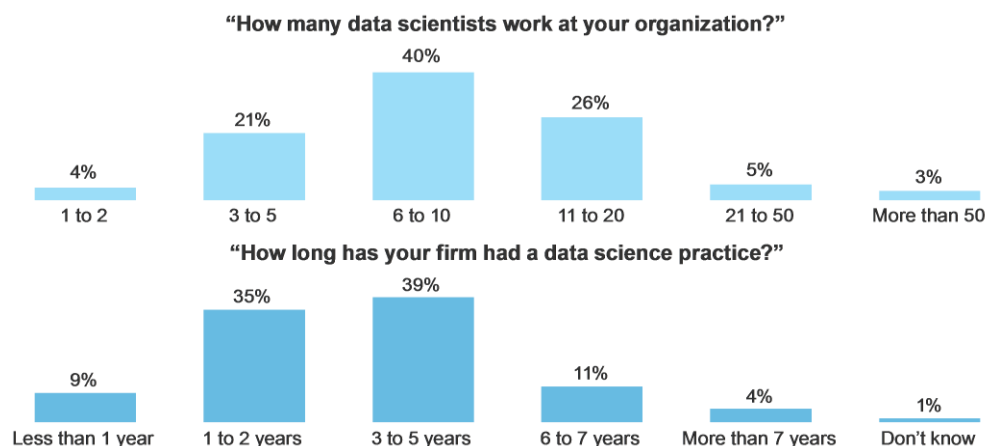
In the four Asia Pacific countries we surveyed, we saw that data maturity and behaviors related to data maturity varied by country:

**Australia establishes itself as a data science leader in AP.** Thirty-five percent of Australian organizations we surveyed rated themselves as very mature, which is 15 percentage points higher than the next country. Australia was also the most mature at each type of analytic technique. Finally, Australia was most likely to use data analytics to create additional revenue and efficiencies by monetizing data, developing new products, doing predictive maintenance, and managing risk.

**Singapore and South Korea lag behind.** Only 15% of South Korean firms rated themselves as very mature, and 21% of organizations in Singapore rated themselves as immature. Both countries also lag behind Australia in analytic technique maturity and apply data analytics in fewer scenarios today.

**FIGURE 7**

### Data Science Is A Nascent Discipline In Most Asia Pacific Firms Today



Base: 219 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies (percentages may not total 100 because of rounding)

Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016



Luckily, these mature firms have laid the blueprint for how to accelerate data science maturity for others to follow. Here are four steps firms can take to make progress:

› **Make data science a part of the business strategy.**

Forrester found that two-thirds of very mature organizations consider data science critical to the business, whereas almost half of maturing or immature organizations consider data science through the lens of business intelligence (see Figure 8). Immature firms do not understand the essential connection between insights from analytics and business results, and therefore will never see the benefits that mature firms do until they change their attitude toward data science.

Interestingly, very mature data science organizations in Asia Pacific are far more likely to have their data science as an extension of IT — a trend not seen in other regions. This may be because newer teams are often initially sponsored by IT. Because of the relevant nascence of data science in Asia Pacific, more of the successful teams are still in IT than usual. However, this does not change the fact that data science delivers critical insights that are

used to transform the business, and as such, needs to be prioritized in business strategy. Keeping data science in IT or as a subset of business intelligence limits how much analytic insights can help change the business.

“[Data science] should be a centralized team that reports into the CEO. It fundamentally has to do with the operations and strategy of the business, but it will also help the team to be away from some of the nuances/politics of specific business units.”

— Southeast Asia channel director, global technology firm

- › **Improve access to quality data.** The top challenge to improving data science in Asia Pacific organizations is not having access to quality data in a timely fashion (see Figure 9). To improve access, data silos need to be broken down to enable easy access to data coming from a multitude of sources. Data must also be centralized and available for analysis without needing authorization from IT to use the data.

“Organizations have access to external data but have not been able to connect their internal data with the external data to understand the trends and predict the future. This way the companies can be more proactive. There is a huge scope in terms of how this data can be used, what data hubs can be created to make meaningful decisions.”

— Director of commercial operations, global healthcare firm

- › **Invest in education and training.** As data science is a relatively new discipline in Asia Pacific, most organizations need to upskill in order to grow their data science teams. A key component of this will be education and training around data science, including the skills the team will need, what data science can do for other parts of the business, and how the business can work with data science teams effectively to drive results.

“There are companies which are more mature in their data science practices, but there aren't many local companies who have the right resources with the right education and training in data sciences these days. It is still at a nascent stage, hence education and training is of high importance.”

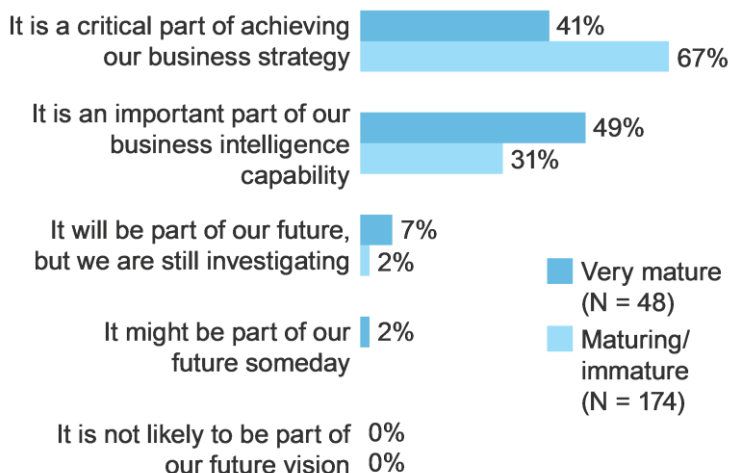
— Sales manager, international technology firm

- › **Work with partners to close data science skill gaps.** Another critical data science challenge that Asia Pacific

**FIGURE 8**

**Data Science Is A Critical Part Of The Business For Very Mature Asia Pacific Data Organizations**

**“What is your firm's vision for improving its data science capabilities?”**



Base: 222 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies

(percentages may not total 100 because of rounding)

Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

firms face is a lack of data science skills in their organization. This is an even greater challenge at less mature data organizations. One way that very mature organizations are overcoming this challenge is by partnering to close their skill gaps. Forty-six percent of very mature organizations in the survey said that they always outsource for the skills they need, compared with

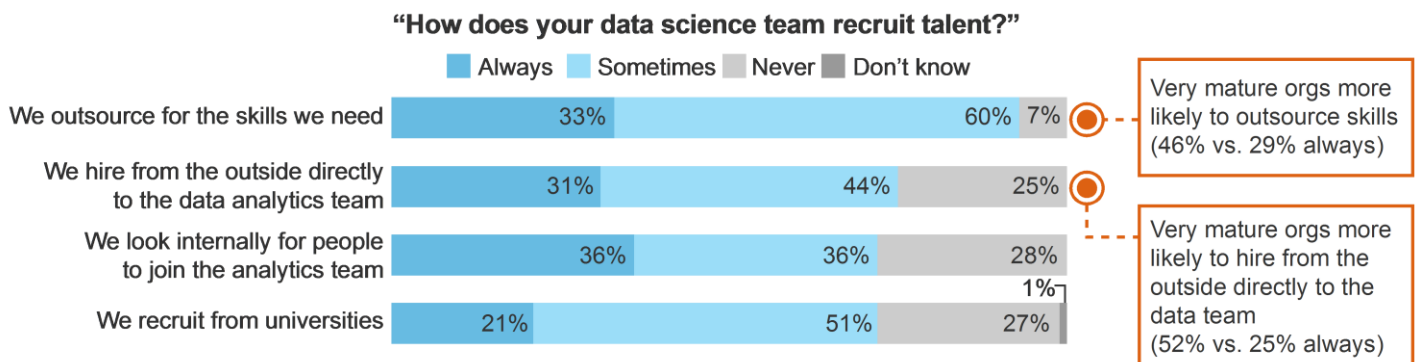
just 29% of maturing or immature organizations (see Figure 10). Thinking that you can or even need to do this on your own is an immature attitude. Mature firms recognize they need help and will get that help in the most efficient way possible.

**FIGURE 9**  
Top Data Science Challenges Include Data Availability And Data Science Skills Shortages



Base: 219 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies  
Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

**FIGURE 10**  
Mature Data Organizations Are More Likely To Outsource Data Science Skills Needed To Close The Gap



Base: 219 Asia Pacific professionals with influence over data analytics and strategy decisions at their companies  
Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016

## Key Recommendations

Forrester's in-depth interviews and surveys with Asia Pacific data analytics and strategy decision-makers yielded several important recommendations:

- › **If you are less mature, get off the fence.** Firms in Asia Pacific that have mature analytics practices are reaping the benefits. Immature firms are missing out on significant top- and bottom-line revenue opportunities. If you have not started building a data science practice and building systems to turn insights into action, you are quickly falling behind.
- › **Make data and data science a business priority.** Mature firms understand that data is no longer the domain of IT, and data strategy must be a part of business strategy. They also focus data science on creating competitive differentiation, something IT struggles with (as do data science teams in IT).
- › **Get the enabling platform right.** Making more data available to data science teams building systems of insight is critical. This means not only breaking down silos but also making data analytics ready and providing a platform that can run analytics and data science work in agile ways. Firms that get their insights platform right will outperform firms that do not.
- › **Address the human capital component.** Data science skills are in very high demand, and not having the right skills on your team can derail your journey to data maturity. Mature firms have solved this challenge by outsourcing expertise from partners and hiring direct. While training and education are an essential component of skilling up your data science team, do not be afraid to identify skill gaps and fill them with outside assistance.

## Appendix A: Methodology

In this study, Forrester conducted an online survey of 222 organizations in Singapore, Australia, South Korea, and China to evaluate data analytics maturity and the current state of data science in Asia Pacific. Survey participants included both IT and business decision-makers with responsibility for data analytics strategy at their organization. In addition, we conducted interviews with five additional decision-makers who fit the same criteria as our survey respondents. Interviewees were offered a monetary incentive for their participation. The study began in April 2016 and was completed in June 2016.

## Appendix B: Endnotes

<sup>1</sup> Source: A commissioned study conducted by Forrester Consulting on behalf of Booz Allen Hamilton, June 2016.