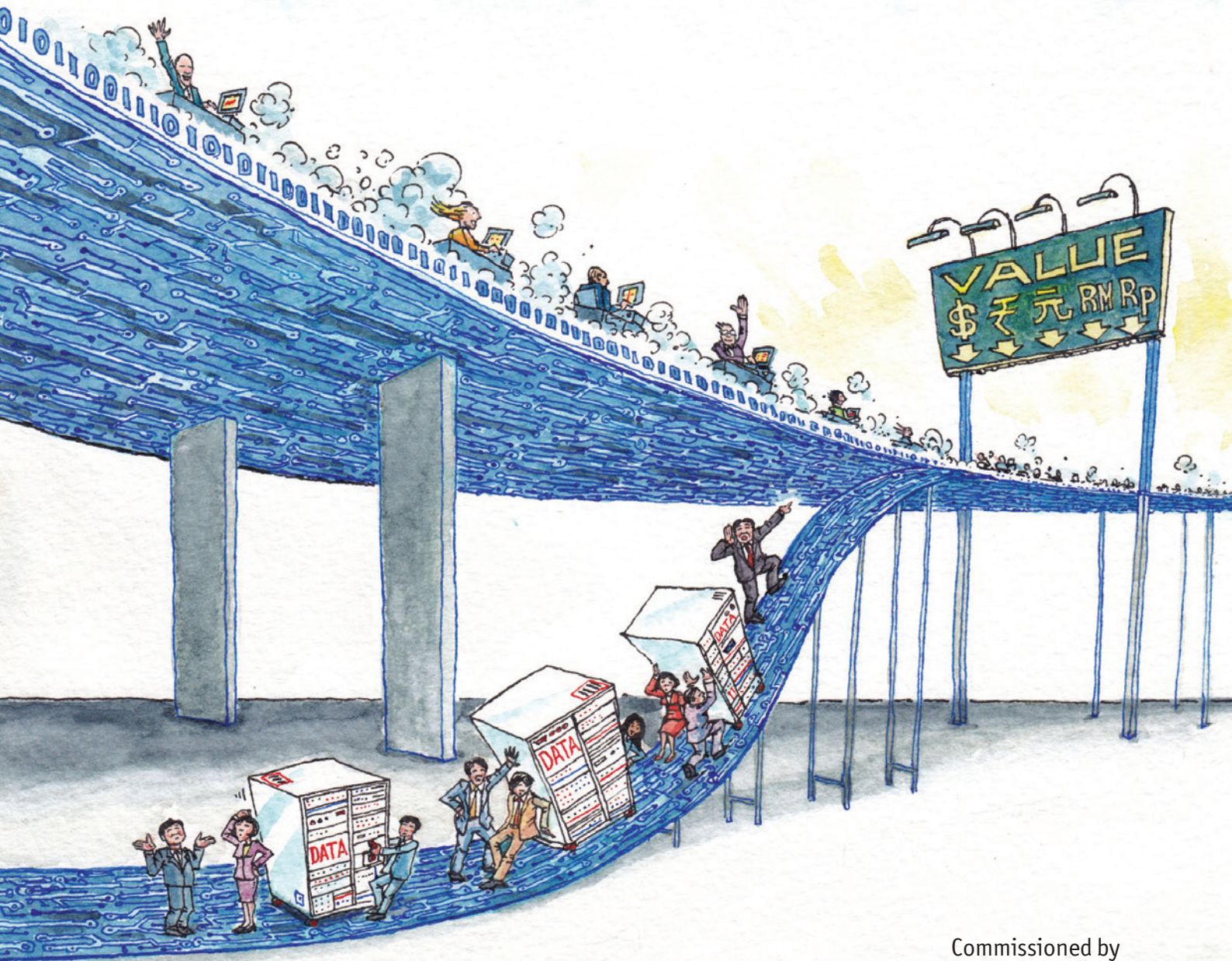


The hype and the hope

The road to big data adoption in Asia-Pacific

A report from The Economist Intelligence Unit



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Introduction

“Big data”—the analysis of large quantities of data to gain new insights—has become a ubiquitous phrase in recent years. Businesses now have the ability to collect incredible quantities of information about their customers, and managers recognise the need to analyse it carefully. But across different geographies and industries the adoption of big data technologies and strategies has been far from uniform.

How far have businesses in the Asia-Pacific region progressed with this trend? Who is adopting big data, what gains do executives think their firm can make from it and what factors might inhibit its adoption? And, crucially, is there consistency between how executives on the front line and senior management understand its role within their organisation? Is hype about big data justified by its practical usage throughout the business?

To find the answers to these questions The Economist Intelligence Unit surveyed over 500 executives across Asia-Pacific, from a range of industries and representing a range of functions. Some 69% of respondents were from companies with over US\$500m in annual revenues. Importantly, the survey respondents are a mixture of senior and frontline managers, rather than C-suite executives ultimately responsible for

decisions about big data strategy and investment who are more likely to have a vested interest in claiming the success of such initiatives.

The results show Asia-Pacific firms have had limited success so far in implementing big data practices. While a third say they are well advanced, more than half say they have made only limited progress. There is no single reason for this, but overwhelmingly the issues are internal. All but 9% of respondents cite factors within their own firms as barriers to adoption, including a group of issues involving difficulty in sharing information across organisational boundaries.

Significantly, companies slow to adopt big data also tend to be poor in communicating to employees their big data strategies. In fact, over 40% of respondents were either not sure whether their company had a big data strategy or it had been poorly communicated to them. Poor communication appears to be especially problematic for frontline managers, who are potentially among the biggest beneficiaries of the insights that big data can bring. More than twice as many frontline staff as senior executives think their firm’s big data strategy hasn’t been well communicated. Some 80% of frontline employees believe improved access to data is

critical, but only 19% say they can always access the data they need.

Despite the lack of progress, respondents believe in the ability of big data to improve their business: almost half think it can improve revenue by 25% or more. This confidence is shared even by those yet to adopt big data, where more than 70% believe it can deliver gains in

productivity, profitability and innovation. Big data may not yet be widely deployed in Asia-Pacific, but this survey makes clear that it is highly anticipated.

All figures within this report are derived from data collected from a survey conducted by The Economist Intelligence Unit.

Four things businesses should know about big data in the Asia-Pacific region

Adoption is slower than you would expect:

More than half of firms have made little or no progress in their big data strategies

Internal issues are inhibiting adoption: 91% of companies cite internal issues as barriers to big data adoption

Frontline employees can't access the data

they need: 81% of employees say that critical data resources are not available to them

Many believe in the benefits of data analytics:

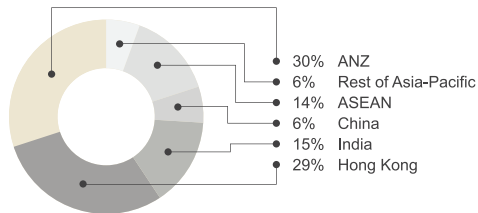
Almost half of firms believe big data can improve revenue by 25% or more

The hype and the hope:

An infographic on the report from The Economist Intelligence Unit commissioned by Hitachi Data Systems.

Survey respondents

Geographical location of respondents
(% respondents)



There is a strong appetite for an increased use of data analytics within their companies.

Almost half think it can improve revenue by

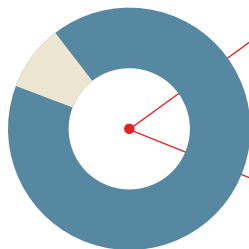
>25% ↑

>70% ↑

believe it can deliver gains in productivity, profitability and innovation.

9%
nothing hinders use of big data

91%
cite factors within their own firms as barriers to adoption.

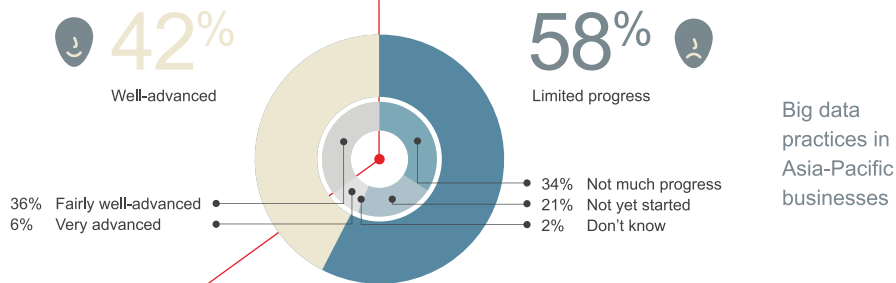


The road to big data adoption in Asia-Pacific

Big data — the analysis of large quantities of data to gain new insights — has become an ubiquitous phrase in recent years. How far have businesses in the Asia-Pacific region progressed with this trend?

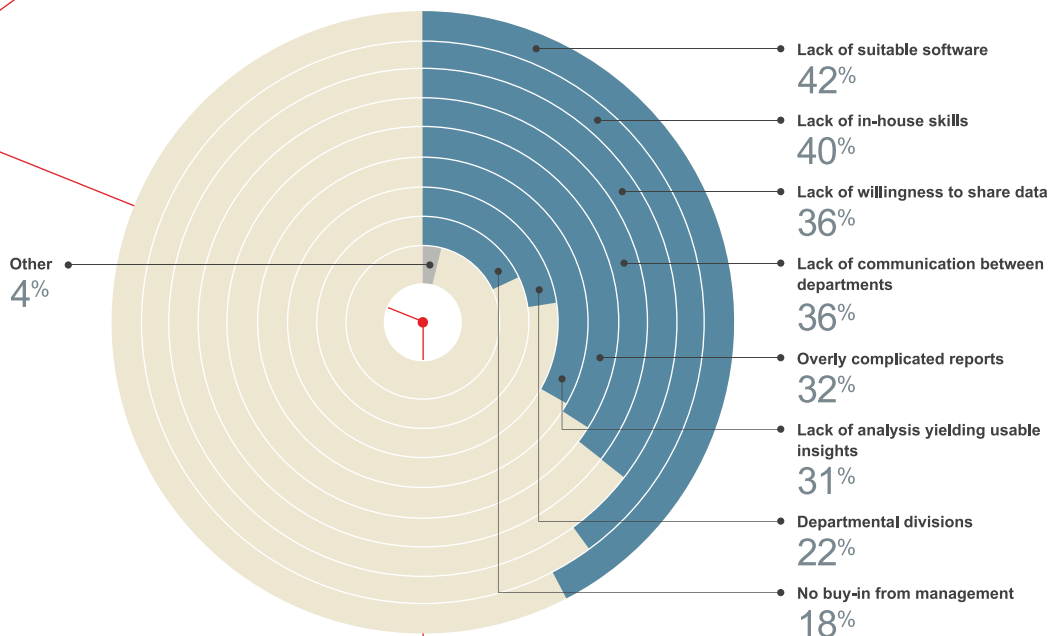
Asia-Pacific firms report limited success so far in implementing big data practices.

More than a third say they are well advanced, but more than half say they have made limited progress.

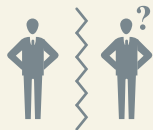


A company's biggest hindrance to gaining value from big data is often itself.

Virtually all companies surveyed recognise internal roadblocks that prevent them or slow them from adopting big data.



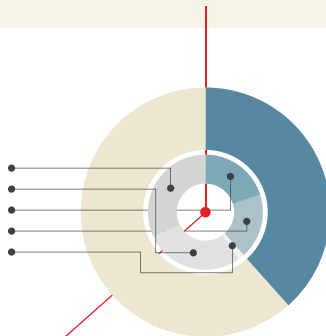
Biggest barrier to adoption



Failure to communicate

Significantly, companies slow to adopt big data also tend to be poor in communicating to employees their big data strategies.

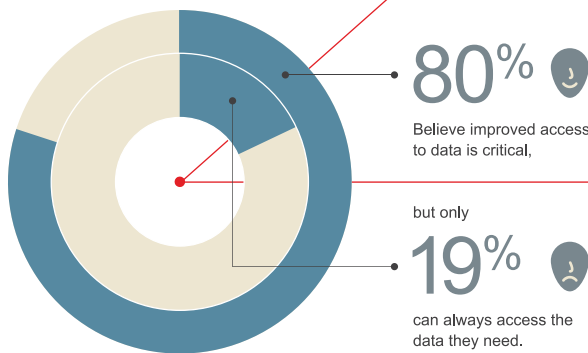
- 32% No, my company does not have a big data strategy.
- 27% Yes, my company has a big data strategy; it has been well communicated to me.
- 20% Yes, my company has a big data strategy but it has been poorly communicated to me.
- 18% Yes, I think my company has a big data strategy, but it has not been communicated to me.
- 3% I don't know whether or not my company has a big data strategy.



Over **40%** of respondents were either not sure whether their company had a big data strategy or it had been poorly communicated.

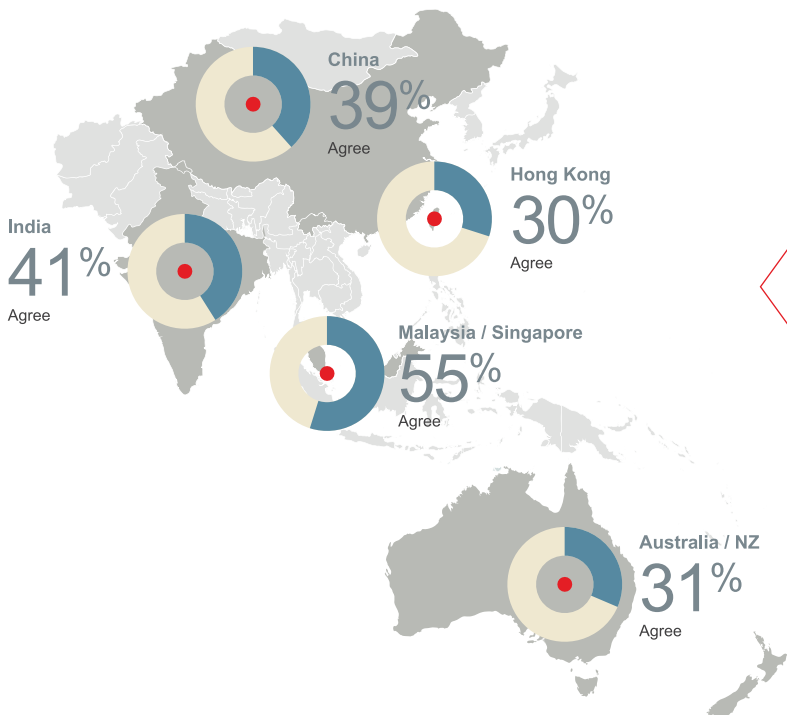
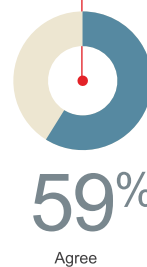
Frontline managers

Only 19% can always access the data they need.



Information silos are stopping many firms from innovating

Collaboration is essential to innovation. Information silos are the biggest hindrance to innovation in the ideas economy.



The silo problem is acute in Malaysia, Singapore and India

Lack of communication between departments as the major inhibitor to effectively using data in their organisations.

1 Survey demographics

Figure 1

Geographical location of survey respondents

(% respondents)

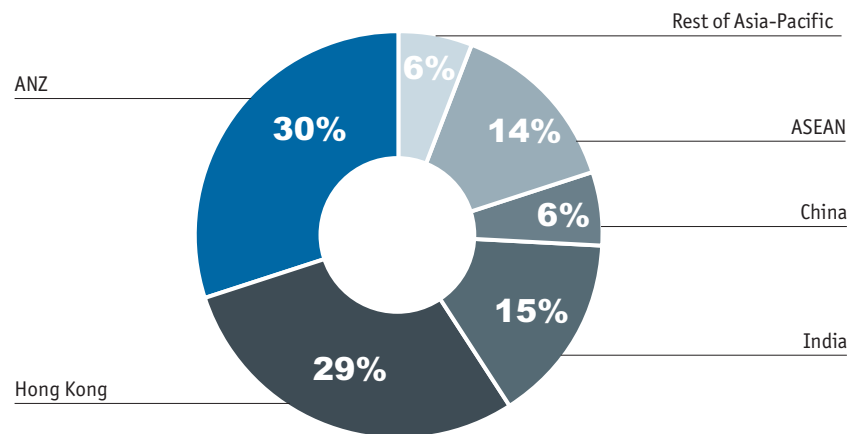


Figure 2

Industry split of survey respondents

(% respondents)

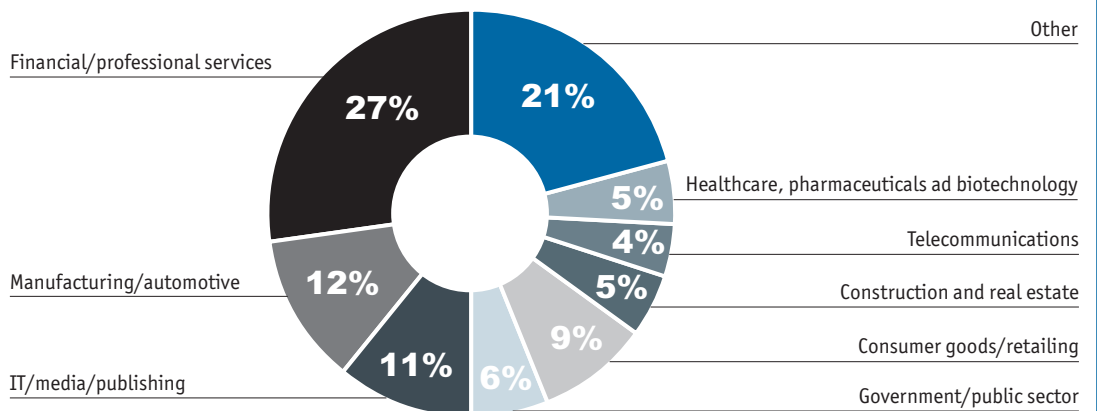


Figure 3

Survey respondents by size of company

(% respondents)

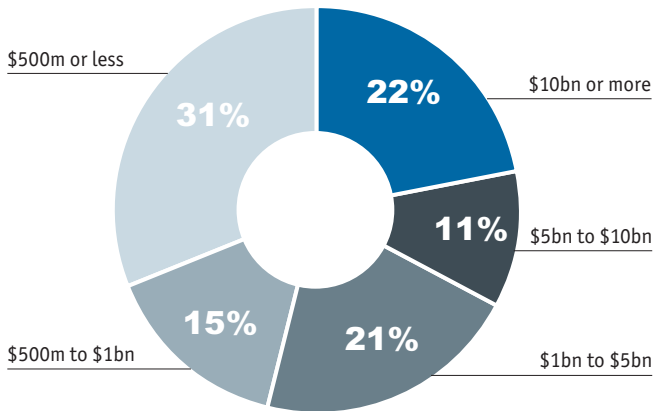


Figure 4

Survey respondents by job title

(% respondents)

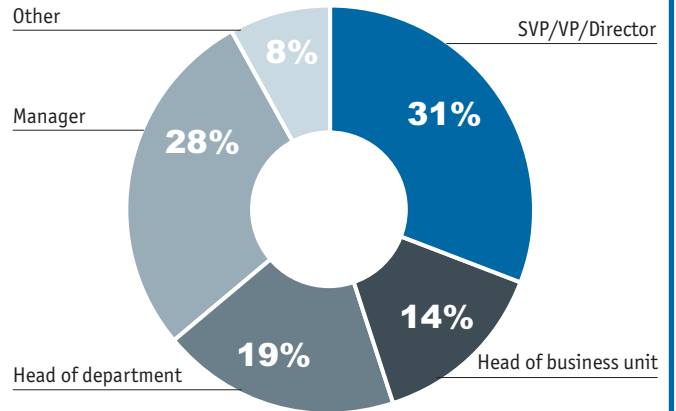
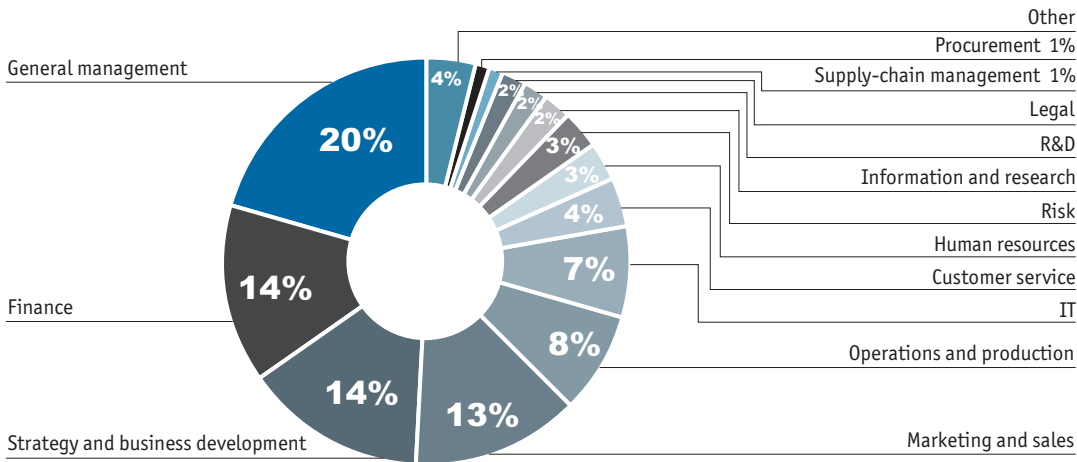


Figure 5

Survey respondents by job function

(% respondents)



2 The big data big picture

● **Firms in the Asia-Pacific region have not yet embraced big data, but they feel that they should**

Across the region, the majority of businesses have barely begun using big data. Just over a third say they have not made much progress while another 21% have no strategy for using big data at all (Figure 6). Some 36% of companies are fairly well advanced in their adoption of big data, but only 6% believe they are “very advanced”.

The reasons for slow adoption are diverse. Respondents cite poor internal communication and information sharing as well as a lack of in-house skills and software. Nearly two-fifths say their company’s big data strategy has not been communicated well to them. The limited take-up also flies in the face of the wider belief that effective use of data matters; more than three quarters believe it is critical to success. (Figure 7)

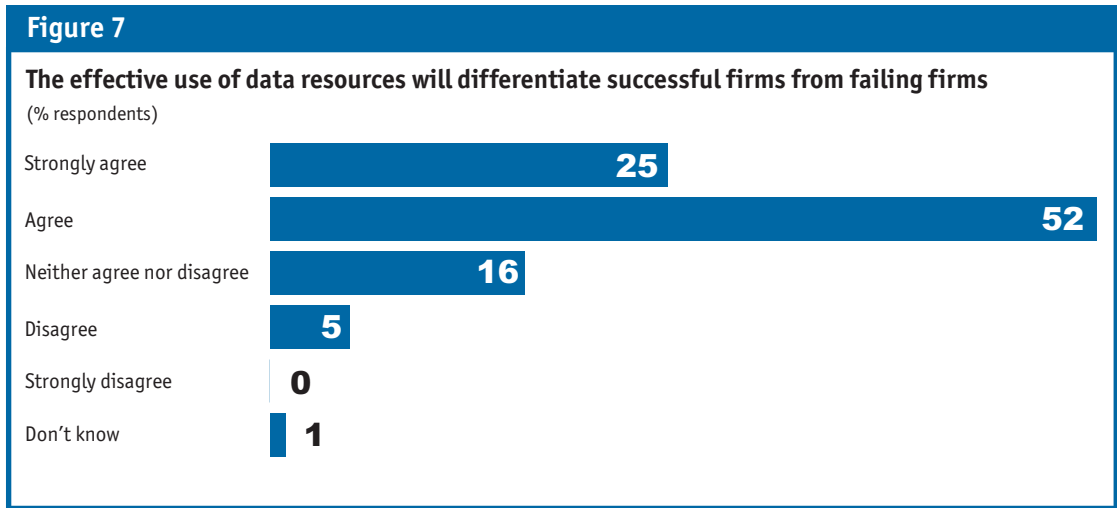
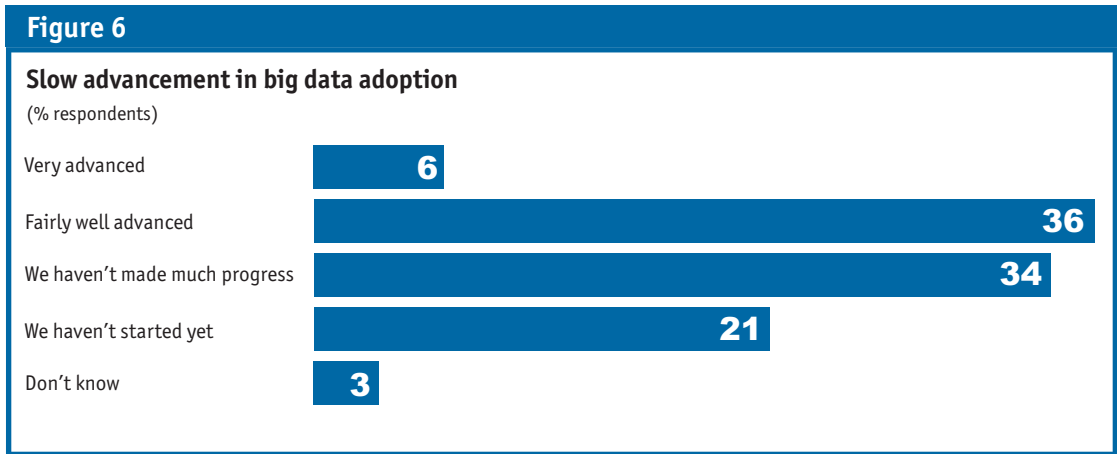


Figure 8

“Big data” is a confusing phrase and I don’t really understand what impact it has on me or my organisation

(% respondents)

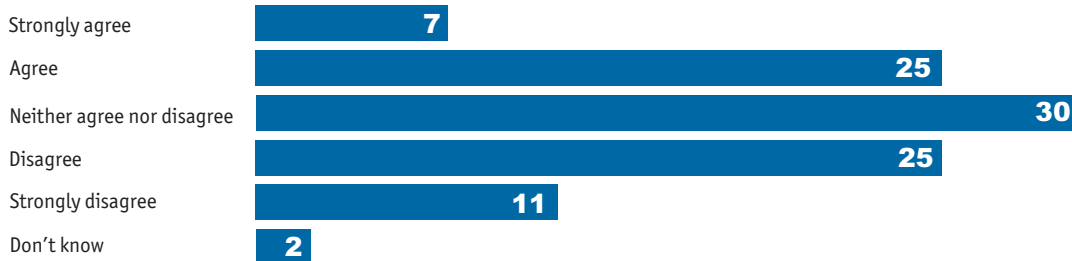


Figure 9

Failure to communicate

(% respondents)



● **Uncertainty around what “big data” means may also be hindering adoption**

Only just over a third of respondents (36%) disagree with the phrase “‘Big data’ is a confusing phrase and I don’t really understand what impact it has on me or my organisation” (Figure 8). Despite widespread use of the term, the survey shows that organisations are not sufficiently communicating its meaning or value to their frontline employees. Some 53% of such employees haven’t been sufficiently well informed about big data and are unclear about its role within their organisation (Figure 9).

● **Leading economies are lagging in their use of data**

The adoption of data strategies by businesses in the region has been relatively poor, even in

some of the more advanced economies. The worst performer is Singapore, where 47% of respondents admit their organisations have no big data strategy, as do 36% in Australia and 42% in China (Figure 10). Hong Kong lies at the other end of the spectrum: only 21% have no big data strategy.

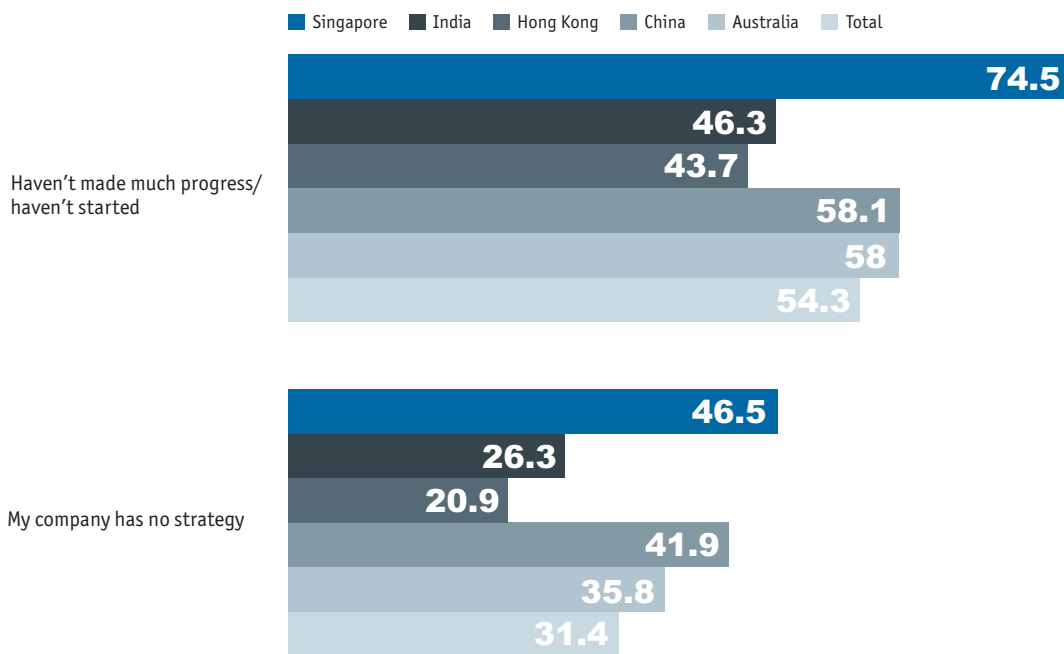
More obviously, the survey data suggests that poor adoption stems from poor strategy, with absolute majorities in the worst-performing adopters—75% in Singapore and 58% in China and Australia—admitting they have made little or no progress in their adoption of big data so far.

The results are supported by other research that The Economist Intelligence Unit has conducted on big data strategy that shows companies in the

Figure 10

Trailing in big data adoption and strategy

(% respondents)



Asia-Pacific region lagging their peers in the US and Europe. For instance, in a separate survey of 317 C-level executives conducted in early 2013, just 13% of respondents in Asia claimed their businesses had a well-defined data management strategy, compared to 21% in Europe and 23% in the US.¹

● Many industries lag in their adoption of data analytics

Aside from the IT and technology sectors, which are traditionally early adopters of new technologies, most industries are relatively slow in their adoption of data analytics, with many sectors having made or little no progress at all (Figure 11). Two exceptions are the telecommunications and retailing sectors, which show significant levels of advancement in their big data adoption. Early adoption may stem

from both of these industries generating and storing vast amounts of customer data, which is routinely used for marketing purposes through initiatives such as store loyalty cards.

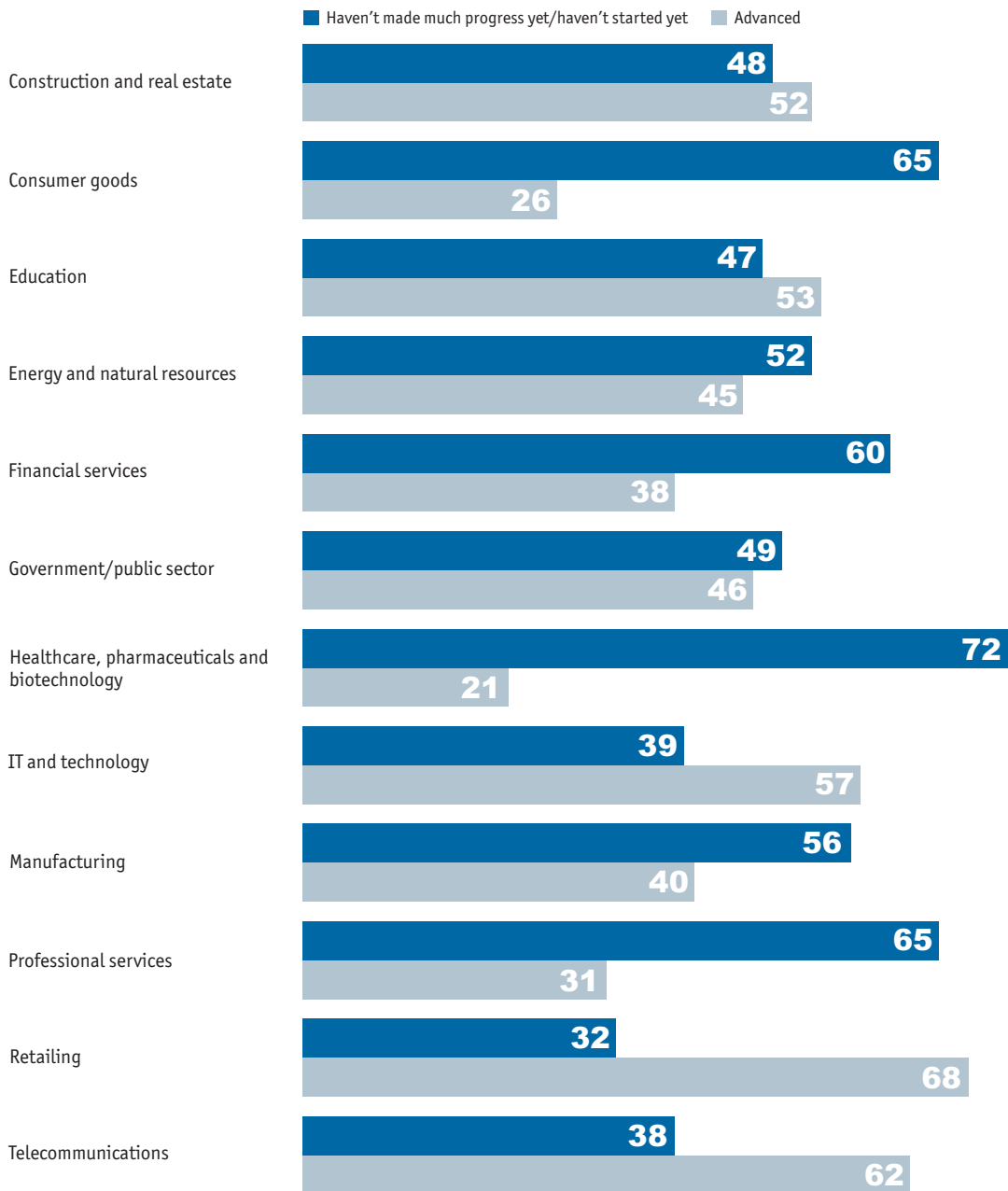
The healthcare, pharmaceuticals and biotechnology industries, by contrast, are the slowest adopters of big data, with 72% of respondents stating that they have made little or no progress. The prevalence of large and often poorly connected IT infrastructures which exist in many large state run and private healthcare companies would partly explain the slow adoption. With regulation around the use and sharing of patient data continuing to develop, data-security issues are also an inhibitor to the widespread adoption of big data by healthcare companies.

¹ *The Data Directive: How data is driving corporate strategy, and what lies ahead*, available at <http://www.economistinsights.com/analysis/data-directive>

Figure 11

Many industries trail in big data adoption

(% respondents)



3 Barriers to adoption

● **A company’s biggest hindrance to gaining value from big data is often itself**

Virtually all companies surveyed recognise internal roadblocks that prevent them or slow them from adopting big data. All but 9% of respondents cite hindrances of one kind or another. The biggest obstacles are the lack of suitable software (42%) and a lack of skills (40%) (Figure 12). To some extent these can be remedied by external sources, but other inhibitors stem from issues within the organisation.

● **An inability to share data is depriving firms of the value that big data can provide**

Firms in the Asia-Pacific region are experiencing significant problems due to limits on sharing and collaboration. Respondents cite an unwillingness to share data (36%), a lack of communication between departments (36%) and departmental divisions (22%) as the biggest inhibitors to big data adoption (Figure 13). These figures are similar both for those who are advanced in their adoption of big data and those

Figure 12

What’s holding back big data?

(% respondents)

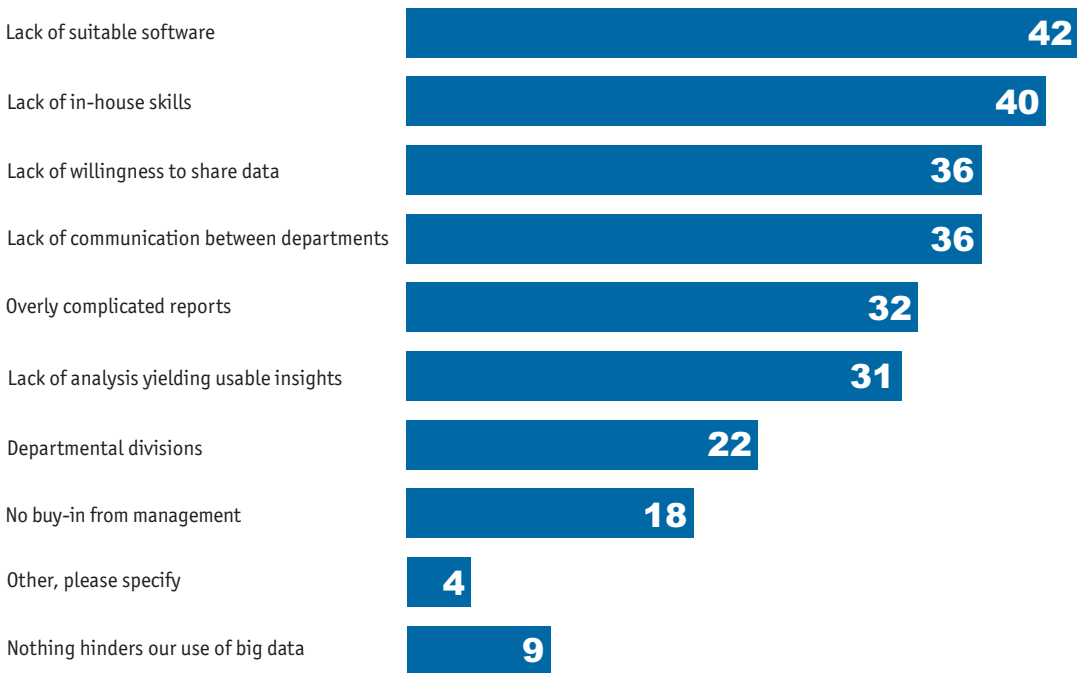
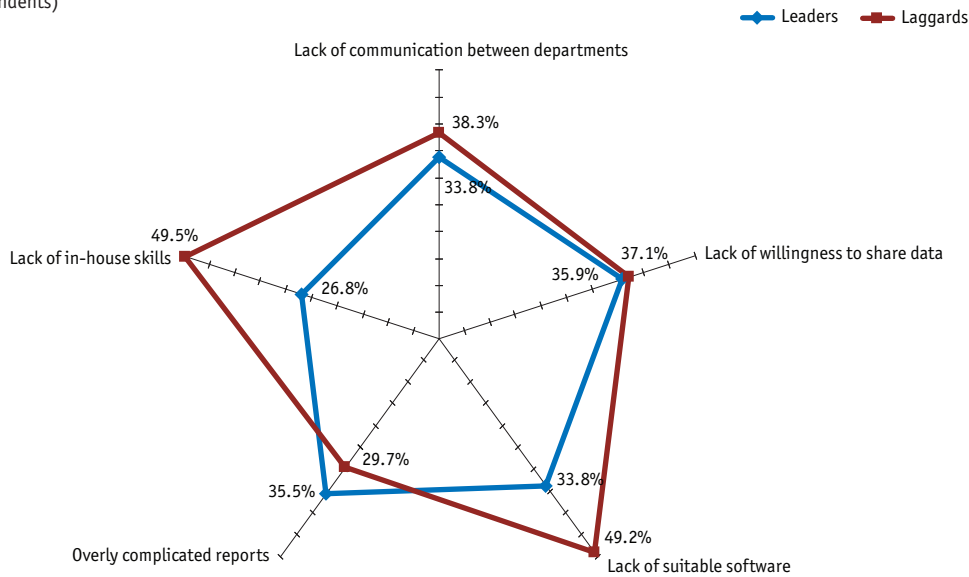


Figure 13

Barriers to adoption

(% respondents)



who are slower to adopt (defined in this report as big data “leaders” and big data “laggards”).

A lack of in-house skills and suitable software are the most significant factors separating big data leaders and laggards. Encouragingly, these are areas which are not necessarily a result of internal structural issues, and can be addressed through the use of external technology providers and staff training.

● **Information silos are stopping many firms from innovating**

Collaboration is essential to innovation: 59% of respondents from the survey agree that information silos are the biggest hindrance to innovation in the ideas economy. That view is held more widely by those from the very big firms (66%), in which silos are more likely to exist, than by those from small firms (47%) (Figure 14).

Comparing different industries, professional services firms show the highest level of agreement (75%) concerning the problems

Figure 14

Firms of all sizes have silo problems

(% respondents)



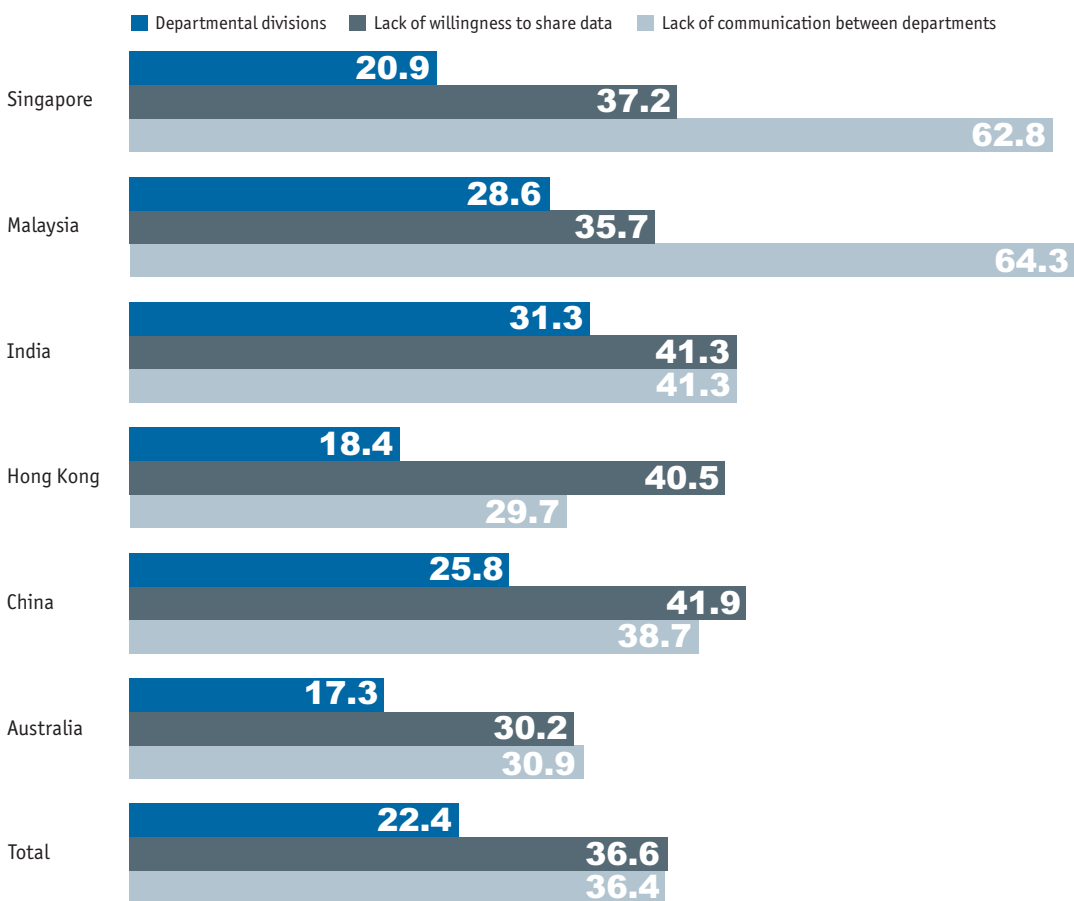
posed by information silos, significantly ahead of the survey average (59%) and above government officials (63%). This may well reflect tighter data security policies in professional services, which provide barriers to data sharing.

This barrier to the effective use of data is well recognised. A separate global survey of 373 senior executives by The Economist

Figure 15

Silo problems exist across Asia-Pacific

(% of respondents who agree)



Intelligence Unit in August 2012 found that cross-departmental input is essential for deriving insights from big data, according to some 64% of CEOs and 87% of other managers. But while most CEOs think this is simple to achieve, with 56% believing cross-department collaboration is easy, only just over a quarter of other managers have the same opinion.²

Breaking down information silos is crucial but not necessarily straightforward.

The new survey shows the silo problem is acute in Malaysia and Singapore, where around 63%, or nearly twice the regional average, cite a lack of communication between departments as the major inhibitor to effectively using data in their organisations (Figure 15).

² *In search of insight and foresight: Making the most of big data*, available at <http://www.economistinsights.com/analysis/search-insight-and-foresight>

4 Belief in benefits

● **Businesses in the Asia-Pacific region may be slow in adopting big data, but there is a wide belief in its benefits**

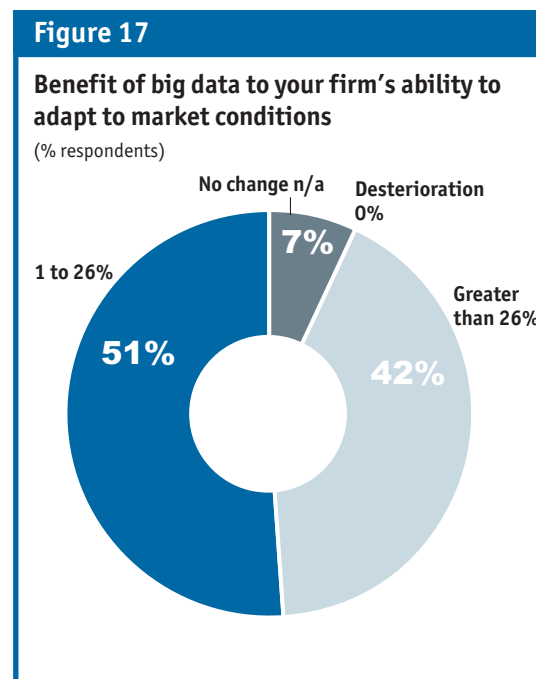
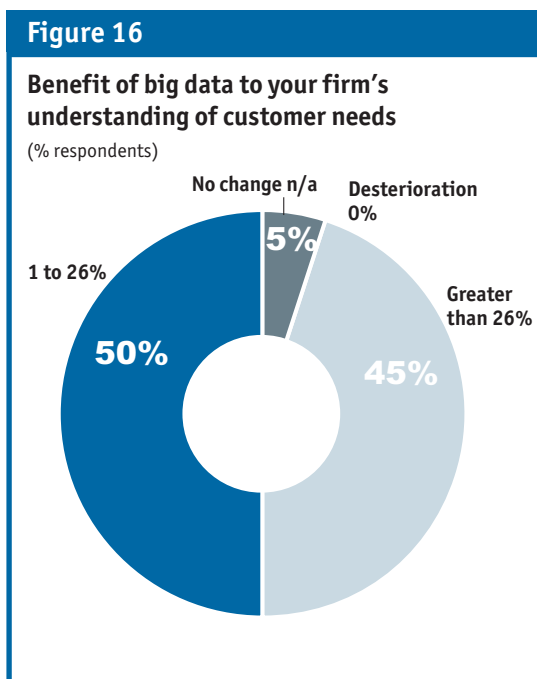
In particular, 45% of respondents expect that big data insights could boost revenue by 25% or more by improving both decision-making and understanding of customers (Figure 16). They are similarly positive about the increased agility that big data could bring. Across the board, 42% expect a significant top-line revenue advance from an improved understanding of new markets and higher forecasting accuracy (Figure 17).

This complements the view of more senior executives on the benefits of big data. In a separate EIU survey of C-suite executives, for example, 76.3% of those in the Asia-Pacific

region claimed greater volumes of data had led to improvements in strategy (compared to 70% in North America and 60% in Europe).³ The new survey shows frontline employees expect such strategic benefits to translate into tangible gains.

● **Industries overwhelmingly agree that significant gains in customer insight will be derived from the adoption of big data.**

Telecommunications, consumer goods and financial services firms are the most optimistic industries, with over half of firms in these sectors anticipating over 25% revenue increases as a result of better client insight (Figure 18). The first two of these industries also lead in adoption, showing that it is potentially easier

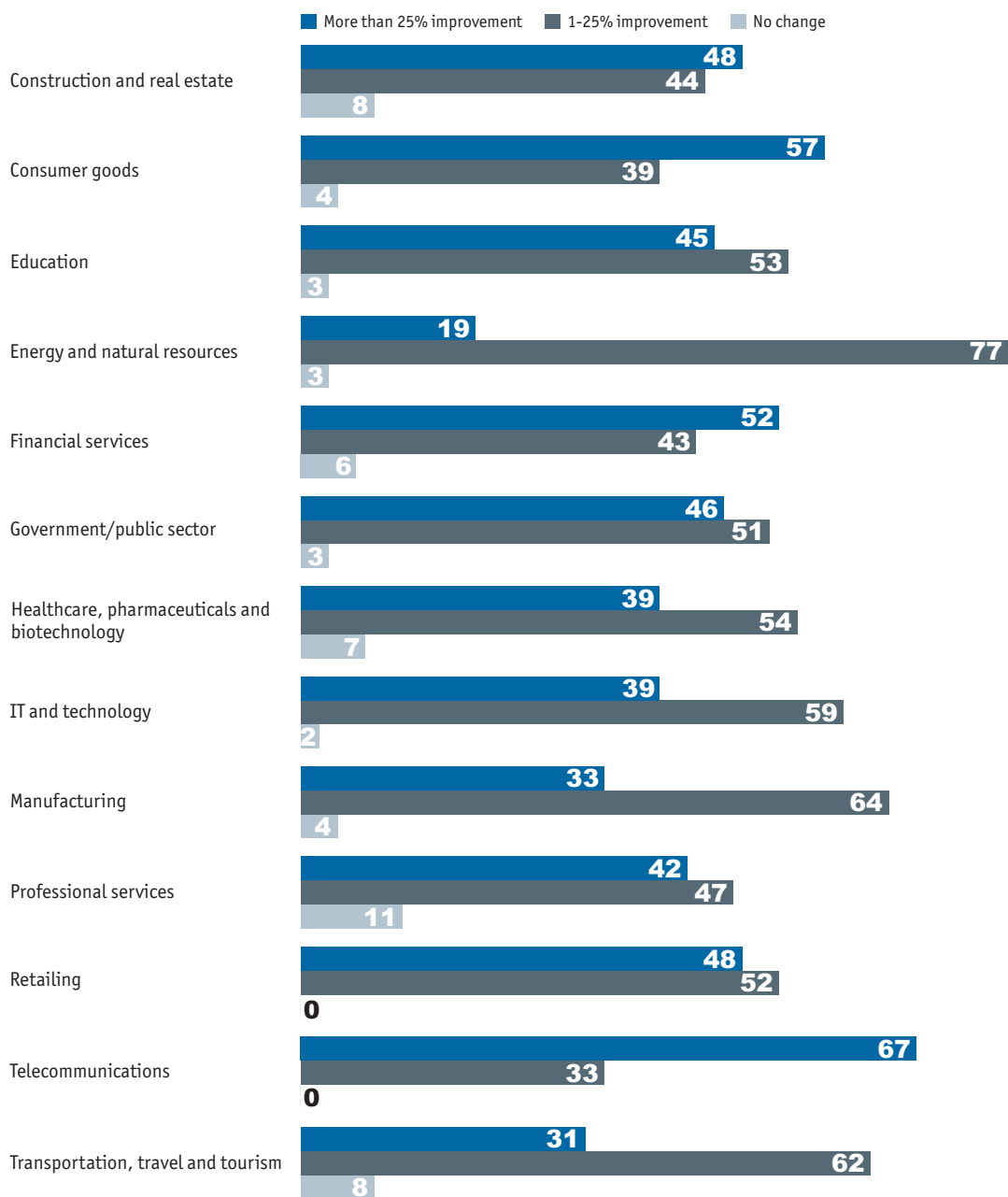


³ The Data Directive, <http://www.economistinsights.com/analysis/data-directive>

Figure 18

Benefit of big data to your firm's understanding of customer needs

(Estimated gain in terms of additional revenue or efficiency gains)



for industries that generate a lot of data to use it and therefore recognise its value.

In order for other industries to catch up in adopting data analytics greater sharing of

data will be required across sectors. This is expected to lead to the trading and sale of insights generated on consumer and customer trends. Customer datasets are an increasingly

valuable asset, and industry sectors that are large generators of this data (notably telecoms, consumer goods and financial service companies) will increasingly look to monetise these asset. For companies to do this successfully they will need to navigate through the complex web of data privacy restrictions which presently exist across the region.

● **Companies are excited about big data but frontline workers may not be aware of its appeal**

Companies are upbeat about the impact of big data on productivity and profitability, with at least 73% expecting significant improvement in each of these (Figure 19). But this doesn't appear to be fully communicated down the line. Comparing those on the front line with senior executives (SVPs, directors and heads of departments), nearly half of the former say their company's big data strategy has not been clearly communicated to them—more than twice the proportion of senior executives who think the same (23.5%).

The research suggests companies are failing to communicate their big data strategy sufficiently to their frontline employees. Poor

communication may lead to employees being uncertain about the benefits of big data to their company and therefore being slow to adopt its practices.

● **Big data laggards are still confident about gaining value from it in the future**

Even those firms who have not fully embraced big data (data laggards) are positive about its potential. That could be a sign of frustration over their access to key data— 46% of the laggards in big data adoption say they can't always obtain the information resources they need, a rate two and a half times higher than the big data leaders (Figure 20). Even so, 73% of the trailing group are confident the adoption of big data would improve their firm's innovation, while 74% see a rise in productivity and 71% expect greater profitability (Figure 21).

● **IT professionals in Asia-Pacific are more positive about big data and its benefits than other job functions**

IT managers, who might be expected to be more knowledgeable about big data than other job functions, are also much more confident about their companies' usage of big data than their colleagues. Some 68% believe their

Figure 19

Upbeat about the innovation, profitability and productivity improvements big data can bring

(% respondents)

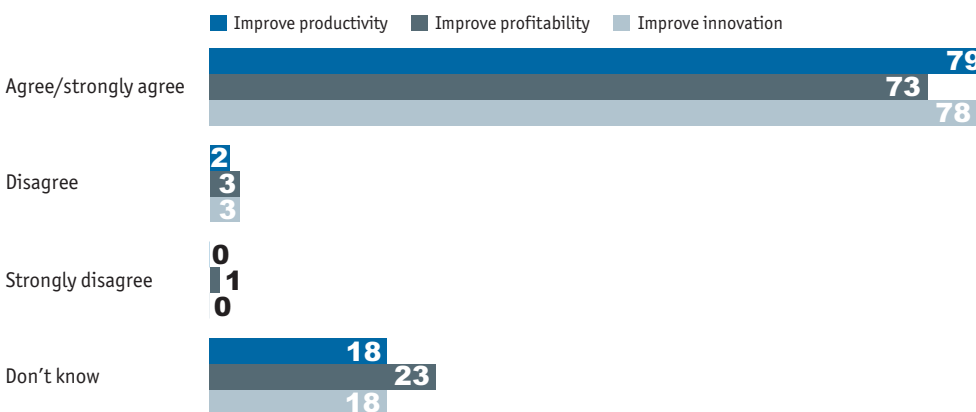


Figure 20

Leaders and laggards, accessibility to data resources

(% respondents)

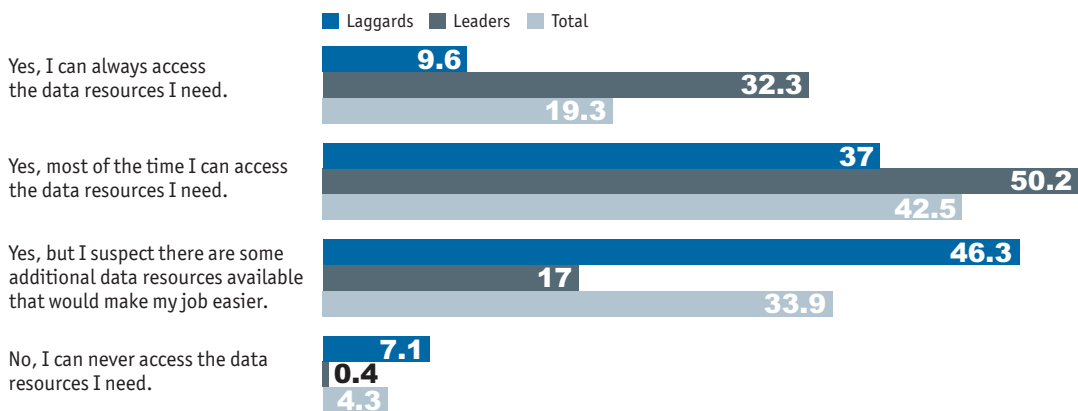


Figure 21

Leaders and laggards, productivity, innovation and profitability benefits

(% respondents)



Figure 22

IT professionals see benefits

My company is advanced/well-advanced in big data adoption

(% respondents)



of marketing managers (31%) and general management (42%) (Figure 22). They are also more confident that they have access to the data they need to do their job, with 85% of this opinion compared to the regional average of 62%. Meanwhile 92% believe big data will deliver productivity gains and 85% expect greater profitability.

The views of the IT department perhaps need to be taken with a pinch of salt: IT executives often have a vested interest in demonstrating the success of the systems they install; they are

organisation is advanced or very advanced in big data, far above the average of 43% and ahead

also often better trained in getting the most out of them. Poor communication between the IT function and other departments may also hinder the effectiveness of big data solutions, as the above findings suggest. Indeed, it is notable that when it comes to internal communication of big

data strategy, the views of the IT function are broadly in line with those of other departments. Just over a third (35%) believe their company's big data efforts have been poorly communicated or not communicated at all, only marginally below the average of 38%.

5 Is bigger better?

● **Big companies are more likely to use big data**

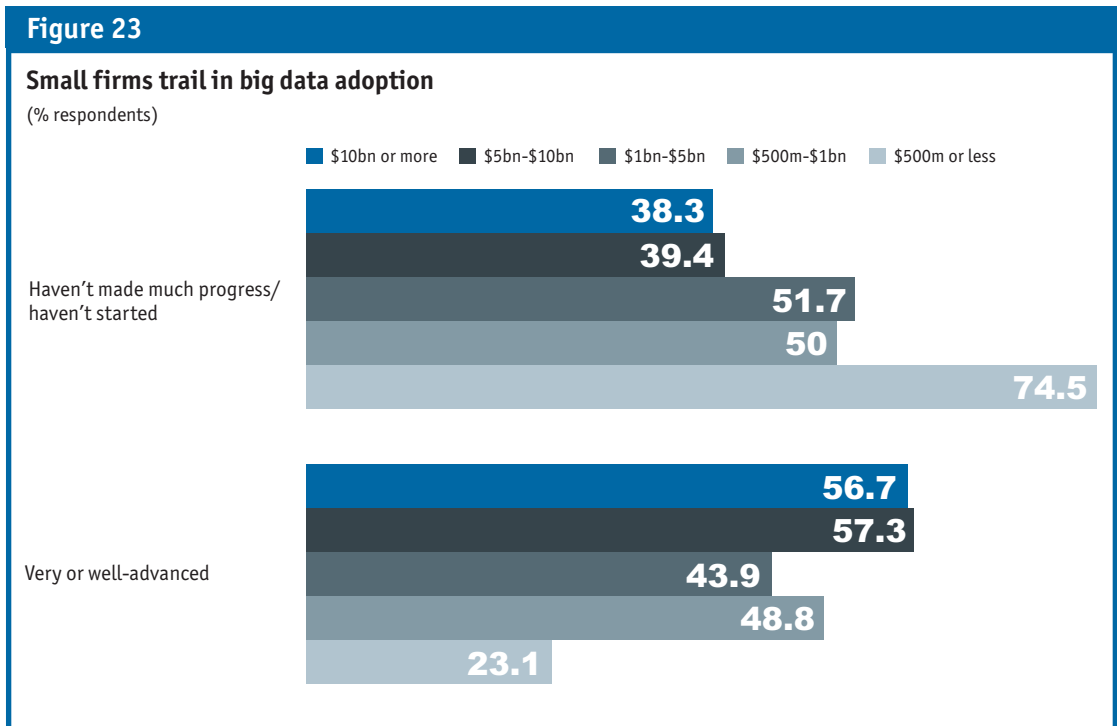
There is a clear correlation between size of company and progress in adopting big data: larger firms in Asia-Pacific are better at adopting big data strategies than their smaller counterparts. Among the very largest firms in the survey, with global annual revenues above US\$5bn, 57% report being well advanced (Figure 23). By contrast, less than a quarter of the smallest firms—those with revenues of less than US\$500m—describe themselves as advanced, while fully three quarters have made little or no progress.

This suggests that large firms with substantial data resources to manage are more driven to

seek the benefits of large-scale analytics than smaller businesses. It could also reflect the understandable resources gap between small and large firms. Indeed, a lack of in-house skills is cited as a hindrance to adopting big data by nearly three-quarters of small companies, far more than any other revenue group and nearly twice the survey average (39%).

● **Bigger companies expect greater gains in agility from big data**

Large firms in Asia-Pacific have higher expectations about the value big data will generate compared to smaller firms, suggesting a ratcheting effect the more resources can



be brought to bear in the application of big data. Over half of all companies with revenue of US\$5bn or more anticipate a revenue boost of 26% or more from greater business agility – significantly higher than the 38% of small firms (with revenues less than US\$500m) (Figure 24). Some 43% expect a similar revenue boost from greater insights into new markets, compared with 32% of small businesses.

Very large firms are also the most optimistic about the impact on productivity (87%) and innovation (86%) (Figure 25). However, medium and small-sized businesses also view big data positively. Small businesses poll 70% or above in their expectations for improved productivity, profitability and innovation.

● **Businesses which are advanced in implementing big data are also the most effective in ensuring employees understand the strategy.**

The survey suggests early adopters of big data (data leaders) are making the greatest efforts at ensuring that staff understand their big data initiatives. Some 58% of data leaders

Figure 24

Large businesses anticipate larger gains in business agility

(% respondents)

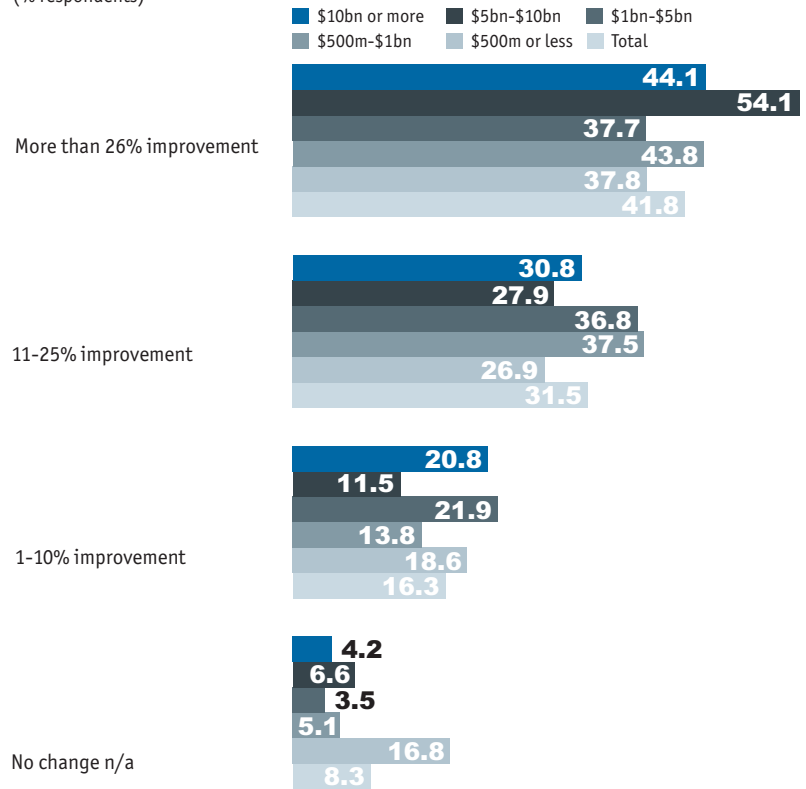
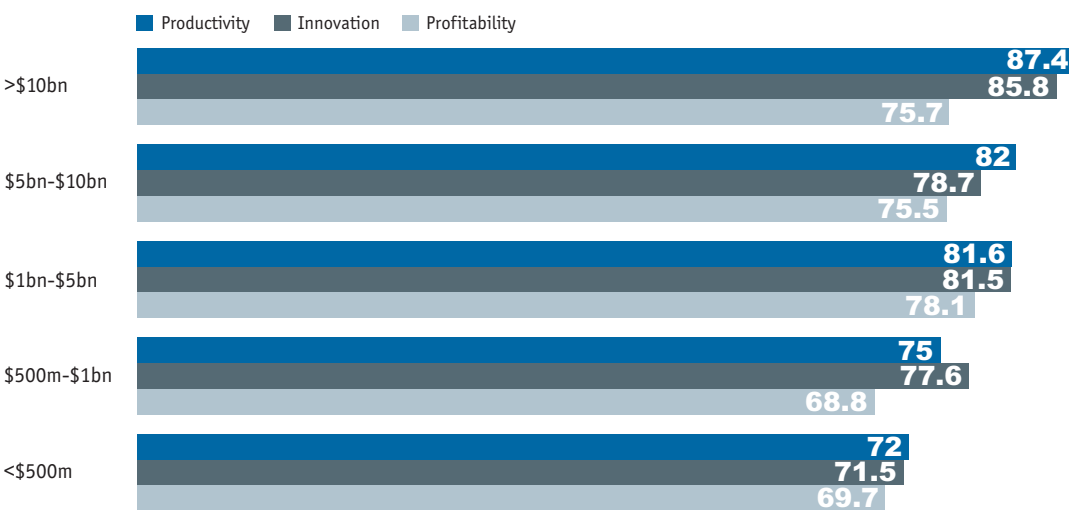


Figure 25

Large businesses anticipate larger gains in productivity, innovation and profitability

(% respondents)

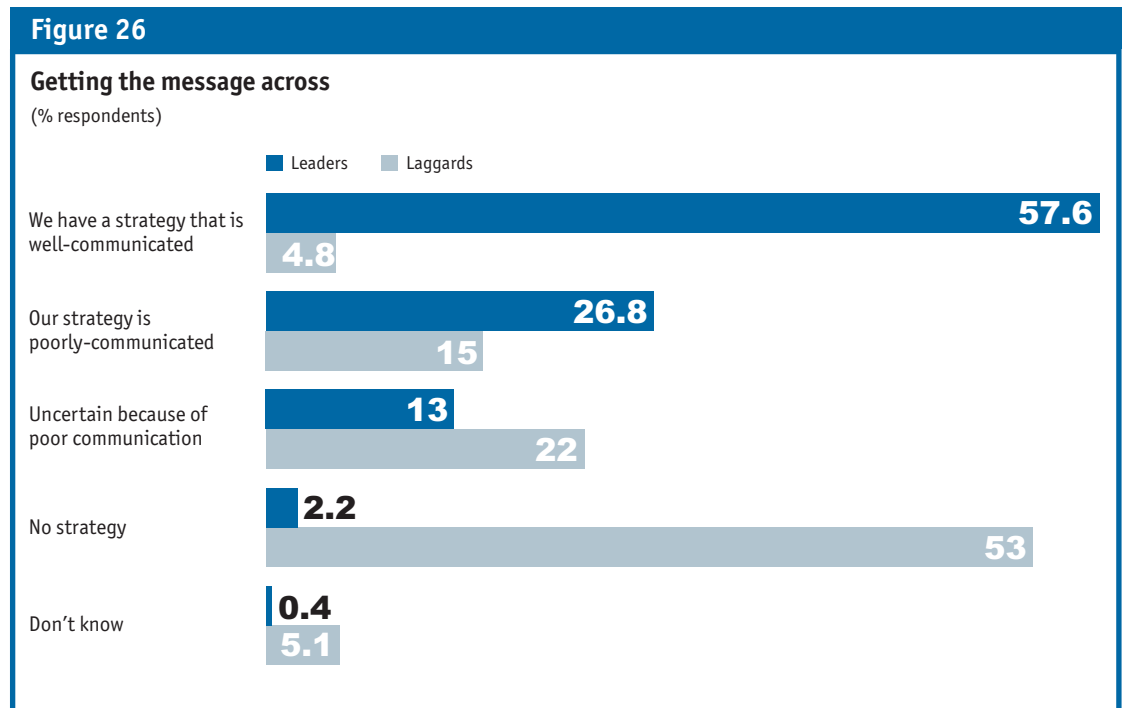


have a clearly communicated strategy, while of those who haven't implemented big data (data laggards), 90% either have a poorly communicated strategy or no strategy at all (Figure 26).

Among the leaders, 86% also believe their data strategy is successful, and just 2% are not certain. By comparison, 55% of those who haven't implemented it do not consider their

strategy successful; while a quarter say they don't know.

When viewed in terms of company size, a similar result is apparent. Small companies see themselves as the least successful in big data (32%) but also have the highest proportion of employees who are unsure about their firm's big data plans (23%), above the regional averages of 49% and 15% respectively.



Conclusion

This research has shown that companies in the Asia-Pacific region are not as advanced in the adoption of big data analytics as one might expect, particularly within the developed markets of Singapore and Australia. Communication problems appear to be a root cause of slow adoption, with the presence of information silos and an inability to share data inhibiting firms from benefitting from big data.

However, respondents to this survey have shown that there is a strong appetite for an increased use of data analytics within their companies. They recognise the value that increased insight can bring in terms of productivity, profitability

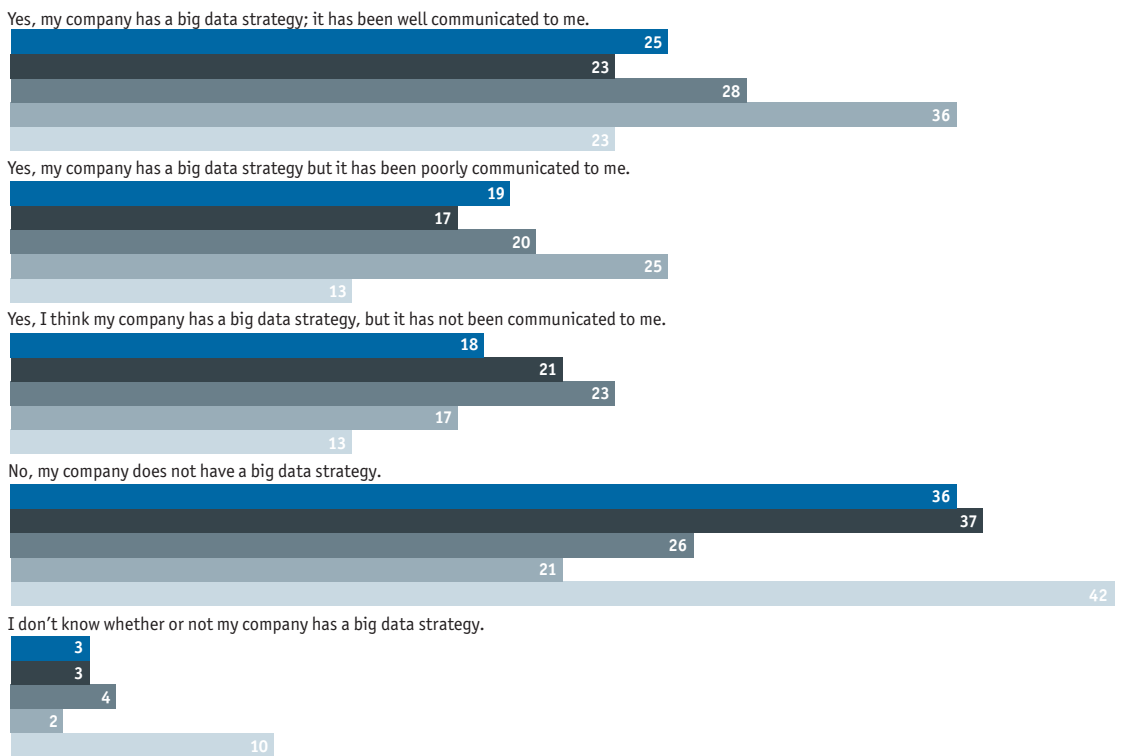
and innovation. Big data leaders have shown that an effectively communicated data strategy, better training and improved access to data can significantly improve a firm's ability to adopt, and gain value from data analytics.

Smaller firms face the greatest challenge in taking advantage of big data analytics. With limited technology resources compared to their larger counterparts, smaller firms can help bridge the skills and technology gap by leveraging external technology providers. Encouragingly, small and large firms alike are confident that, given the right tools, they can reap the benefits generated by big data.

Appendix: Survey responses by country

1. Does your company have a big data strategy? If so, how well have its purpose and goals been communicated to you? (% respondents)

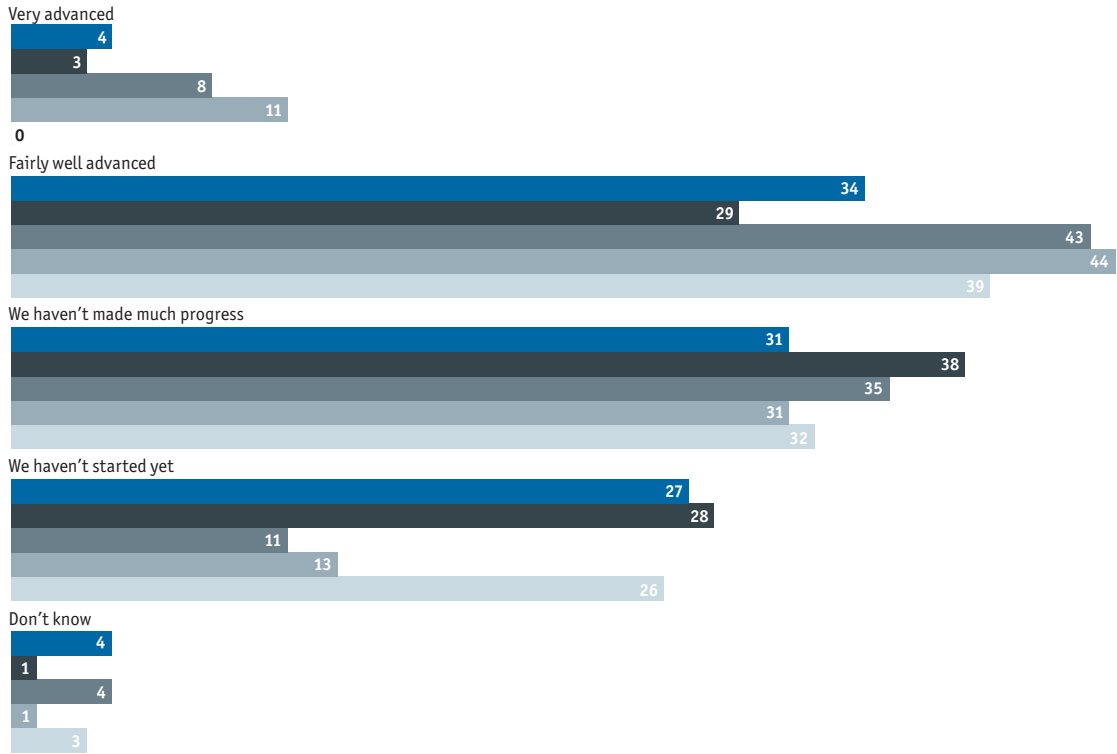
AUST/NZ ASEAN India Hong Kong China



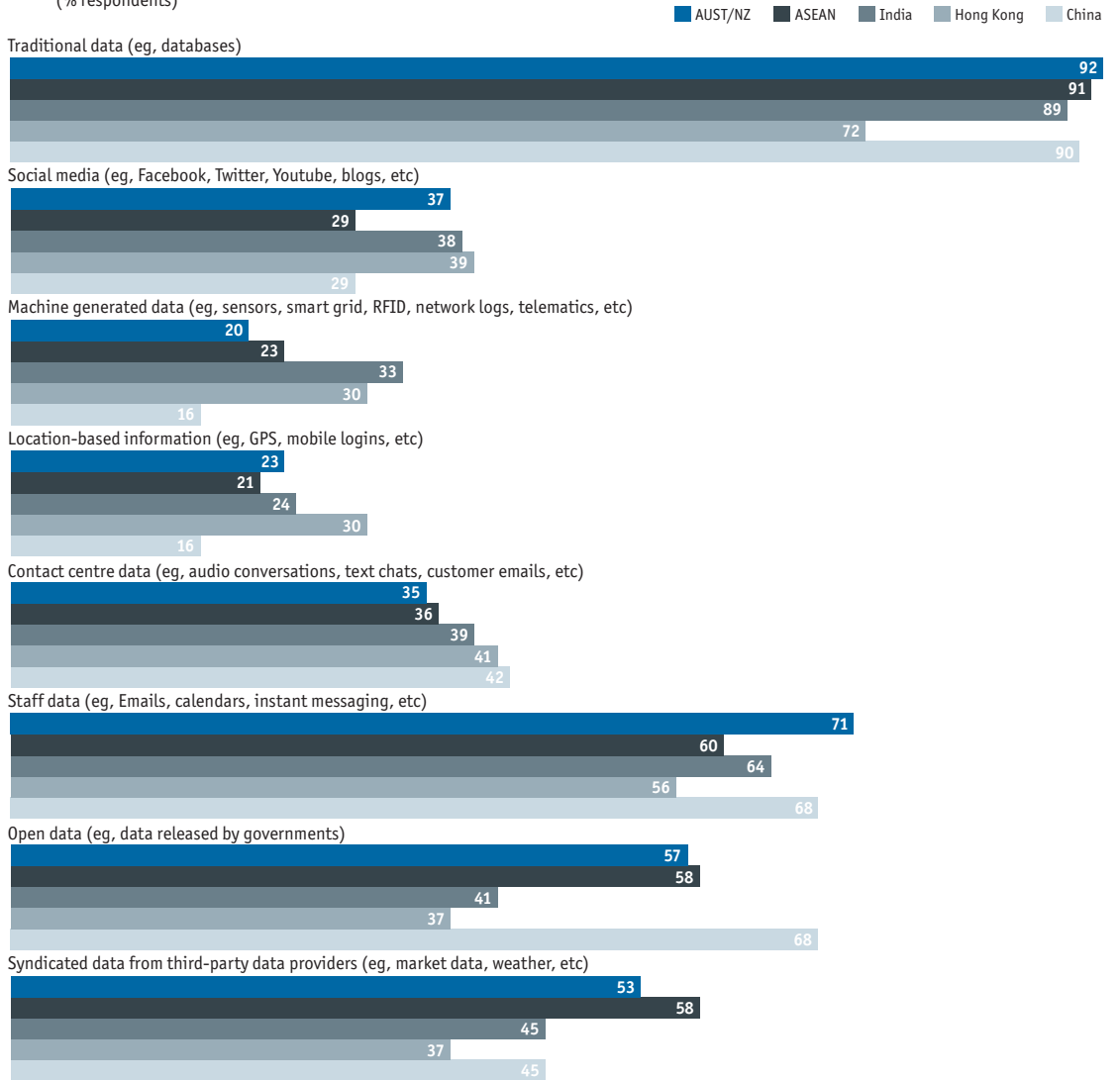
2. How advanced do you think your company is in its adoption of big data?

(% respondents)

AUST/NZ ASEAN India Hong Kong China

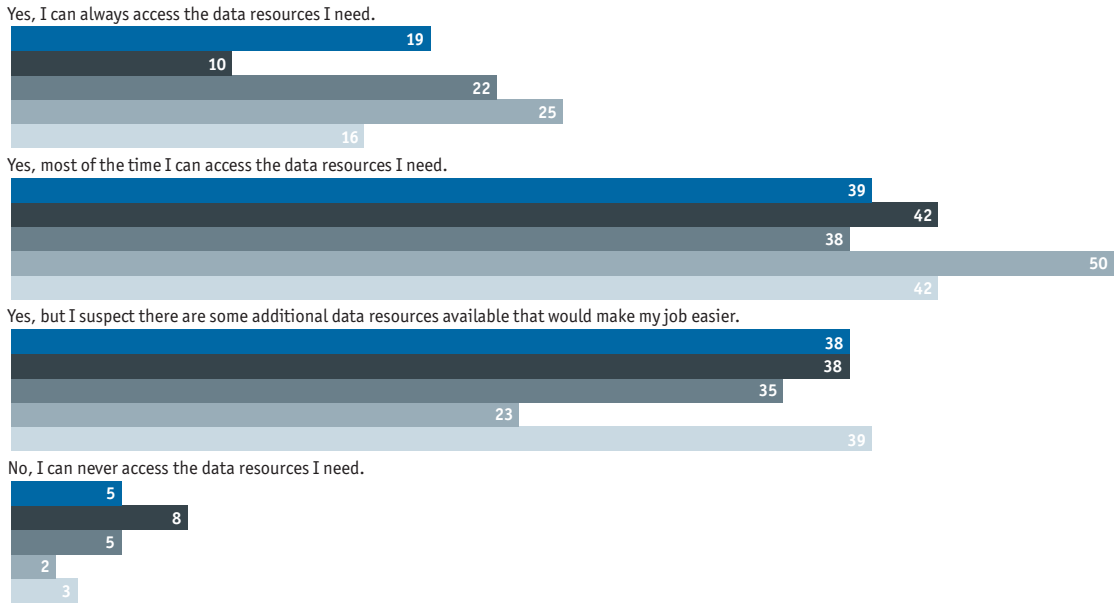


3. Which of the following sources of data do you use in your job? Select all that apply.
 (% respondents)



4. Is the data you need for your job easily accessible?
(% respondents)

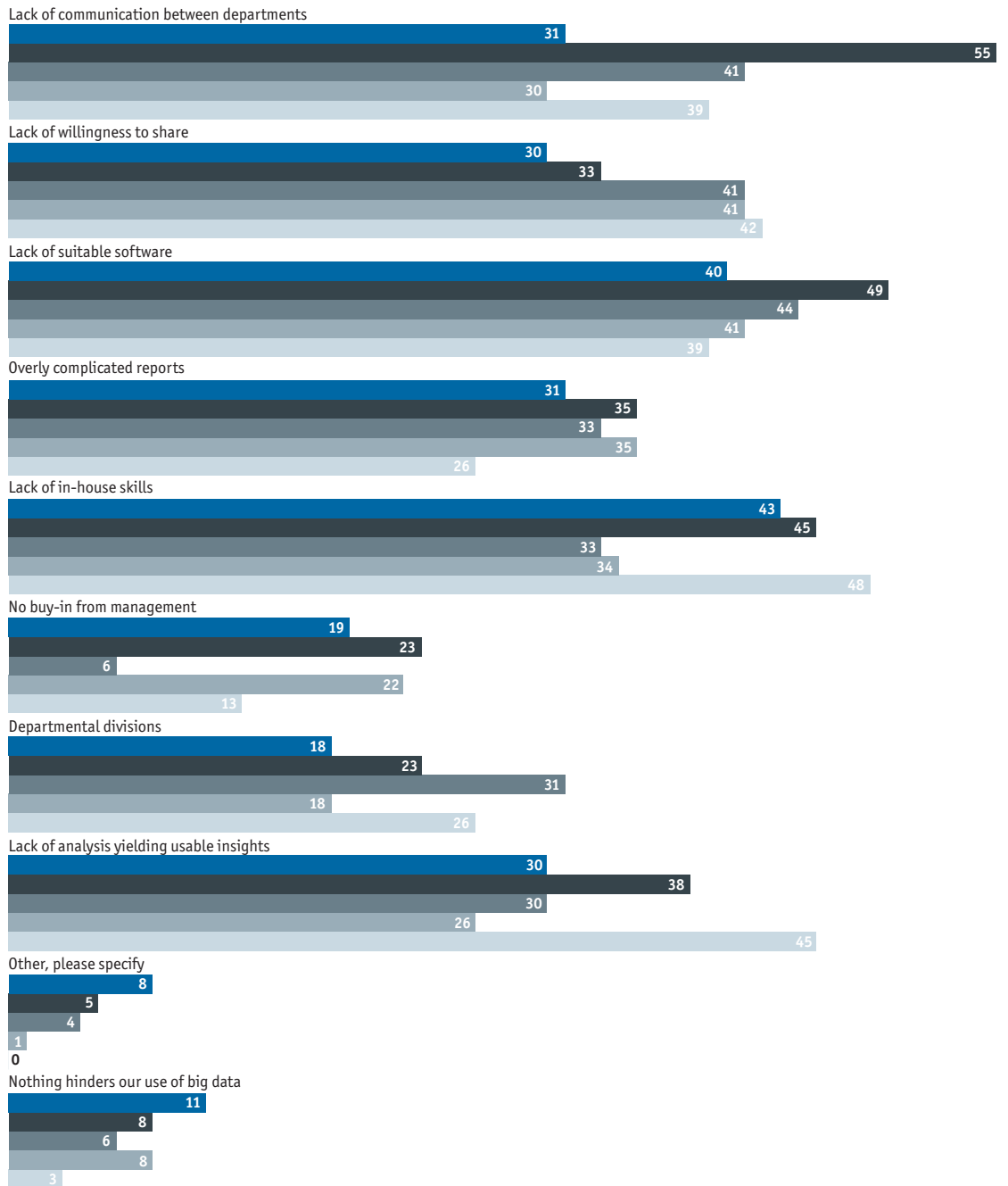
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5. What hinders the effective use of big data in your organisation? Select all that apply.

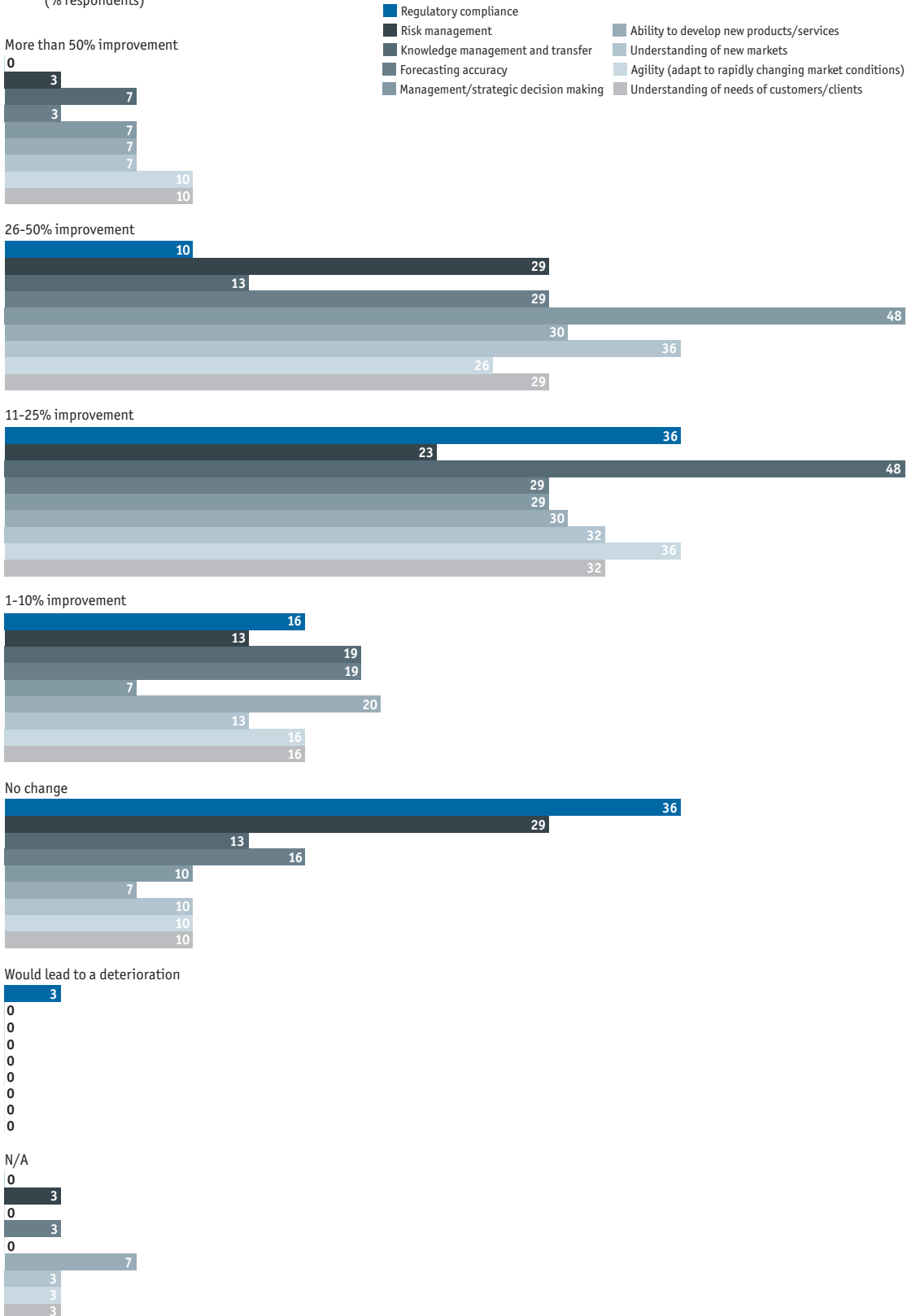
(% respondents)

AUST/NZ ASEAN India Hong Kong China

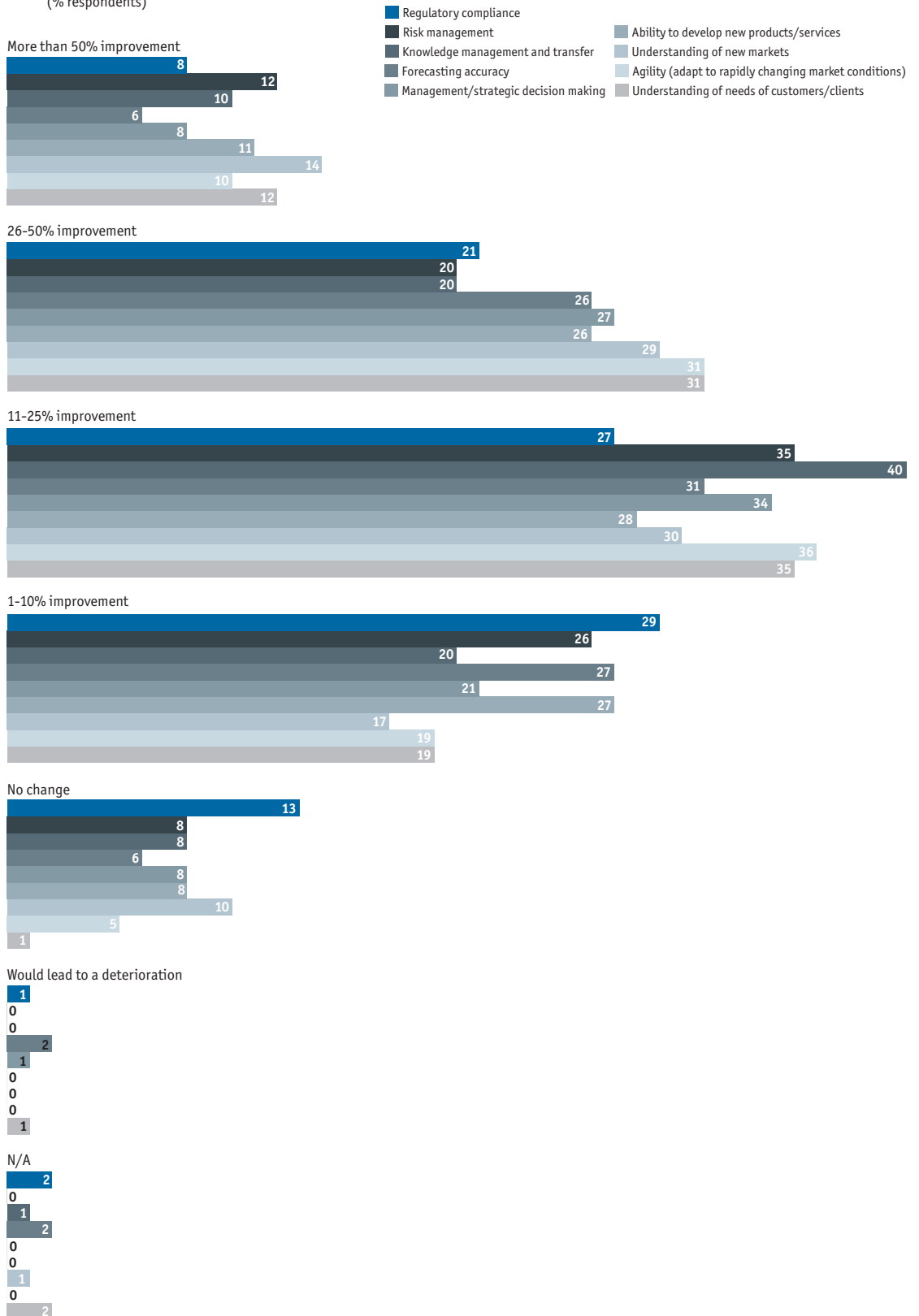


6a. For each of the following issues how much would insights from big data affect your department? China

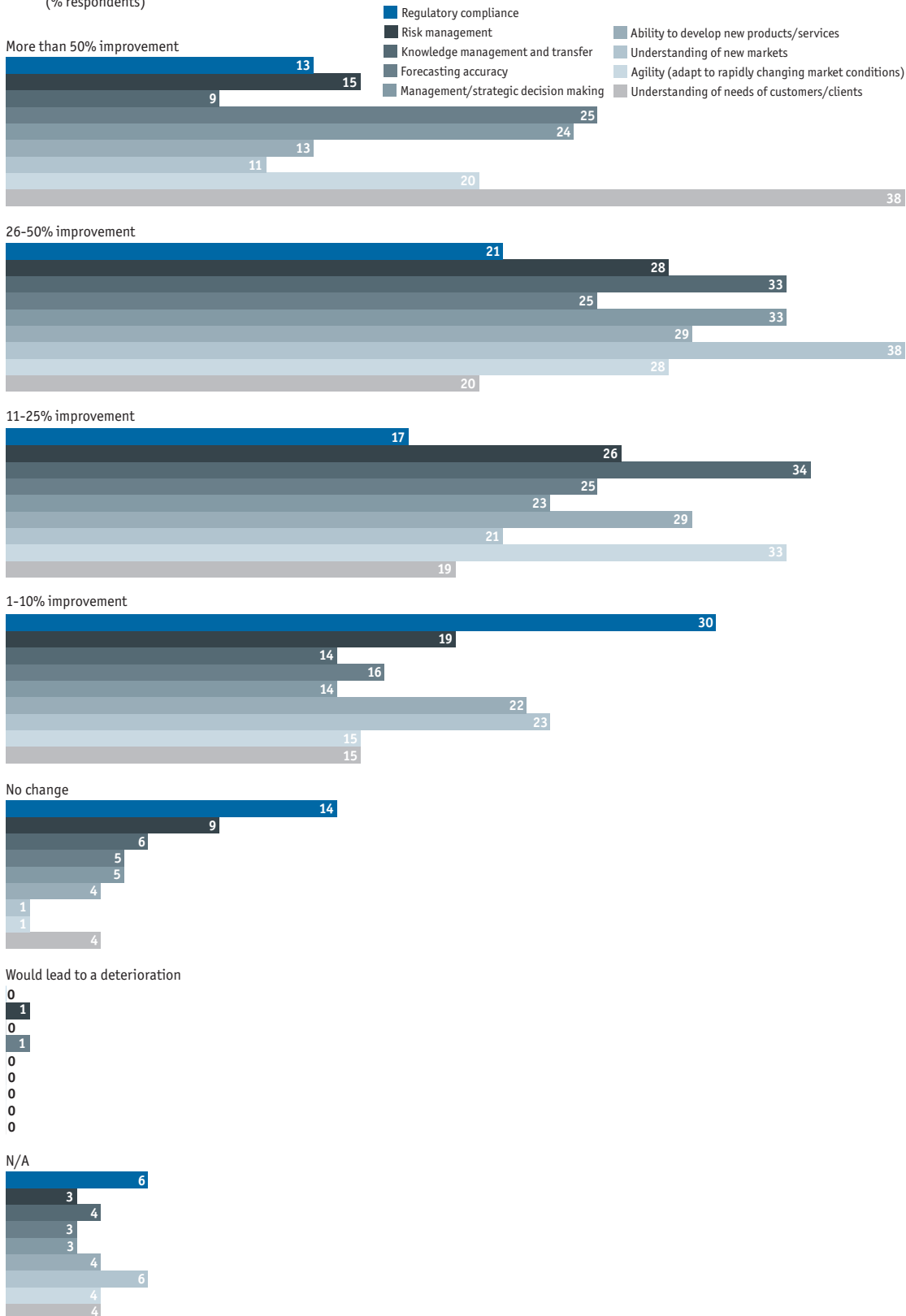
(% respondents)



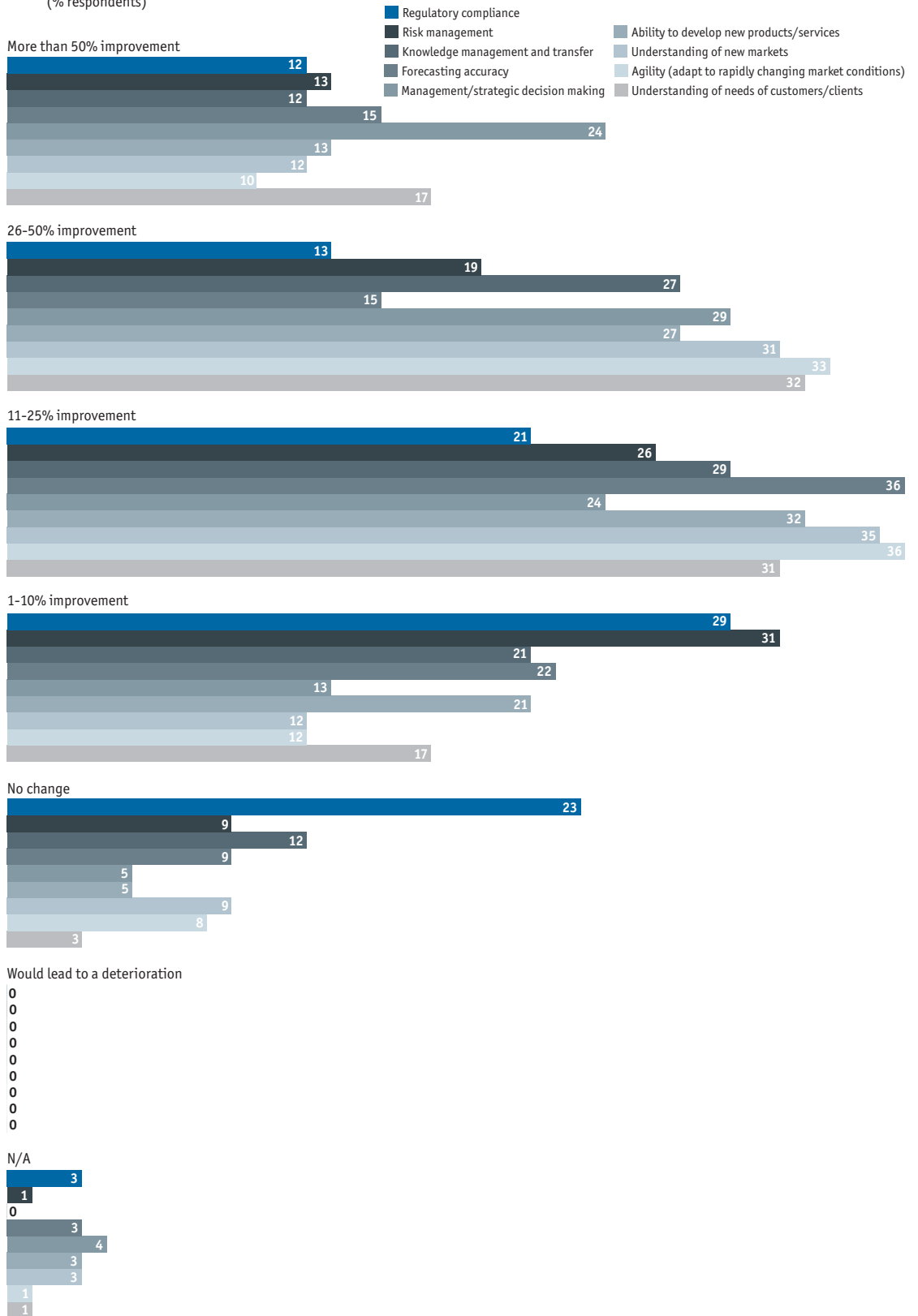
6b. For each of the following issues how much would insights from big data affect your department? Hong Kong
(% respondents)



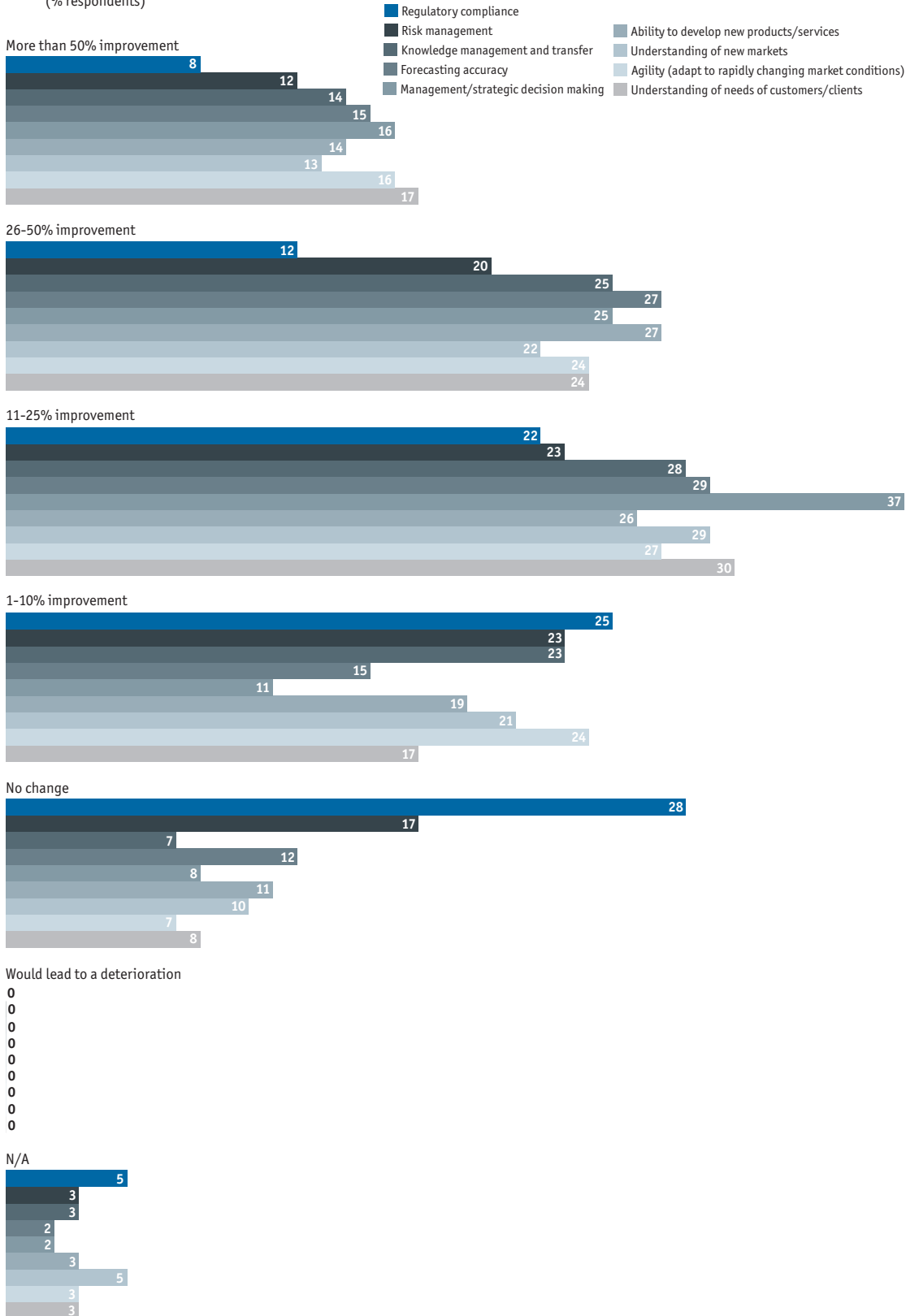
6c. For each of the following issues how much would insights from big data affect your department? India (% respondents)



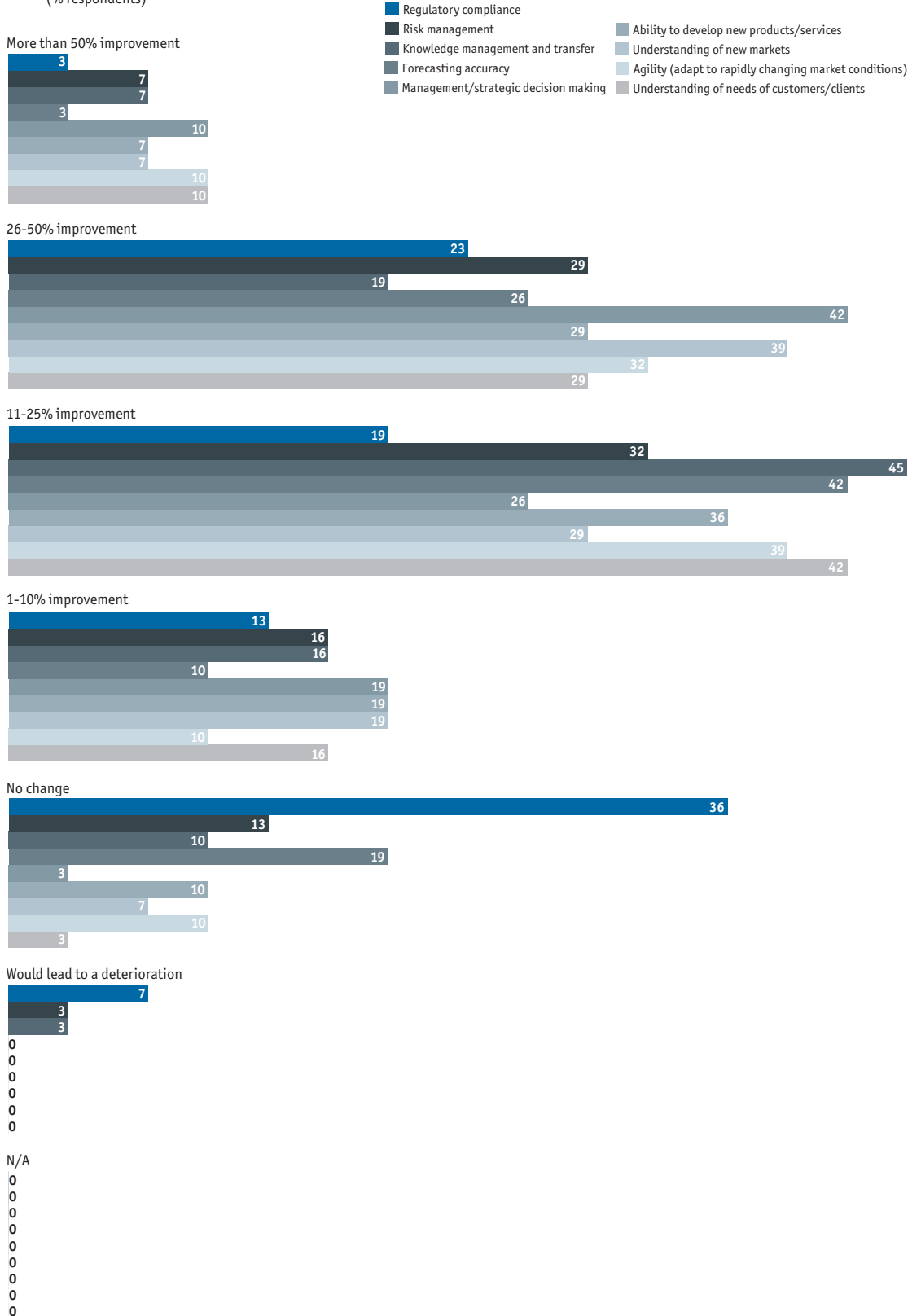
6d. For each of the following issues how much would insights from big data affect your department? ASEAN
(% respondents)



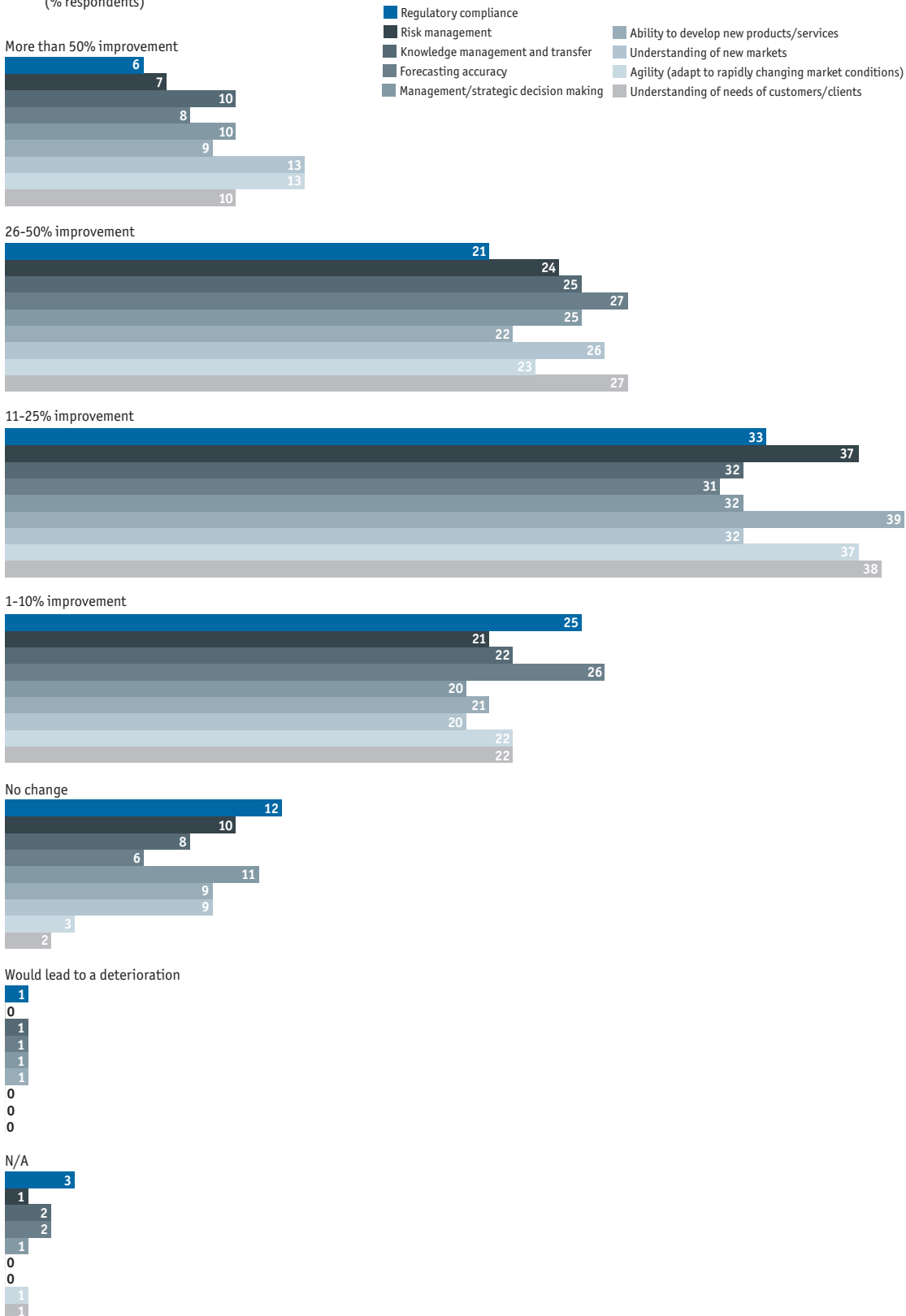
6e. For each of the following issues how much would insights from big data affect your department? Australia/New Zealand (% respondents)



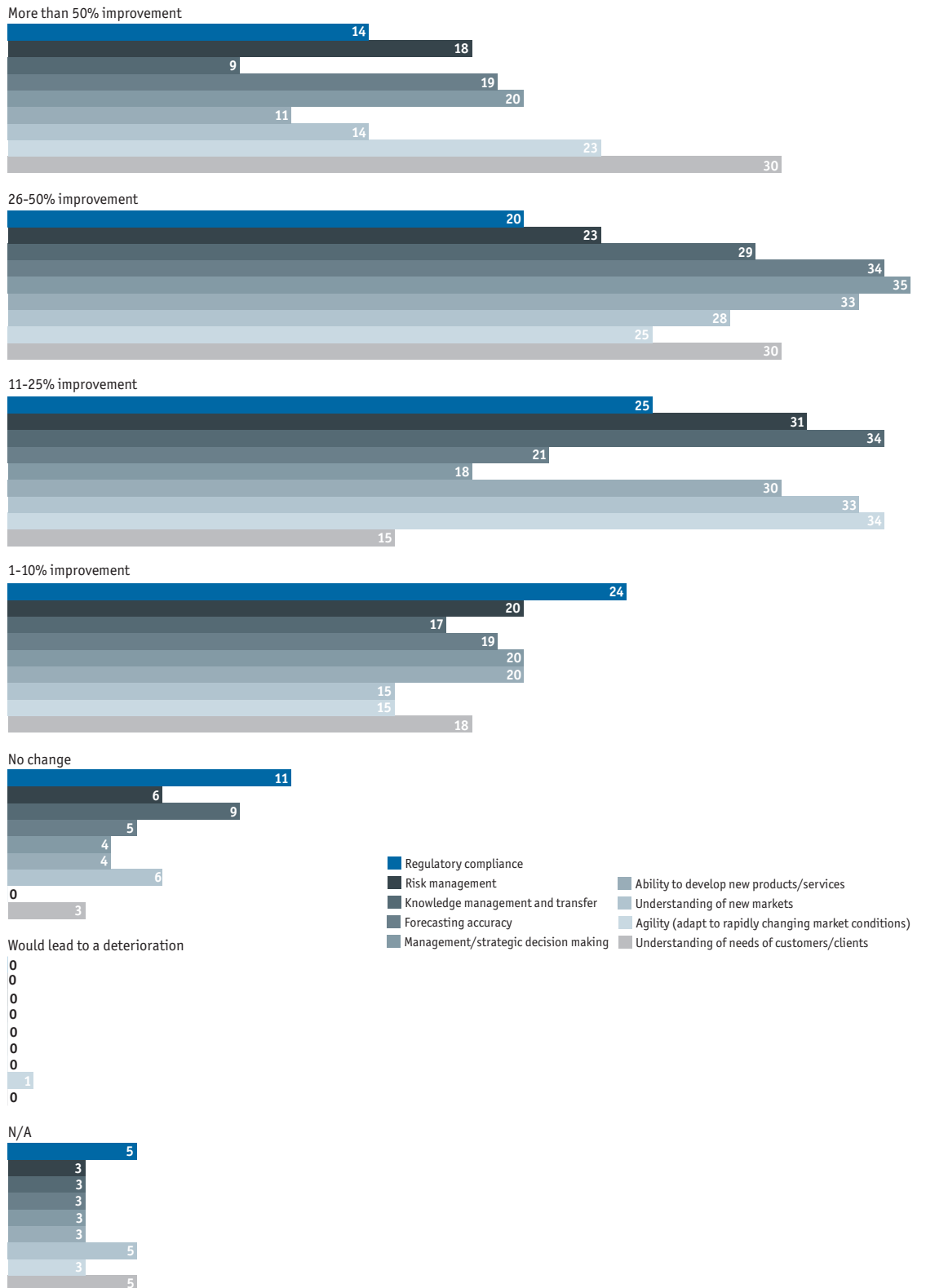
7a. For each of the following issues how much would insights from big data affect your company? China
(% respondents)



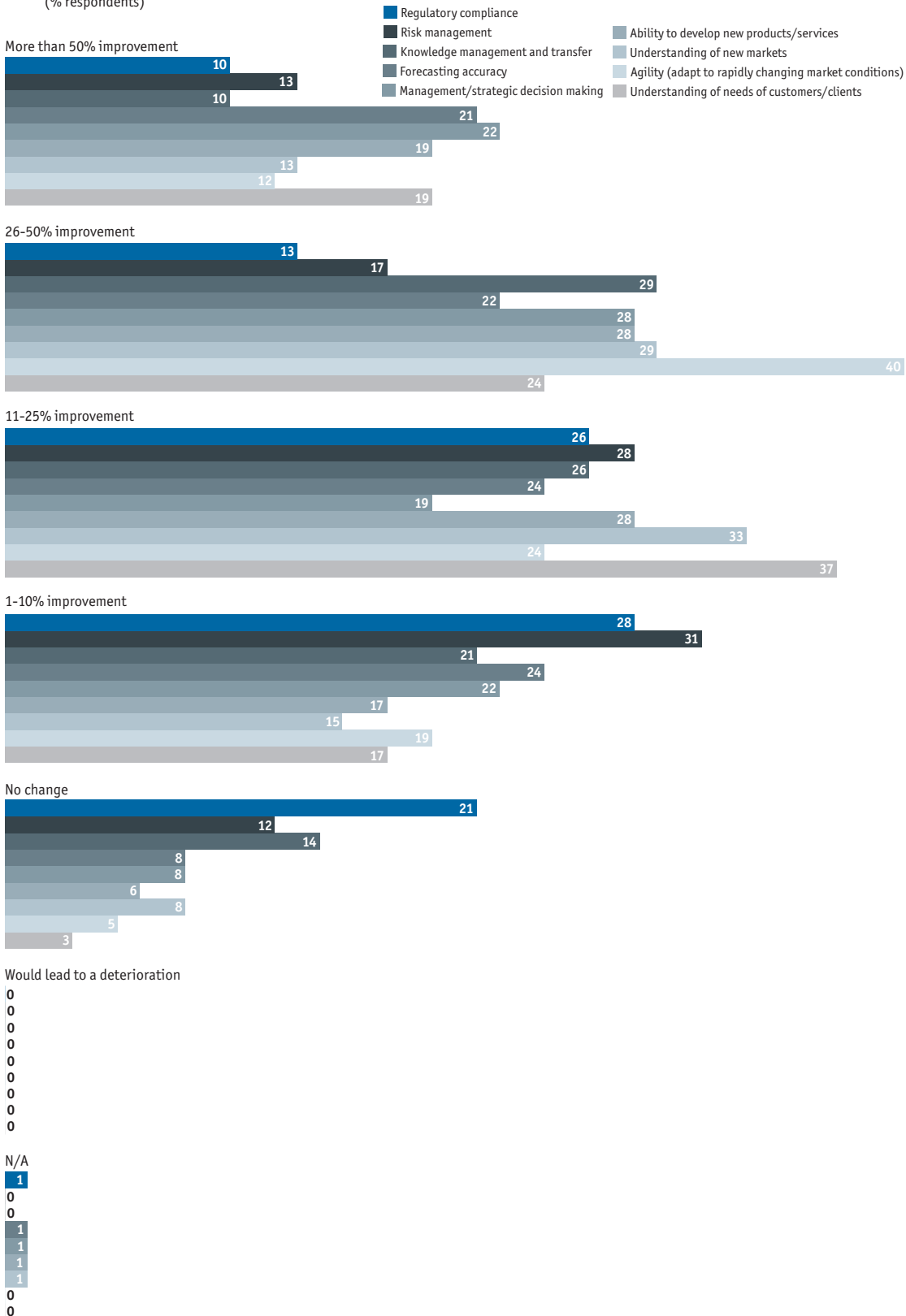
7b. For each of the following issues how much would insights from big data affect your company? Hong Kong
(% respondents)



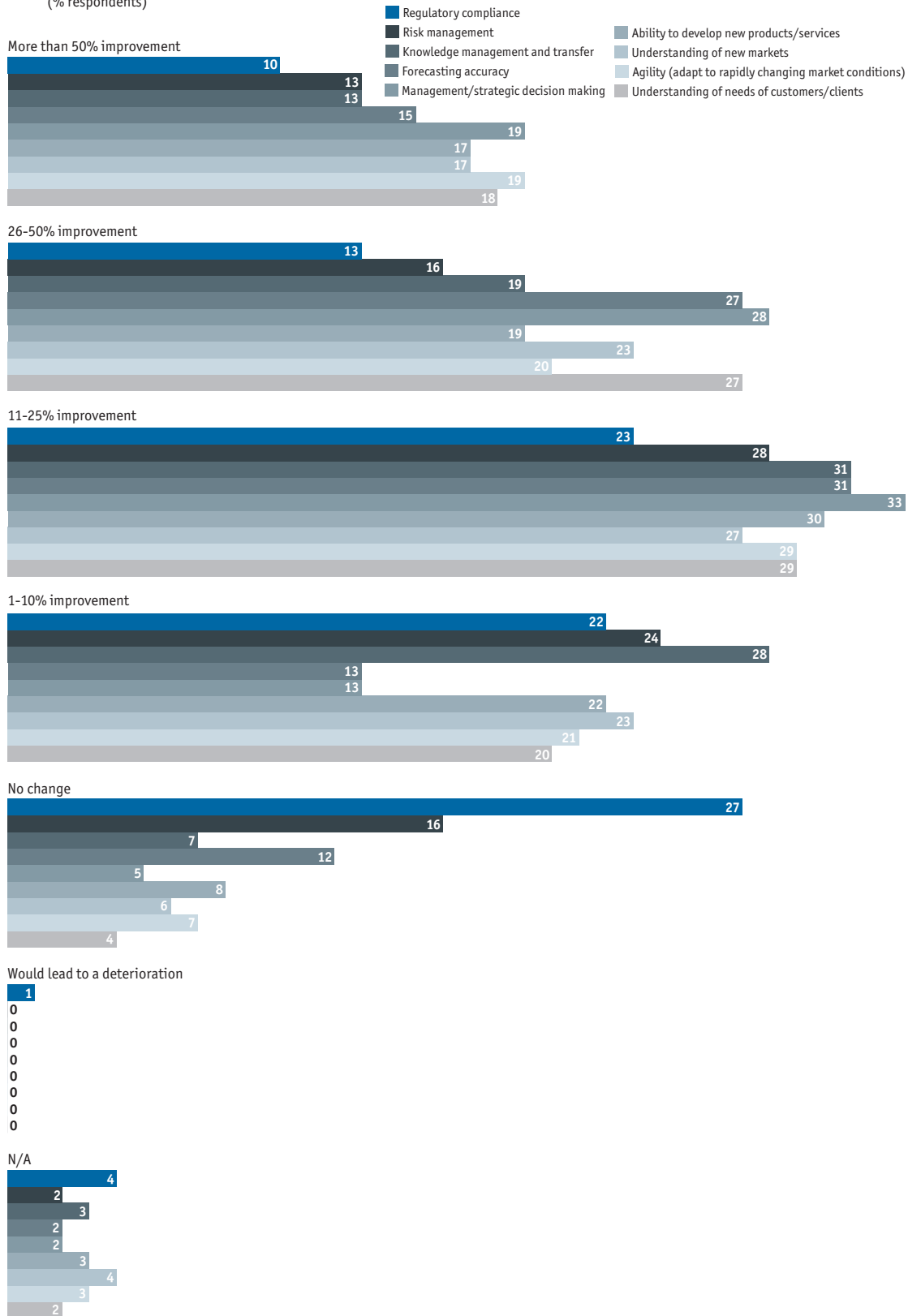
7c. For each of the following issues how much would insights from big data affect your company? India
(% respondents)



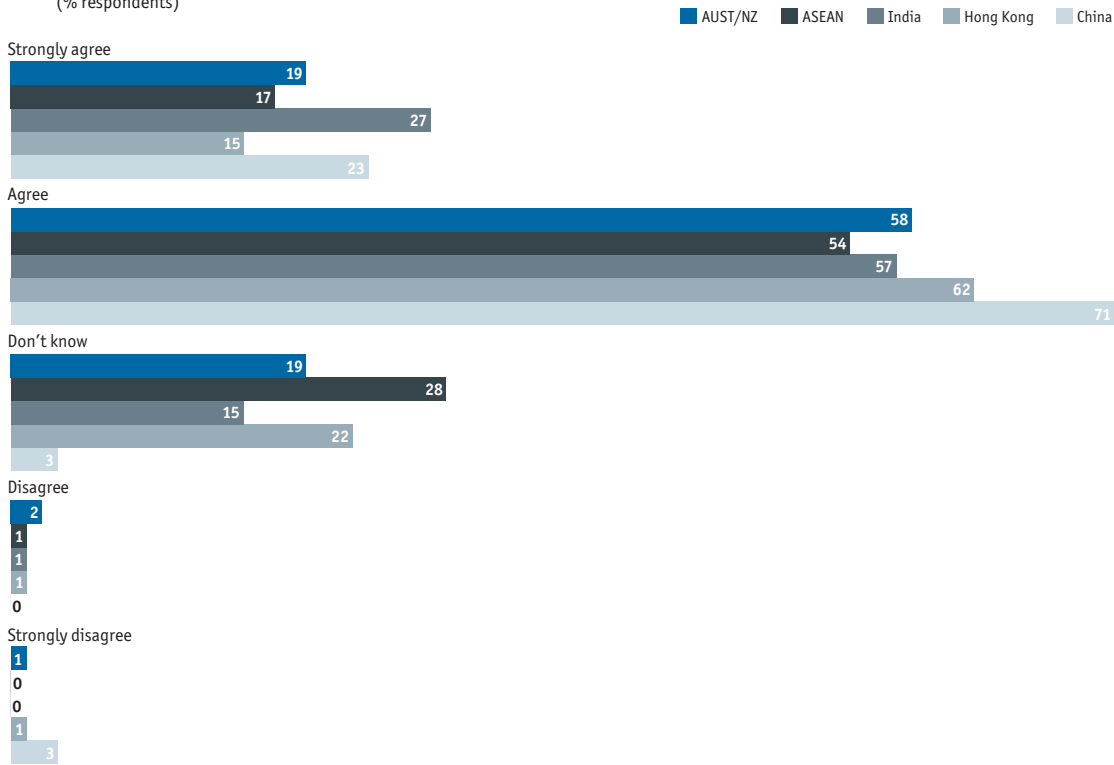
7d. For each of the following issues how much would insights from big data affect your company? ASEAN
 (% respondents)



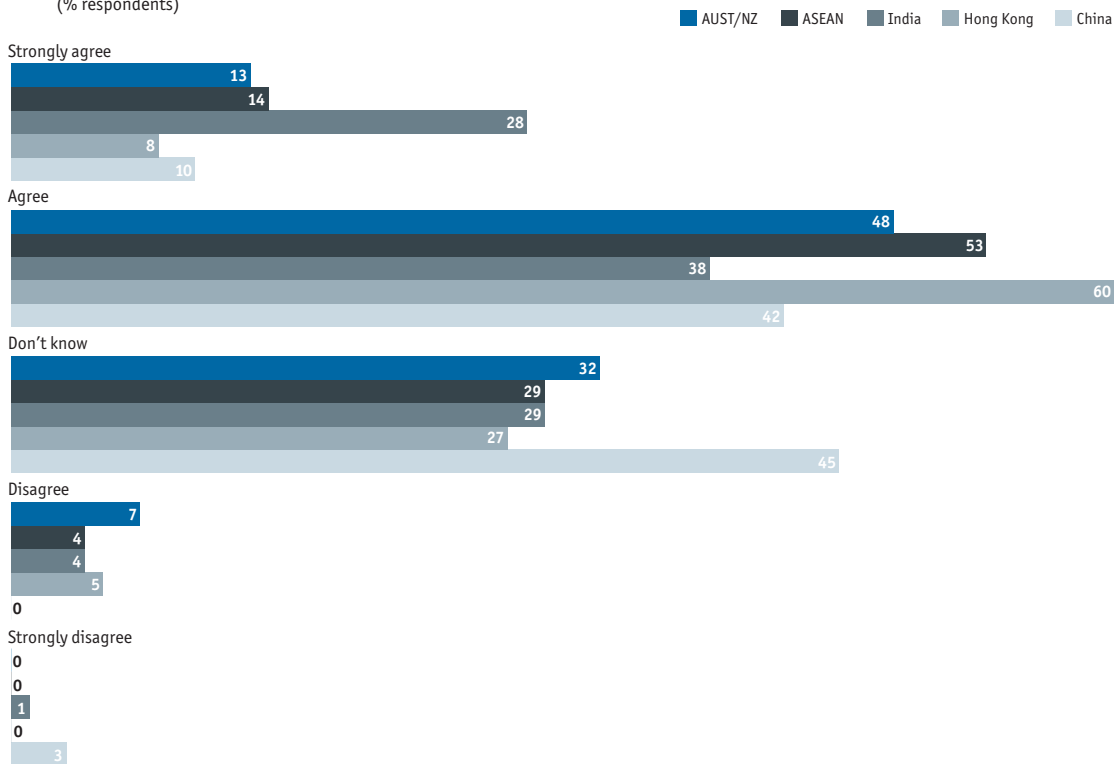
7e. For each of the following issues how much would insights from big data affect your company? Australia/New Zealand
(% respondents)



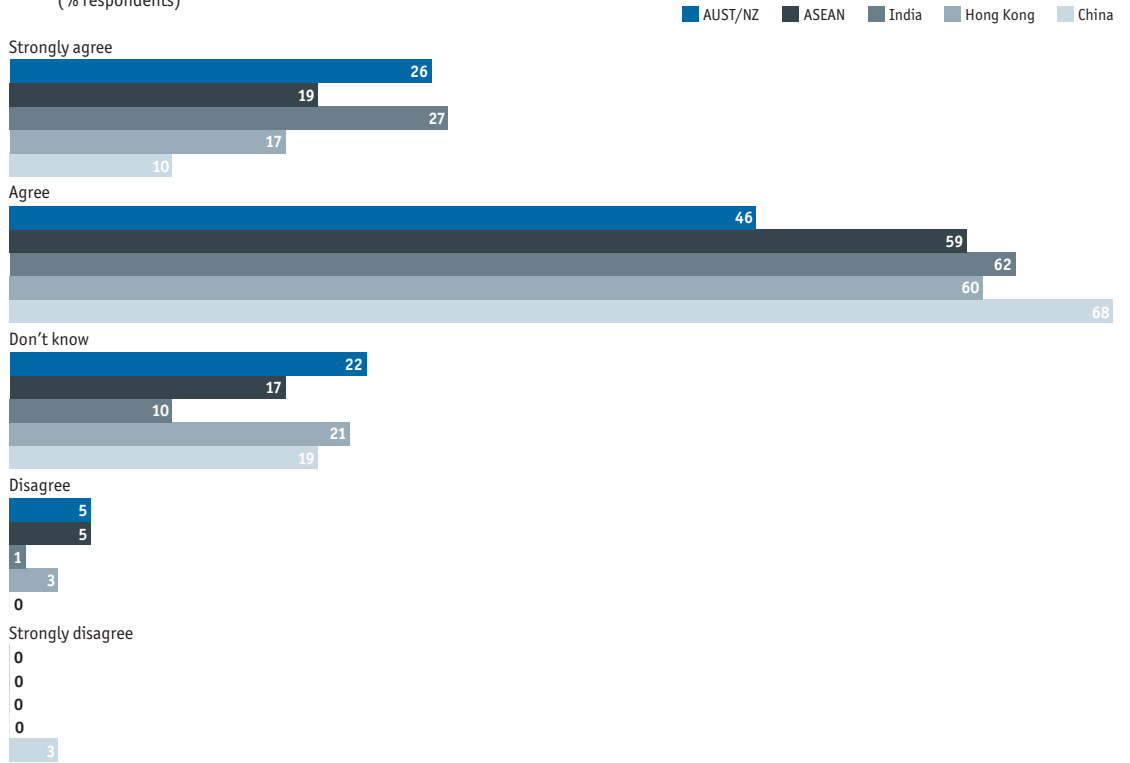
8a. Big data would improve productivity in my department
(% respondents)



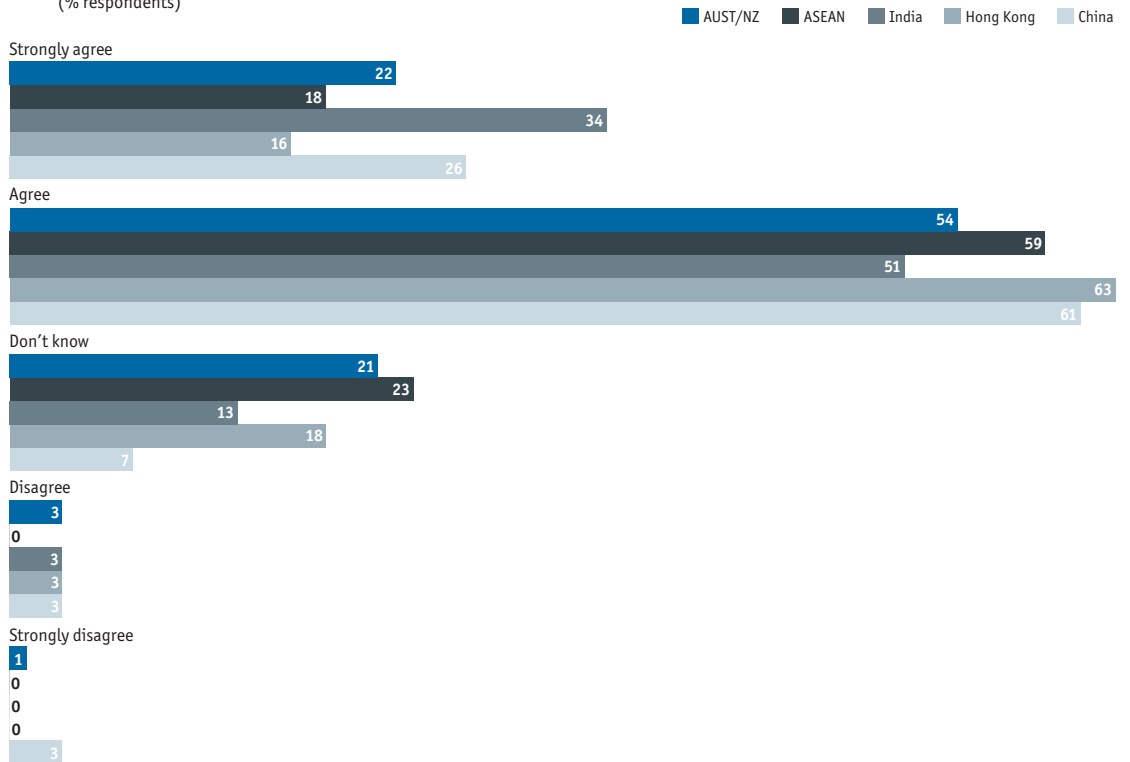
8b. Big data would improve profitability in my department
(% respondents)



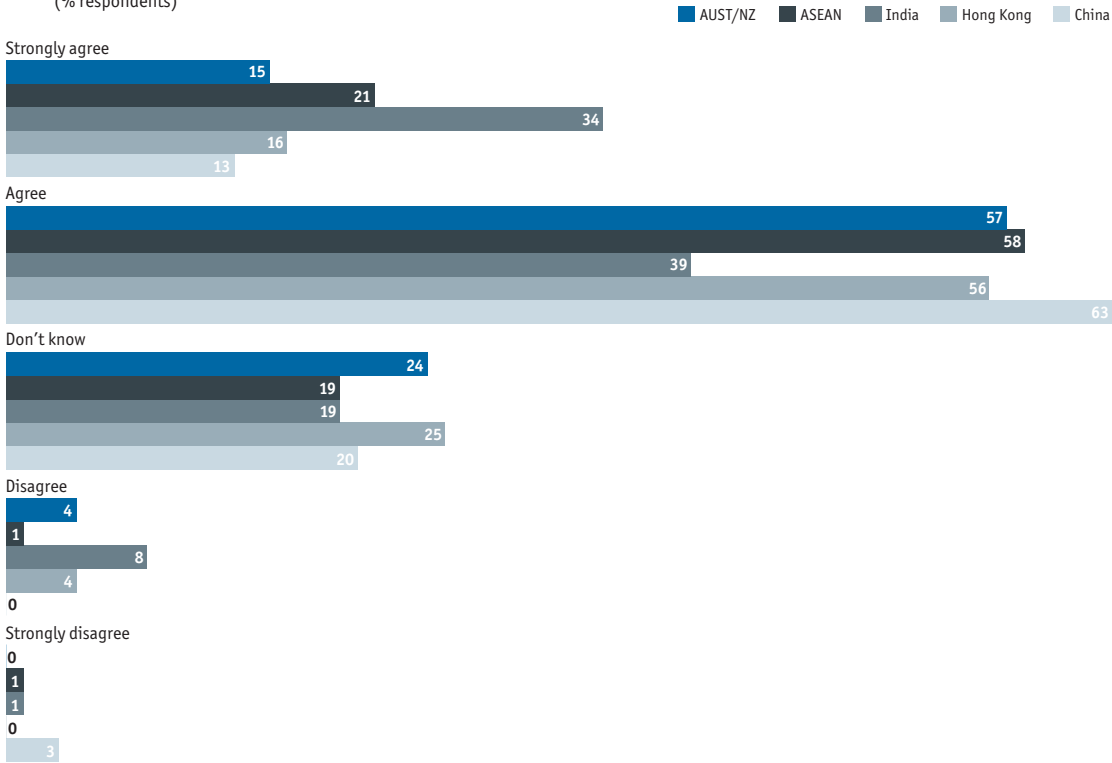
8c. Big data would improve innovation in my department
(% respondents)



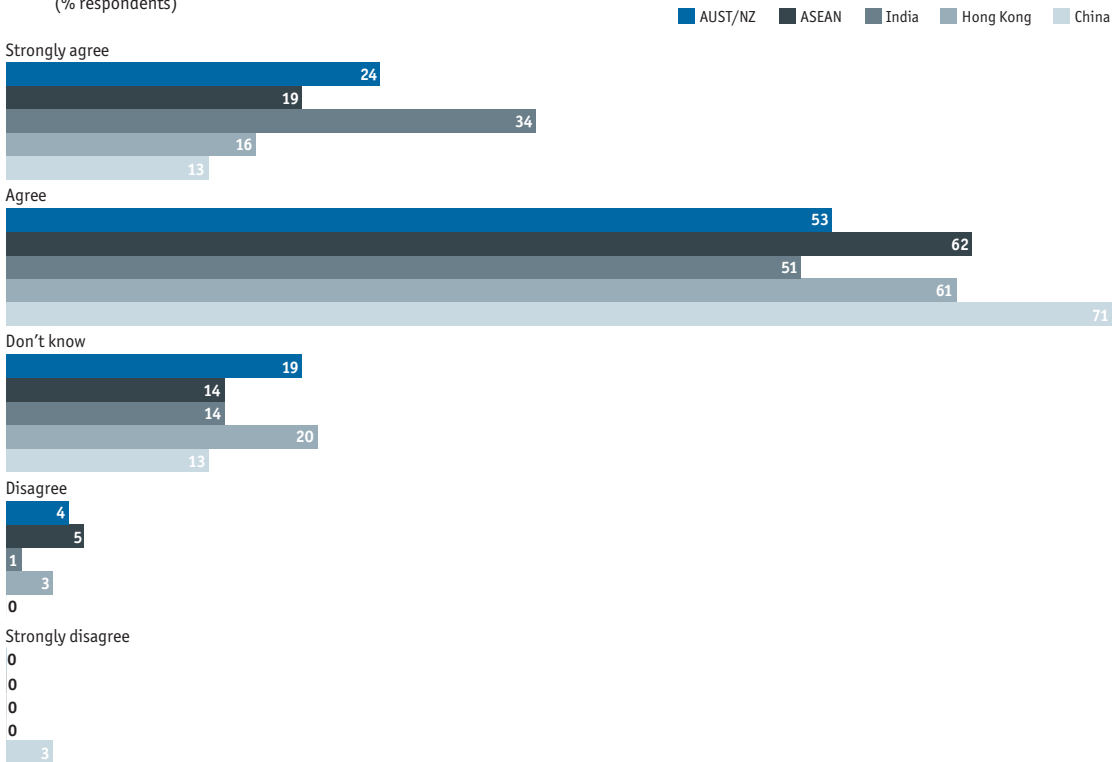
8d. Big data would improve productivity in my company
(% respondents)



8e. Big data would improve profitability in my company
(% respondents)



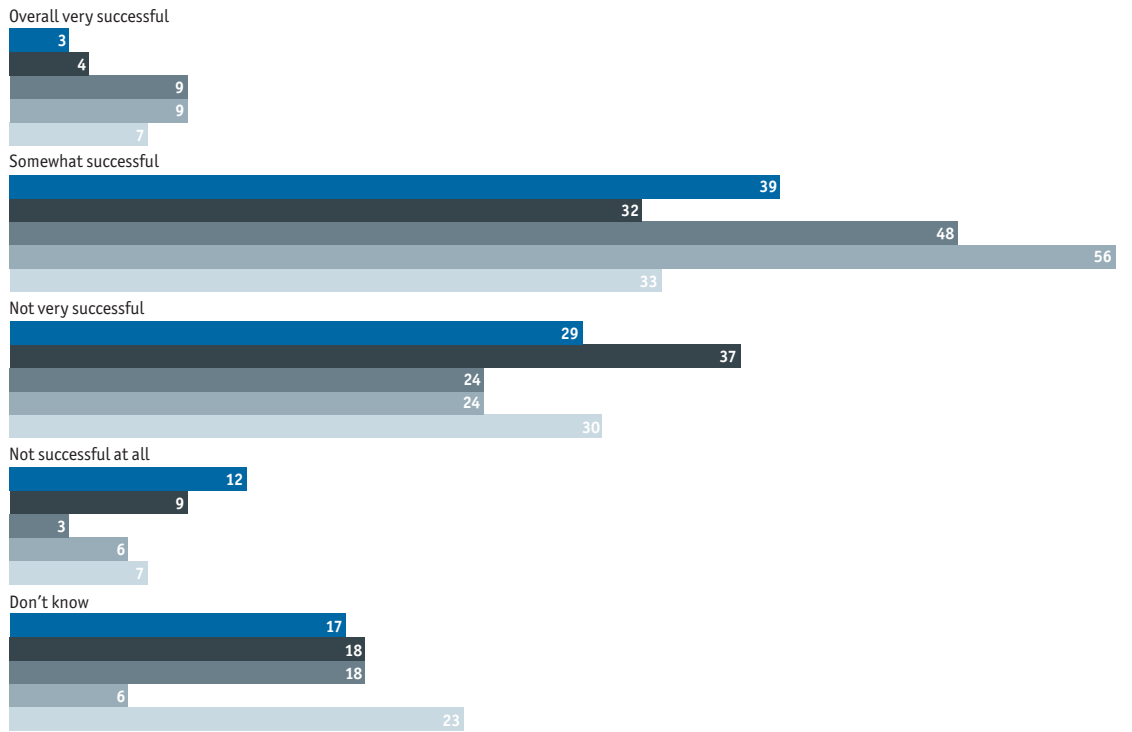
8f. Big data would improve innovation in my company
(% respondents)



9. Do you think your organisation's overall big data strategy has been successful?

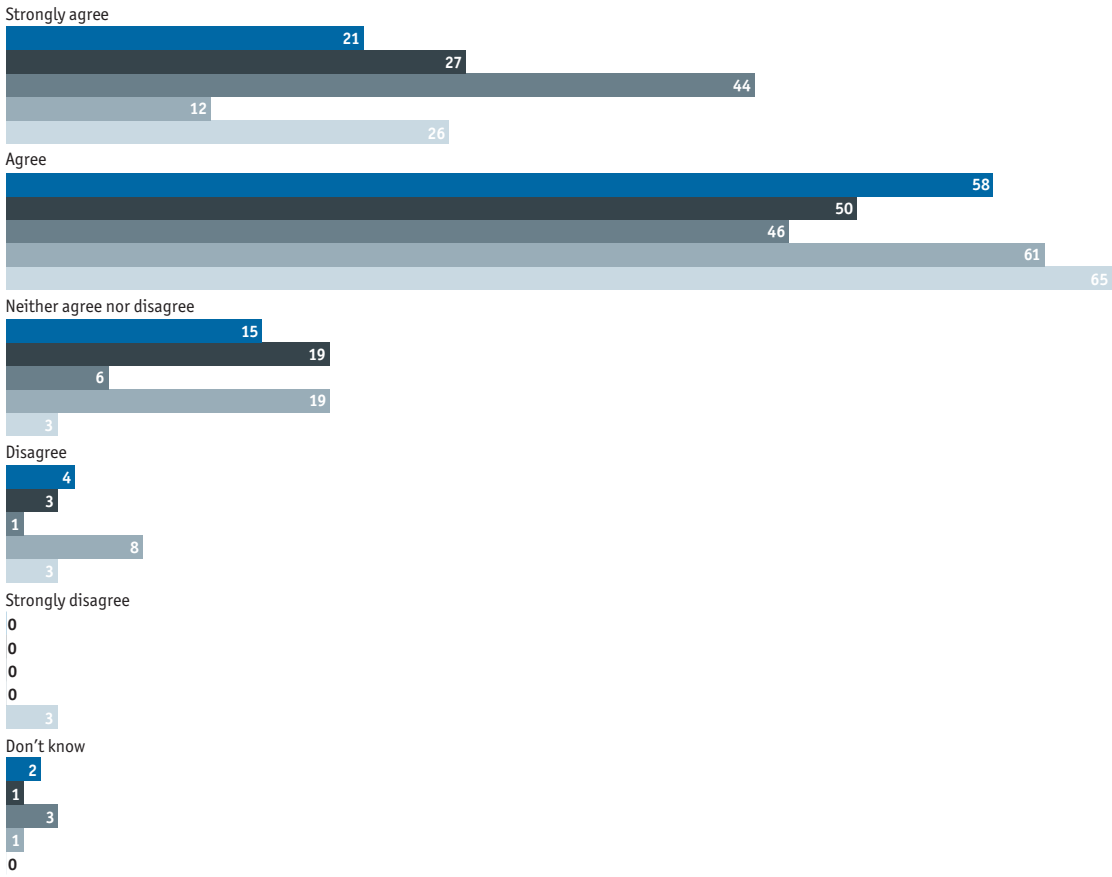
(% respondents)

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10a. A lack of data insights hinders quick decision-making and agility
(% respondents)

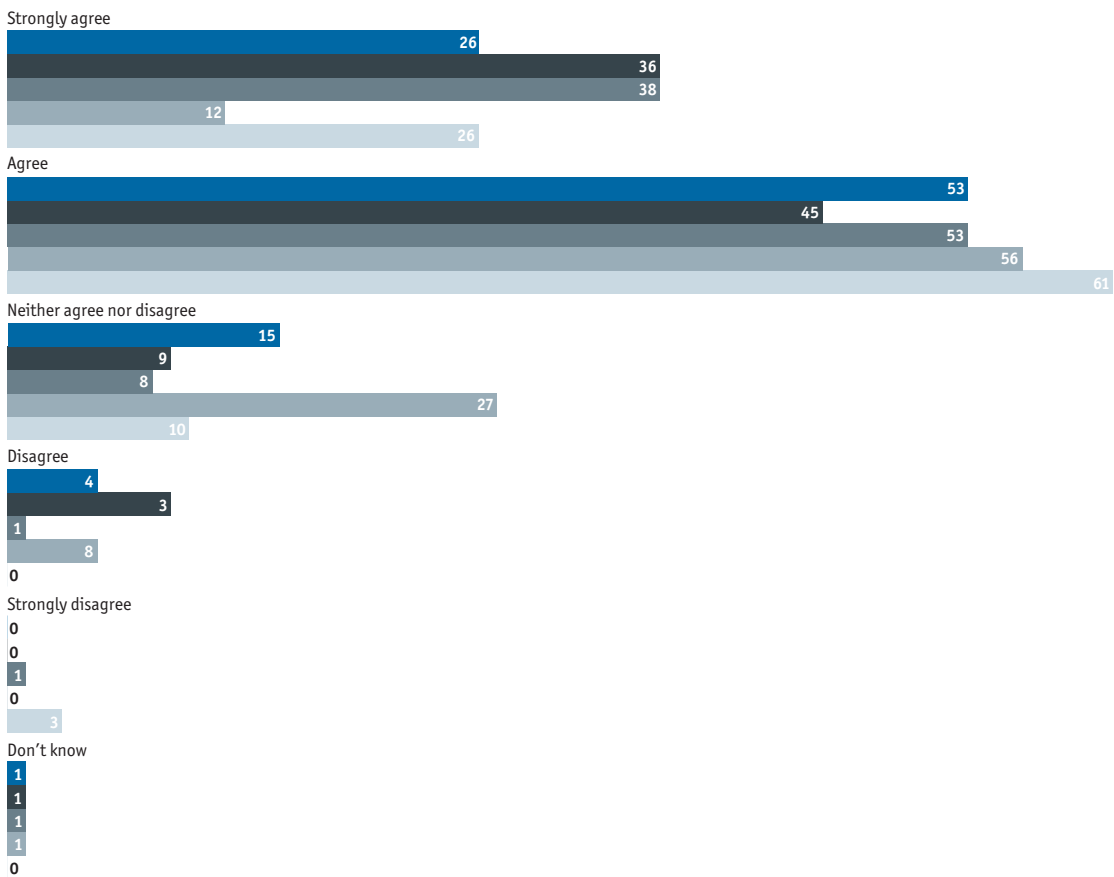
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10b. The effective use of data resources will differentiate successful firms from failing firms

(% respondents)

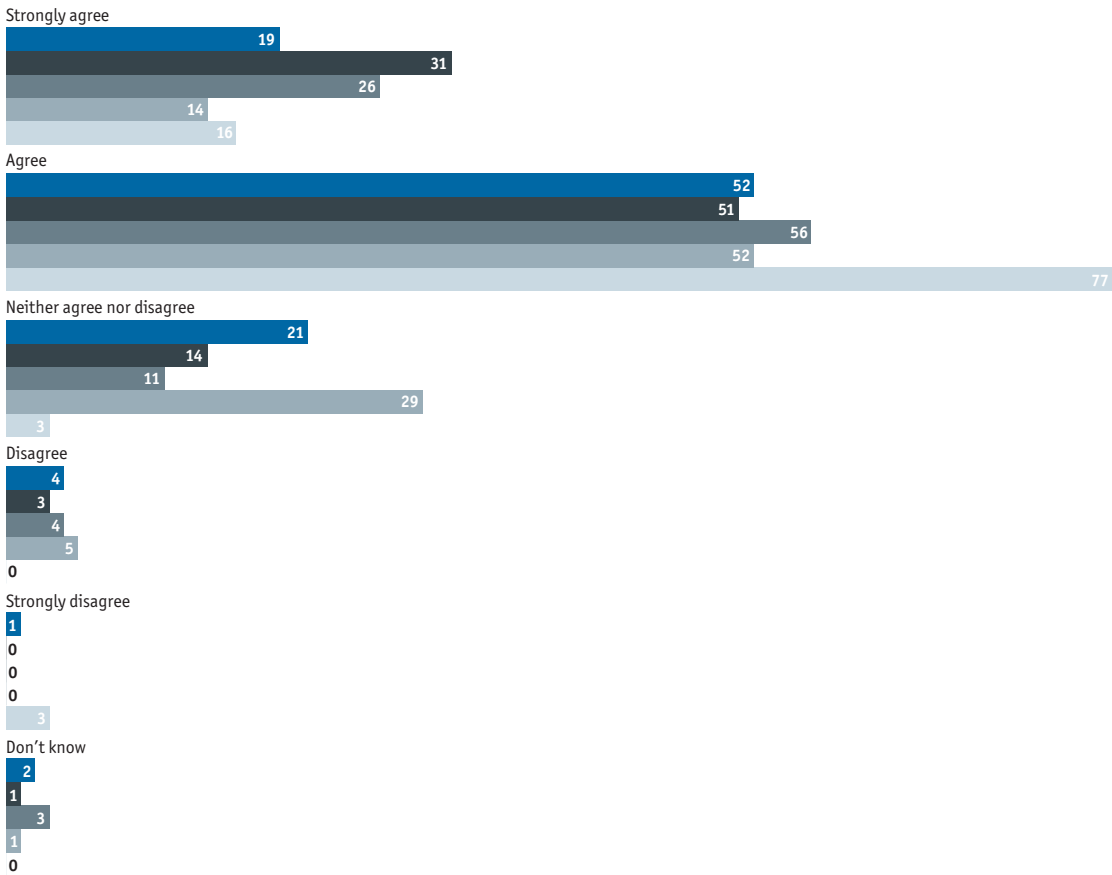
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10c. Data driven market insights would allow us to better allocate R&D resources and go to market faster with new products and services

(% respondents)

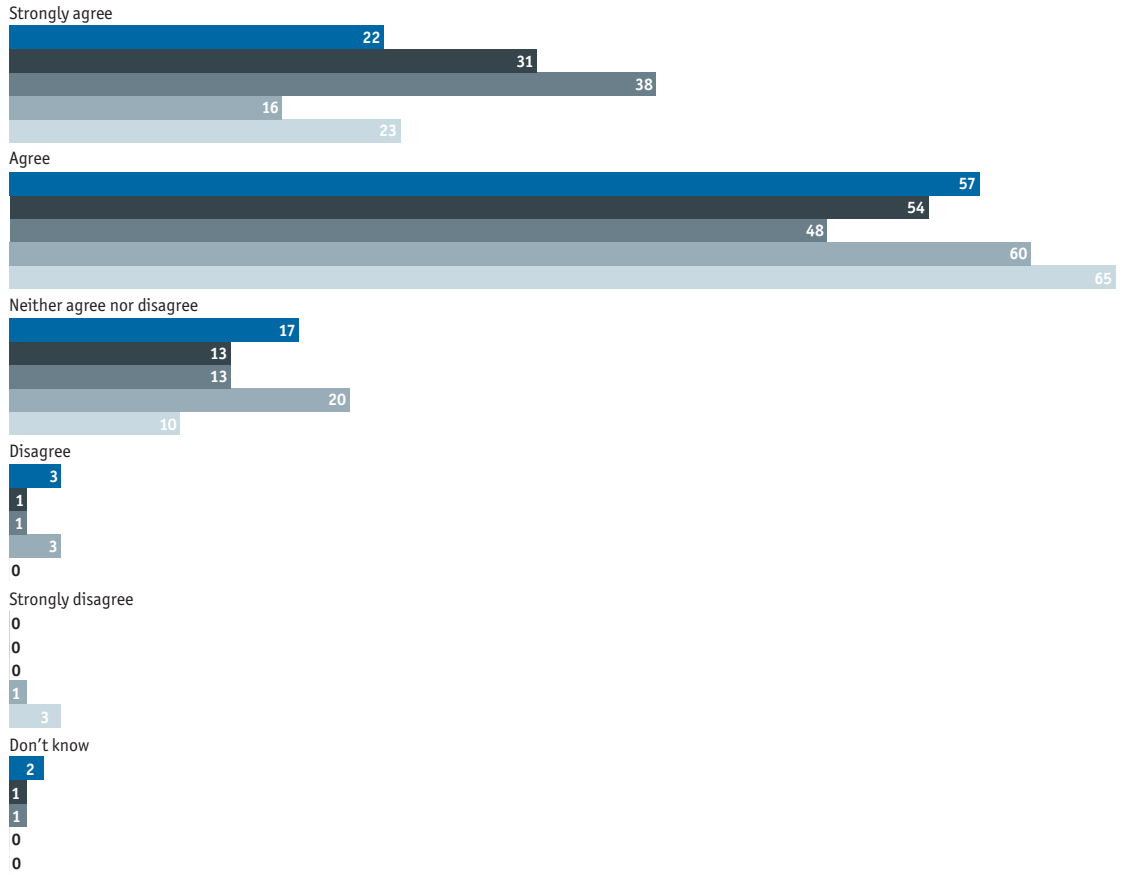
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10d. Better data access and sharing would improve productivity and efficiencies in our organisation

(% respondents)

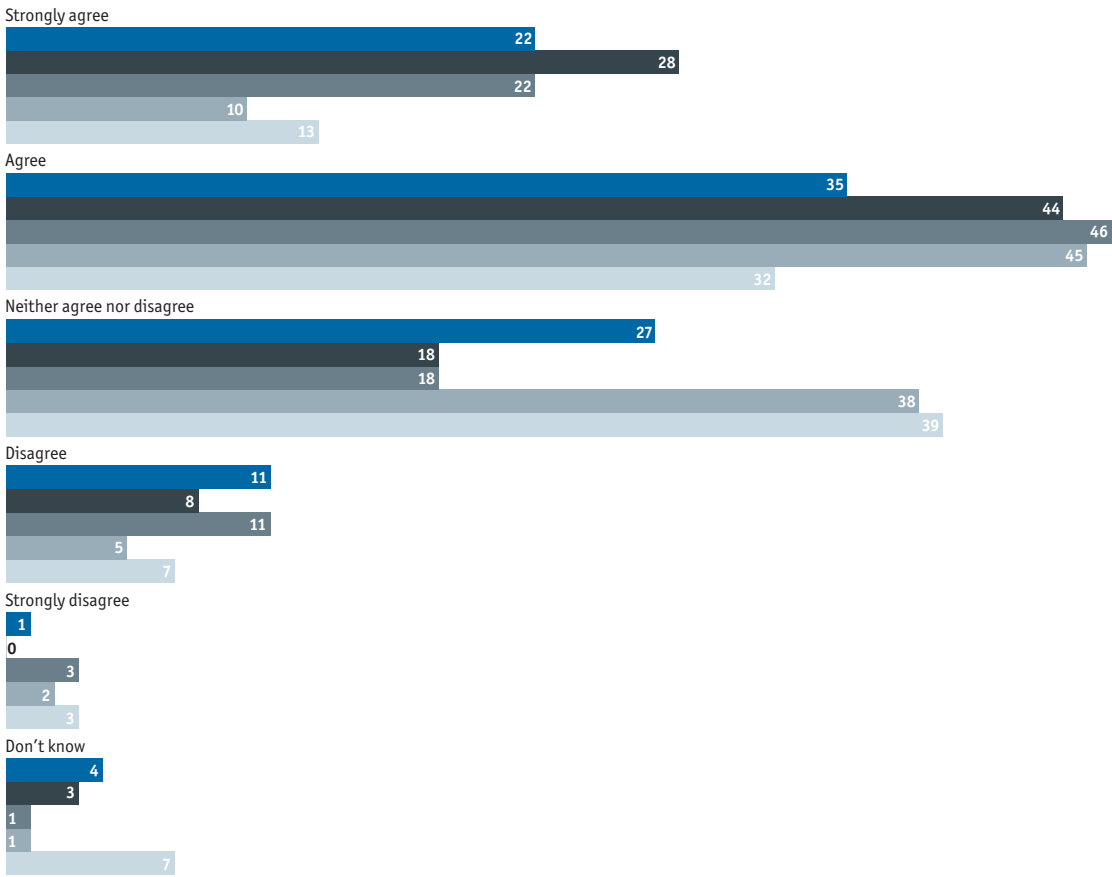
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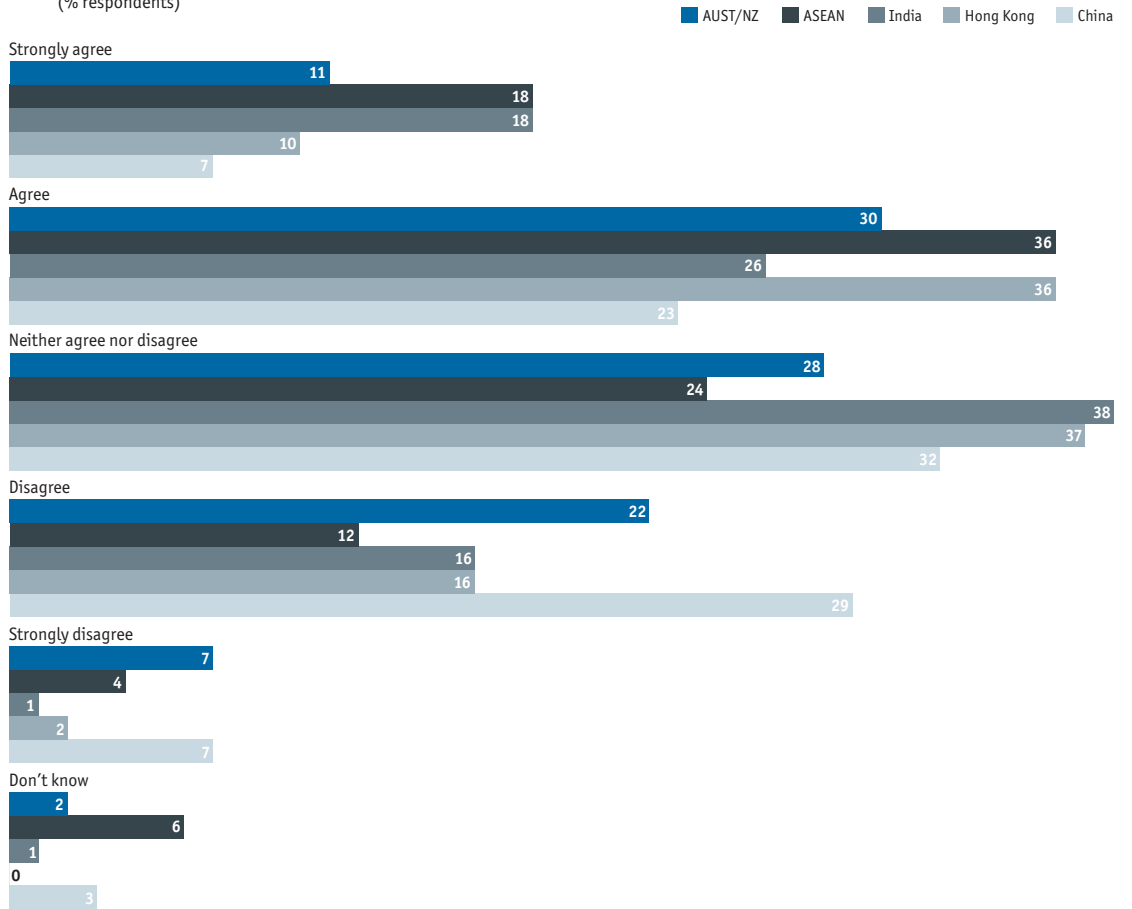
10e. Information silos are the single largest inhibitor for innovation in the ideas economy

(% respondents)

■ AUST/NZ ■ ASEAN ■ India ■ Hong Kong ■ China



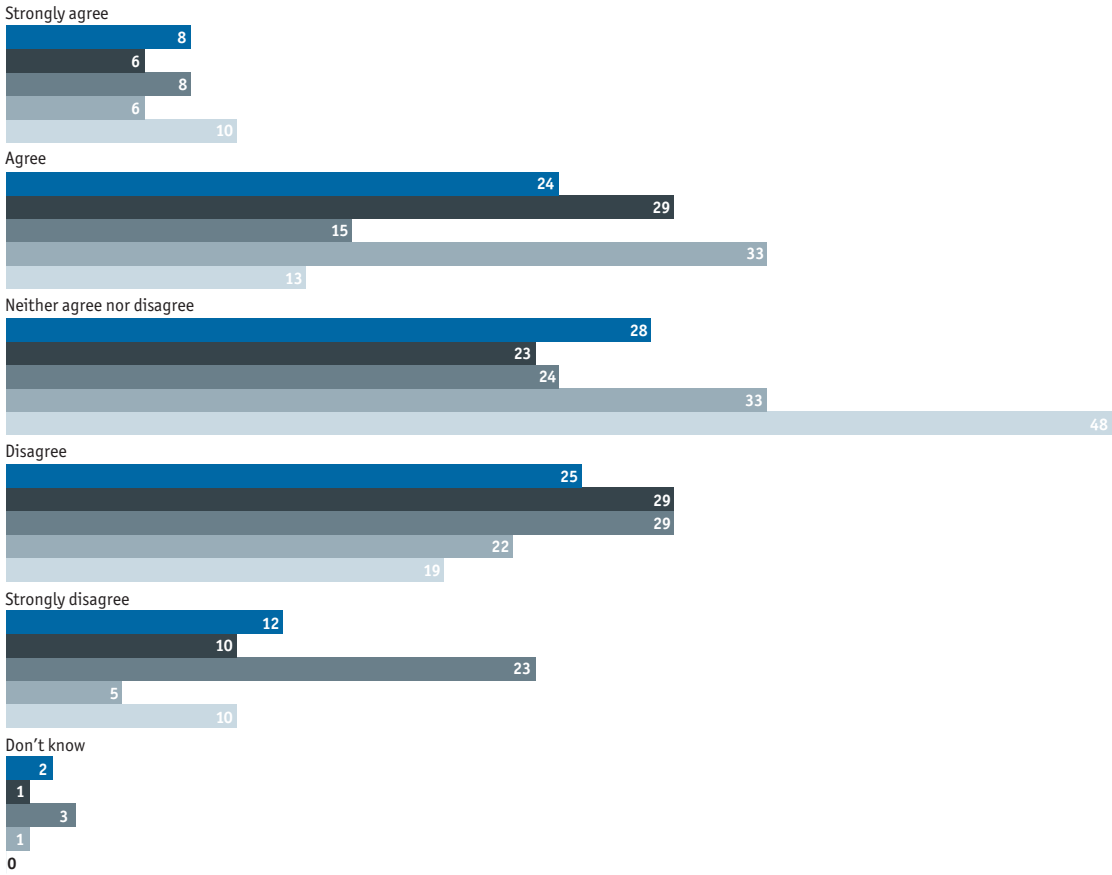
10f. Senior managers who make investment decisions are more concerned about the quantity of data we gather than the quality of insights we get from it
(% respondents)



10g. "Big data" is a confusing phrase and I don't really understand what impact it has on me or my organisation

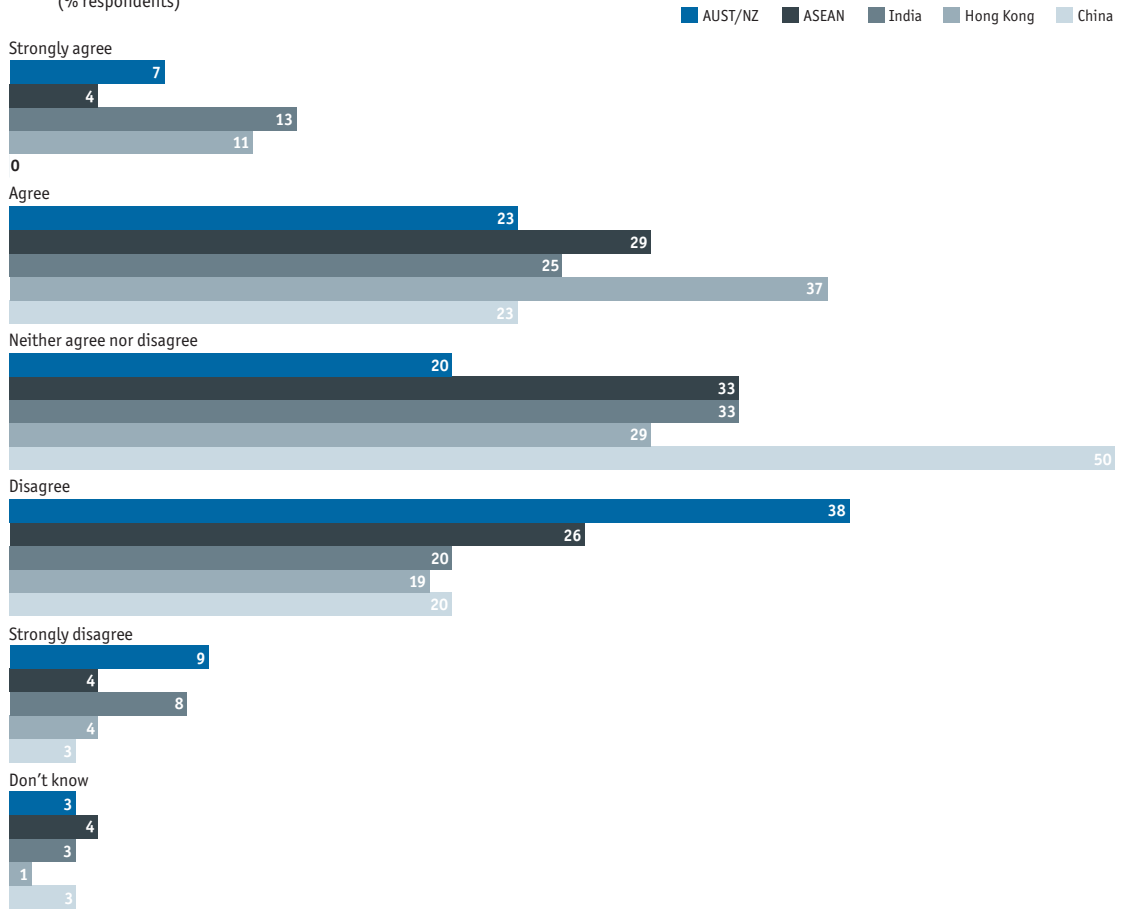
(% respondents)

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10h. Consumers'/clients' concerns about data privacy mean the risks of collecting data outweigh the benefits

(% respondents)



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