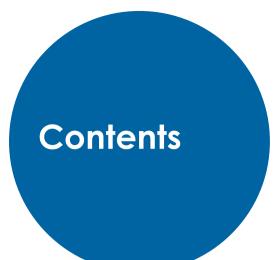


A report from The Economist Intelligence Unit

# Trust in cloud technology and business performance **Reaping benefits from the cloud**







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### Trust in cloud technology and business performance: Reaping benefits from the cloud

The Inte Economist

# Preface

Trust in cloud technology and business performance is an Economist Intelligence Unit (EIU) report, sponsored by Google, that explores links between cloud use, cloud trust and organisational performance. It offers insights to executives navigating the evolving and nebulous world of the cloud as it grows in scope and scale.

For this report, a ten-country, multi-industry EIU survey of 452 senior executives and interviews with experts assess how far along organisations across the world are on the cloud progression and trust curve, with the goal of better understanding the role of trust in the context of rapid cloud adoption.

In a separate series of questions, the survey also measures how respondents' organisations fare vis-à-vis their peers on various financial and non-financial performance metrics, ranging from profit (for private sector firms) to innovation to sectoral leadership (for all).

The findings and views in this report do not necessarily represent the views of the sponsor. The author was Paul Kielstra; Carolyn Whelan was the editor; and Ana Berenguer was the analyst.

### Interviewees

The report includes insights from a global cohort of cloud experts. We would like to thank all the individuals who participated.

- Dr Said Tabet, co-chair, CloudTrust Working Group, Cloud Security Alliance
- Dr Norbert Kleinjohann, chief information officer, Siemens
- Guilherme Cruz, chief information officer, Wilson, Sons Group

The Intel

# Key findings

- Cloud-based technology already makes up a sizeable portion of corporate and government IT systems, with 38% of enterprise IT currently based on this technology; this figure will likely grow to 45% by 2019.
- Trust in cloud technology, however, while also growing, remains muted, with only 16% of survey respondents indicating very high trust in the cloud.
- This disconnect has important implications. Respondents who say their organisation has higher trust in the cloud also report much better outcomes on both non-financial and financial success metrics—including revenue, profit and share price growth than do their peers who indicate lower trust. For example, those with very high trust

in cloud technology overall cite a 9.1% profit rise versus 1% by the low-trust group.

- In contrast, cloud use alone, independent of trust, does not appear to produce these benefits to nearly the same extent; in some cases, survey data reveal no statistically significant connection between usage and better outcomes.
- The relationship between trust in cloud technology and positive business outcomes at high-trust organisations appears to be linked to their willingness to foster business transformations that leverage what the cloud offers. Put simply, higher cloud trust appears to facilitate behavioural and process change within an organisation.
- Successfully developing trust appears to build on the active leadership of senior executives; supporting employees and functions to do their jobs through the cloud; and encouraging them to experiment with cloud use to change how an organisation operates in ways large and small.

# About the survey

This April 2016 study is based on a global survey of 452 senior executives from a wide range of functions conducted by The Economist Intelligence Unit and sponsored by Google. Respondents are evenly distributed across ten developed and developing countries: Australia, Brazil, France, Germany, India, Japan, the Netherlands, New Zealand, the UK and the US. The survey sample is also senior, with half of those polled in C-level positions and the balance heads of department or above. The organisations where they work span a range of sizes, with roughly 33% each employing 100 to 999; 1,000 to 2,999; and 3,000 or more staff. Respondents hail from equally diverse industries, including communications, consumer goods/services, entertainment, financial services, healthcare, insurance, manufacturing & chemicals, media, professional services, public sector/ government, retail, technology and telecommunications. Results were tested for statistical significance at a 95% confidence level. Levels of cloud

today: Just 16%

of respondents

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say their

the cloud

overall.

# Introduction

### The cloud's widespread but wary adoption

The cloud's spread through IT systems has been impressively rapid, even in a world inured to the accelerating speed of new technology adoption. It is difficult to pinpoint exactly when a new technology appears, but cloud services sufficiently robust for corporate use are less than 10 years old. As late as 2011, a global *State of the Cloud Survey* found that cloud hype far outweighed a significant presence, with fewer than 20% of organisations fully implementing major cloud services at that time.<sup>1</sup>

Just five years later, some cloud use at organisations is all but universal. In the survey conducted for this study, 99% of respondents report use of at least some cloud services. This is consistent with other recent polls.<sup>2</sup> In business, wisps of cloud are now everywhere.

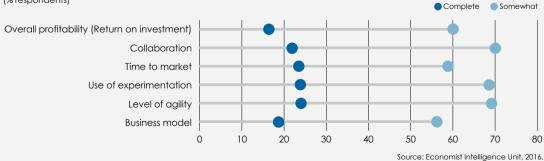
The EIU survey also shows that the cloud's role within enterprise IT is now substantial. Today, about 38% of IT at respondents' organisations is cloud-based. Those polled foresee further, rapid growth to 45% by 2019.

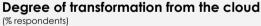
Cloud technology, then, is a core and growing component of modern IT. As Dr Said Tabet, co-chair of the CloudTrust Working Group and editor of the Cloud Security SLA Document Project at industry organisation Cloud Security Alliance, puts it, "Things are evolving rapidly. The cloud is almost mature."

The widespread impact of the adoption of cloud technology is also clear. The cloud has already helped transform several key desirable attributes at a majority of organisations (see chart).

Moreover, cloud reliability is pervasive in matters of due diligence: 60% of those surveyed report that the reliability of potential suppliers' cloud-based IT has influenced purchasing decisions; 59% say this same consideration has affected partnership decisions with other organisations.

However, while the use and impact of the



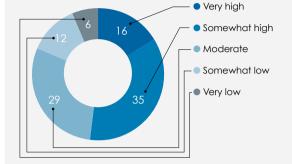


Symantec, 2011 State of the Cloud Survey, 2011.

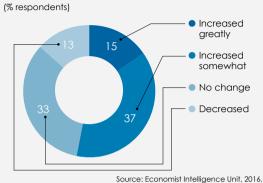
<sup>2</sup> See RightScale, Cloud Computing Trends: 2016 State of the Cloud Survey, 2016.

### Use is everywhere but high trust less widespread: How high is trust in the cloud overall among your organisation's executives?





Cloud trust's slow growth: How has trust in the cloud overall changed among your organisation's executives in the last 3 years?



"Every commercial transaction has within itself an element of trust."

Kenneth Arrow, "Gifts and Exchanges," Philosophy and Public Affairs, 1972 cloud have spread remarkably quickly, broad trust in the technology as a whole<sup>3</sup> is less common. Although just over half of respondents (52%) note some increase in overall cloud trust in the past three years, just 15% report a great rise in confidence in the cloud. Notably, almost as many cite a decline in trust (13%). Finally, the current level of trust is low: Today, just 16% of respondents say their organisation has a very high level of trust in the cloud overall. Thirty-five percent call it somewhat high, 29% moderate and 19% low.

These numbers might simply be considered noteworthy, if unexpected, in light of the recent uptick in cloud adoption. Respondents, however, believe that concern about the cloud is excessive, with 60% saying that current levels of trust are below what cloud technology merits.

Dr Tabet also points to a disconnect between cloud trust and usage. "When cloud computing started to gather momentum, technology companies had an opportunity to provide education," he says. "They did not do that. Things have been moving fast, and that

But since cloud adoption has been so rapid, is this unduly low level of trust important? Other studies on the effects of trust suggest it might be so. A large body of research dating back decades shows the marked importance of trust—both specifically and as an element of social capital-for economic development and growth. As one early author in this field, Kenneth Arrow, wrote, "Every commercial transaction has within itself an element of trust."4 Inside organisations, research shows that trust between those at different levels of seniority is also a key predictor of business outcomes: Employees perform better when they both trust corporate leadership and when they feel that those executives trust them.<sup>5</sup>

To explore what, if anything, may be at stake, this study examines the degree to which trust in cloud technology matters at an organisational level, how trust might affect organisations and from where such trust arises.

5

has created some misunderstanding."

<sup>3</sup> The survey inquired about current and changing levels of trust in the cloud overall and in its ability to provide or protect: security, privacy, service reliability, data accessibility, scalability, provider support, cost targets and greater agility. As figures for each of these separate attributes, in every case, closely mirror the overall results, for clarity and brevity, this report focuses on figures for overall trust.

<sup>4 &</sup>quot;Gifts and Exchanges," Philosophy and Public Affairs, 1972.

Sarah Brown et al., "Employee Trust and Workplace Performance," Institute for the Study of Labour Working Paper 8284, 2014; Sabrine Salamon and Sandra Robinson, "Trust that binds: the impact of collective felt trust on organizational performance," Journal of Applied Psychology, 2008.

# Trust in the cloud correlates with better performance results

[Deeper cloud benefits] arise "from a change of mind set".

Dr Norbert Kleinjohann, chief information officer, Siemens

Among the survey's most surprising findings are the difficulties in identifying links between greater cloud on its own and higher performance in a range of business metrics.

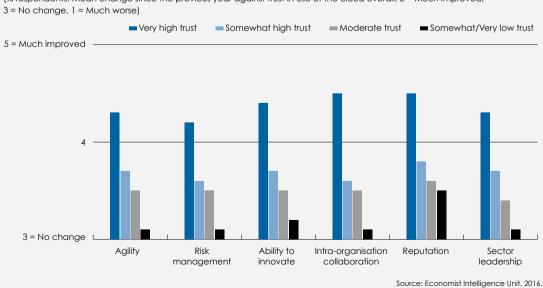
For the purposes of this study, we place the self-reported extent of cloud use at respondents' organisations into three buckets: "substantial users"—those with more than 50% of their IT cloud-based; "moderate users" (31-50%); and those with 30% or under in the cloud—"light users".

Simply put, for some metrics covered in the survey-including revenue and profit-there is no statistically significant difference between these groups. There are, however, differences between substantial and light users when it comes to benchmarking their organisations well above average for the financial

performance/efficiency of their organisations; for improvement in their ability to innovate; and for sectoral leadership. This does not prove a lack of benefits from cloud use alone, but it does suggest that any gains that may occur are too weak to identify above background statistical noise.

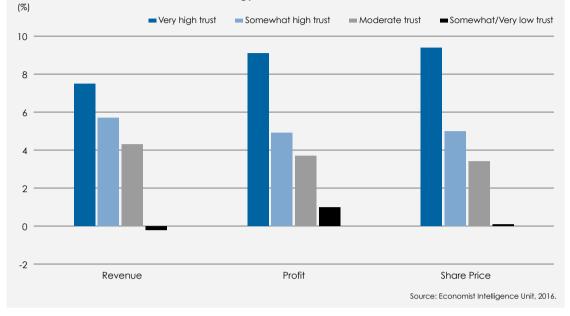
This does not surprise Dr Norbert Kleinjohann, chief information officer at Siemens, a Germany-based global engineering company. He notes that the most important gains from cloud technology at his company are not the harvesting of the low-hanging, if still valuable, fruit of the cost savings associated with cloud use. The deeper benefits arise "from a change of mindset", he observes.

Does cloud trust matter? In this context and



Trust's non-financial dividends: Changes in performance among organisations with different levels of overall trust in the cloud over the last year

(% respondents. Mean change since the previous year against trust in use of the cloud overall; 5 = Much improved,



### Improvements over the last year in key economic metrics among groups with different levels of overall trust in cloud technology

"Lack of trust is often about dealing with the unknown. If you don't understand what is in front of you and its capabilities, you won't trust it."

Dr Said Tabet, co-chair, CloudTrust Working Group, Cloud Security Alliance based on additional survey findings, it appears so. Simply put, higher levels of trust have a statistically significant, substantial and positive correlation with a wide range of business outcomes.

This link is clearly visible for corporate attributes and capabilities—such as an organisation's leadership position. Those surveyed rank how several of these attributes and capabilities had changed in the prior year. As the chart below shows, executives who report low overall levels of trust in the cloud at their organisations note close to no change (represented by a score of 3.0) in any of the areas covered. However, as trust increases, so too does self-reported improvement in these areas. Moreover, respondents reporting the highest levels of trust are rapidly pulling ahead of the pack on these criteria.

When it comes to the bottom line, differences are starker. At the extremes, those who say their organisation has very high cloud trust report a 9.1% average rise in profits over the last year versus the 1% improvement noted by their low-trust peers.

Some of this is predictable. As Dr Tabet puts

it, "Lack of trust is often about dealing with the unknown. If you don't understand what is in front of you and its capabilities, you won't trust it"—and, by extension, its effective use will suffer. Put another way, if users don't trust the cloud because they don't understand it, that same lack of understanding will hamper its full effective use.

But experience appears to be only part of the equation. If familiarity with the technology were the sole factor, its increase over time would simply erase differences in trust and its attendant varying business outcomes.

Again, survey findings suggest that trust does not develop organically. Among respondents, the link between the extent of cloud usage and trust is surprisingly inconclusive. Between the heaviest and the very lightest users, there are few statistically discernible links between cloud use and some trust levels, including overall trust in the cloud. Elsewhere there are none.

Dr Kleinjohann's work in initiating widespread cloud use at Siemens helps explain this apparent disconnect. He notes that the biggest barriers to adoption tend to be emotional—trust in particular. "People think Trust in cloud technology is strongly linked with positive business outcomes. that if something is more in your hand, it is more secure," he observes. Thus, for many, opting for a cloud-based solution is not an obvious, efficient choice. Fostering the necessary trust is a tricky, longer-term challenge than simply introducing new technology alone, he adds.

Trust in cloud technology, then, is strongly linked with positive business outcomes. Yet usage alone is not tied strongly to such outcomes nor, on its own, does it inevitably generate trust. This prompts two questions: How does trust boost organisational use of the cloud, and how can organisations build trust?

# Higher trust levels correlate with organisational transformation

Trust in cloud technology has an impact on its effective use in two important ways.

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The Economist

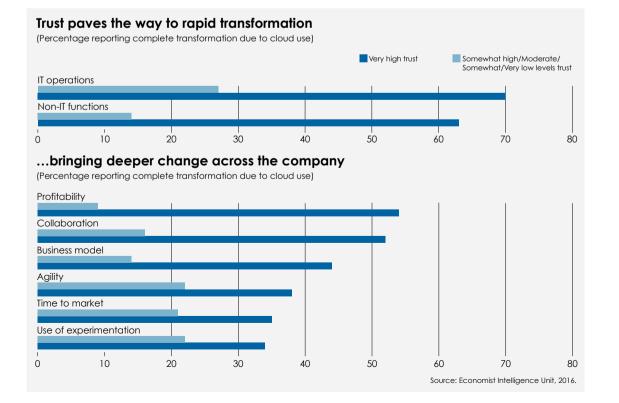
> First, without trust, the cloud's impact appears to be limited to peripheral improvements. Guilherme Cruz, CIO of Wilson, Sons, a large Brazilian shipping firm, credits cloud adoption for "chang[ing] a lot the way we can do business and achieve efficiencies". However, he adds, "You can only do such large changes if you trust the technology."

> For example, the successful roll-out of Wilson, Sons' earliest major cloud initiative required substantial pre-existing confidence in the technology before implementation, according to Mr Cruz. By contrast, Dr Tabet notes that the following lack-of-trust scenario is more

common. A large company might purchase cloud services, run tests and consider moving other processes to external providers, he explains. "Then they stop short of doing so because of a lack of trust. You need to know exactly what the service provider is giving and whether you feel comfortable," he adds.

Without trust accompanying its adoption, the cloud is unlikely to have a major effect. More important still is the size of the impact the cloud can bring with a foundation of trust.

As the chart below shows, in an environment of high overall trust, the cloud is much more likely to completely transform different elements within an organisation. Indeed, well over half of the high-trust group



### [Cloud benefits do] "Not represent an IT transformation. It is a company transformation. It is about the way you are working, about changing behaviour and processes."

Guilherme Cruz, chief information officer, Wilson, Sons Group observes such a change in both IT operations and non-IT functions—far more than respondents at less-trusting organisations. A similar dynamic applies to business outcomes and attributes. More than half of high-trust organisations say corporate profitability and collaboration have been completely transformed by cloud use, while 44% say the same about their business models. Their less-trusting peers lag noticeably behind on these self-reported success measures.

### Trust over time

The link between the introduction of a new technology and a thorough reshaping of the business environment is an old story. Take the development of the telegraph and railroad in the late 1880s, which transformed the American corporation. Similarly, the advent of electrification enabled the widespread application of the assembly line in manufacturing. More recently, networking technology has reshaped business operations.<sup>6</sup>

Now the cloud could, to some extent, do the same. Dr Kleinjohann characterises the growing use of cloud technology within an organisation as a journey that, over time, becomes "more a question of becoming more agile and flexible and running into other types of business models" than a lower-cost alternative to operate the same way.

In the past, for example, Siemens' IT team created many of its own software programs. Now, the company can choose between off-the-shelf options or investing its own resources in in-house development for competitive advantage. Buying off-the-shelf, where appropriate, is an important mental shift for the company, says Dr Kleinjohann.

More important is a change in attitude about developing new capabilities. "The old world was driven by high pre-investment. In the new world, resources are at one's fingertips. You can try something, see how it works and then put people into it if it does. That is the mental difference between cloud and legacy [on premises technology]," explains Dr Kleinjohann. As for the impact of cloud across an organisation, he says, "It is still a little too early to talk about cultural change, because that does not happen overnight. But we see the cloud driving more out-of-the-box thinking."

Similarly, Mr Cruz points to more reliable communication; easier, more mobile access to data; and faster collaboration as changes that willingness to rely on new cloud-based infrastructure and cloud-enabled ways of working have brought about at Wilson. Cumulatively, he adds, these do "Not represent an IT transformation. It is a company transformation. It is about the way you are working, about changing behaviour and processes," he explains.

Such gains do not appear to be attributable to adoption alone without efforts to build trust. No statistically meaningful link appears to exist between the self-reported extent of an organisation's cloud usage and the degree to which its agility, use of experimentation or time to market have been transformed because of the cloud.

In the other areas listed in the charts above, such as transformation of corporate functions or profitability, some statistically significant differences do exist, but typically occur only between the substantial and light users. Moreover, in absolute terms, these differences are far smaller than those between the high-trust group and the other respondents. The ability of cloud adoption alone to transform companies is hard to see in the data and, in some cases, may be non-existent.

High-trust organisations, then, are reaping the dividends of reshaping themselves to benefit from the latest technology. By contrast, low cloud trust appears to impede the benefits that the cloud brings—and cloud adoption on its own is a weak tool to leverage the cloud's benefits. How can organisations foster such cloud trust?

<sup>6</sup> Alfred Chandler, The Visible Hand: Managerial Revolution in American Business, 1977; Carl Shapiro and Hal Varian, Information Rules: A Strategic Guide to the Network Economy.

# Trust does not emerge organically: How to build it

"To build trust, you have to have transparency and proper governance." Dr Said Tabet,

Cloud Security Alliance

Not surprisingly, because the cloud is relatively new, the extent of an organisation's trust is not a fixed and deeply rooted cultural trait but a very new development. Indeed, respondents who claim high cloud trust at their organisation are more likely to note a rise in this attribute over the last three years, while those who cite low trust note no change or even a decline over the same period.

Survey findings also suggest that trust in cloud technology does not inevitably grow in certain types of organisations. Trust levels, for example, do not correlate with organisational age or size in the EIU survey.

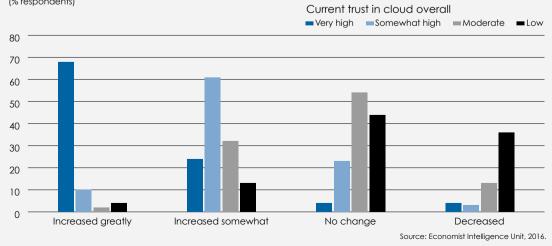
Rather, the survey data and experts interviewed for this study point to many factors that contribute to building the trust needed to help the cloud transform organisations for the better.

Of these, the first might appear to be self-evident but still challenges the industry.

Cloud providers and their customers need to demonstrate, as much as possible, that these services are trustworthy. "To build trust, you have to have transparency and proper governance," Dr Tabet notes.

Key to this is defining common standards and best practice, an ongoing task on which Dr Tabet's work at the Cloud Security Alliance focuses. Even the vocabulary used by cloud providers and purchasers sometimes varies widely. Such initial barriers to cloud trust inconsistent views on how the cloud should operate—are improving, he notes, as standardisation takes hold.

Similarly, within organisations, Dr Kleinjohann notes that a key part of introducing any IT service is early assurance that it passes technical muster. "We have a regular process to show the compliance of the service, which includes information security, data protection, those types of things. What we are doing for



### Trust is a recent development: Increase in trust levels over the last three years among organisations with higher current trust levels. (% respondents)

[Siemens' cloud adoption "started with low-hanging fruit and quick wins".

Dr Norbert Kleinjohann, Siemens

cloud services is the same," he says.

The road map for this journey has elements that broadly follow those of change management. These include:

1. Leadership from the top: Mr Cruz deems C-suite support of cloud initiatives to spark and foster trust essential, particularly to overcome problems in important new projects "when things can get a little manic".

Survey data support this notion. At organisations where respondents say that senior executives treat increasing cloud trust as a leading priority, 47% note a great increase in this attribute over the last three years, with 42% reporting a very high level of overall trust today. The equivalent figures for other respondents pale by comparison: 6% and 8%, respectively.

Similarly, at organisations with low levels of trust in the cloud, general management is the most commonly named impediment to adoption of cloud technology, cited by 45% of respondents. The C-suite alone cannot instil trust in cloud technology, but without its help such confidence may not develop.

2. Introduction of cloud services with an eye to building trust: Use of cloud services by the organisation plays a role in engendering trust, but how such services are introduced rather than their simple availability is critical. Beginning with high-profile improvements, for example, can help foster trust across an organisation.

Dr Kleinjohann recalls that at Siemens cloud adoption "started with low-hanging fruit and quick wins". Particularly useful in this regard, he adds, are simple solutions that encourage quick uptake and rapid acceptance. At Siemens, for example, the successful introduction of cloud-based document storage similar to services employees used personally on the web, but with the necessary level of security for the organisation, won over users. "This was easy. You didn't need training.

It was what the users were asking for, was secure and finally was one of these excellent services that, besides adding functionality and global availability, also reduces cost," he says.

Nevertheless, although this is necessary, it is insufficient because, as Dr Tabet puts it, "We are human beings and we are headed into a new world." Winning over hearts and minds is, therefore, inevitably an issue. Dr Kleinjohann adds that "trust is an emotional thing" and efforts to inculcate it are a journey rather than a one-time exercise.

Mr Cruz agrees. He calls Wilson, Sons' move of its e-mail system to the cloud its first major success in this area, helping to boost both spam reduction and robust availability-both of which appealed strongly to users and increased their level of trust in the technology. "For the majority of people, what matters is what you can achieve with a platform. [When users observe this,] people will start to trust it," he adds.

This lesson is relevant for both functions and individuals. A worrisome survey result was majority agreement among respondents (57%) that "The issue of trust in cloud technologies at our organisation is complicated by a sub-optimal relationship between the IT function and the rest of the organisation."

Mr Cruz believes that the IT function must focus on ensuring that users across an organisation benefit from the new technology, as this plays a leading role in capturing value from cloud deployment. "We try to provide business results, to use the technology not to do things ourselves but to create tools for the business," he says.

### 3. Education—or, more accurately, exhortation-prior to the roll-out of cloud-

related changes: Mr Cruz notes that training in new tools is relatively easy. Yet, for "Deep change management, pushing people to do more and to use the new tools in a creative way" is perhaps more critical, he observes.

## Intelligence Unit Economist

The

"Then people start to trust the platform," he says. Dr Kleinjohann adds that education must address the emotional and technical side of cloud adoption. He notes that he commonly addresses concerns about cloud security by reminding colleagues that security is also greatly in the interests of cloud service providers—because a large breach could easily destroy such a provider.

High levels of trust in cloud technology, then, while possible to inculcate, develop as the result of conscious effort and are not simply the side effect of cloud adoption. The Intelligence

# Conclusion

"We are moving towards the Internet of Things and digital transformation. You can't do this without the cloud. Organisations Ithat are lagging] need to turn this unknown into a known." Dr Said Tabet, **Cloud Security Alliance** 

Trust plays a key role in economies and organisations.

The apparent role of trust in the effective use of an increasingly pervasive technology such as the cloud is, therefore, not surprising. Higher levels of trust in the cloud correlate strongly with far better non-financial and financial business outcomes. Meanwhile, the impact on outcomes from cloud adoption alone, independent of trust, is either impossible to discern accurately from the numbers available or is, at best, weak.

Correlation is not causation. But the survey also gives a reasonable explanation for how trust is likely to be helping organisational performance.

As with any new technology, the cloud's greatest benefits will come from companies refashioning how they work—and, by extension, expanding their capabilities—by taking full advantage of the benefits the cloud can provide.

Most organisations with low trust are far from this transformation. More than half of

respondents who say their organisations have very high trust in the cloud overall look to be improving their functional operations and, in tandem, their profitability.

Whatever its benefits, fostering cloud trust requires effort. The factors that engender trust are similar to those used with change management. These include engaged leadership, a clear early focus on easy wins, deploying the technology to meet current problems and encouraging employees to make the cloud their own both for use in day-to-day tasks and for experimentation.

Although taking these steps will likely boost an organisation's competitive advantage, wringing the most from the technology is fast becoming a necessity. Dr Tabet asserts that effective use of the cloud will soon be a given. "We are moving towards the Internet of Things and digital transformation. You can't do this without the cloud. Organisations [that are lagging] need to turn this unknown into a known."



Percentages may not add to 100% owing to rounding or the ability of respondents to choose multiple responses.

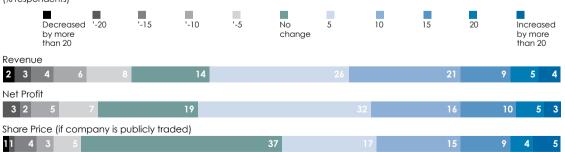
### How would you rate your organisation in the following areas, compared with its peers?

Please select one for each row.

(% respondents)						
Well abov average	e Somewhat above average	Average	Somewhat below average	Well below average	■Don't K Not ap	(now/ plicable
Financial performance/Efficiency						
27			42		24	52
Organisational agility						
20		36			33	92
Willingness to adopt new technolog	ду					
23		33			35	91
Attachment to company's own wo	ay of doing things					
19			40		32	8 1
Ability to innovate						
25			38		27	91
Sector leadership						
23		33			33	8 3
Market share of top products, service	ces or programmes					
22			41		24	931

In the last year have the following increased or decreased by 5%, 10%, 15%, or 20% or more? Please select one percentage for each measure

(% respondents)



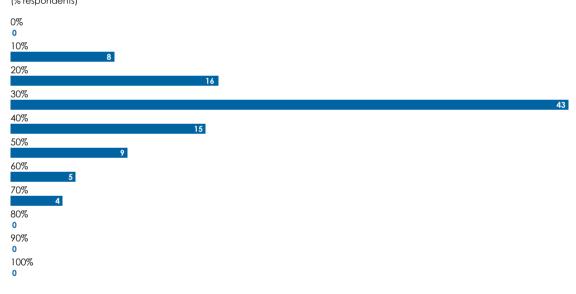


### How have the following changed over the last year?

Please select one for each row

(% respondents)						
Much better	Somewhat better	No change	Somewhat worse	Much worse	■Don't Not a	Know/ pplicable
Reputation among customers/citizens						
21			44		26	91
Organisational agility						
15		43			31	92
Leadership position within sector						
19		32			39	92
Risk management performance						
16		37			37	8 2 1
Ability to innovate						
20			40		29	92
Level of intra-organisation collaboratio	n					
19		36		3	2	11 2 1

# What proportion of your organisation's IT infrastructure/usage is now cloud-based? (% respondents)



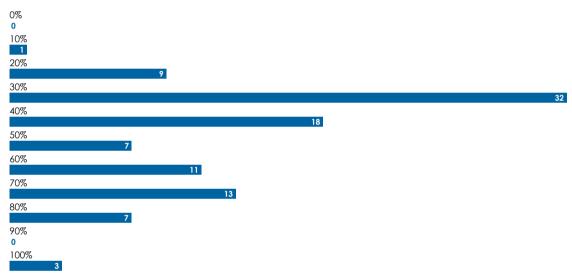
What proportion of the software and data storage you use on a daily basis is now cloud based? (% respondents)



What proportion of the software and data storage you use on a day to day basis do you expect will be cloud based in three years? (% respondents)

None – (0%)	
A very little (1% to 30%)	
22	
A noticeable minority (31% to 50%)	
	38
A substantial amount (51% to 70%)	
	29
Most or all (71% to 100%)	
11	

What proportion of your organisation's IT infrastructure/usage will be cloud based in three years? (% respondents)



### How would you describe the level of trust which executives at your organisation have regarding cloud usage across the following measures?

Please answer on a scale of 1 to 5, where 1=Very high and 5=Very low. 1% respondents)

(% respondents)	1 Very high	2 Somewhat high	3 Moderate	4 Somewhat low	5 Very low	Don't Kn	ow
Security of organisation's	data held in	the cloud					
19			34		27	11	72
Privacy of organisation's c	data held in t	the cloud					
14			36		27	14	7 2
Reliability of service							
14			35		35		14 2 1
Accessibility of data							
15			37		30		15 2 1
Scalability of service							
16			32		36	1	3 3 1
Support of cloud service p	provider						
15			35		32	14	3 2
Meeting our cost requirem	nents						
18			30		33	14	4 2
Meeting our agility require	ements						
18			33		32	11	5 1
Use of the cloud overall							
16			35		29	12	6 2

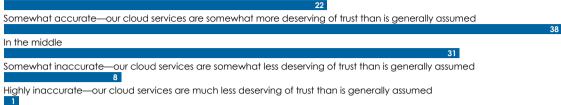
### How has the level of trust of executives at your organisation in the following changed over the last three years?

Please answer on a scale of 1 to 5, where 1=Increased greatly, 3=No change, and 5=Decreased greatly. (% respondents)

1 Increased 2 Increased 3 No change 4 Decreased 5 Decreased Don't Know greatly somewhat somewhat greatly Security of organisation's data held in the cloud 20 33 6 2 2 Privacy of organisation's data held in the cloud 16 40 9 2 Reliability of service 13 36 7 2 1 Accessibility of data 9 2 1 Scalability of service 15 36 6 2 1 Support of cloud service provider 37 16 9 2 2 Meeting our cost requirements 34 16 12 2 1 Meeting our agility requirements 12 2 2 15 38 Use of the cloud overall 15 11 2 2

Overall, how accurate do you think levels of trust of cloud usage are within your organisation? (% respondents)

Highly accurate—our cloud services are much more deserving of trust than is generally assumed



### Which functions are most advanced in their use of cloud technology at your organisation today? Please select up to three. (% respondents)

IT/technology 68 Operations 27 Human Resources 23 General management 22 Finance 22 R&D/Product or service development 18 Sales/Marketing/Communications 16 Procurement/Supply Chain 16 Legal/Compliance Strategy/Business Development 8 Don't know 3

# Please rate your level of agreement with the following statements concerning the reliability of your business partners' and suppliers' cloud-based systems:

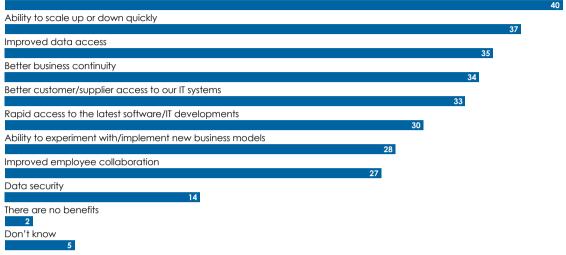
(% respondents)									
	Very much agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Very much disagree	ו ∎D	on't k	now	
	The reliability of our suppliers' cloud-based systems has affected my organisation's decisions to purchase goods or services from these suppliers								
	24		:	37		26	6	3	4
The reliability of our business partners' cloud-based systems has affected my organisation's decisions to invest in or work with these business partners									
	23		36			27	8	3	4

The Intelligence Economist Unit

In your opinion, what are the greatest benefits from the use of cloud technology at your organisation? Please select top three.

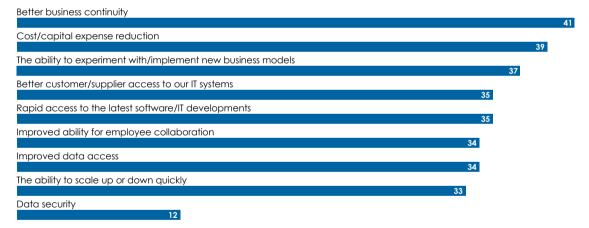
(% respondents)





# Over the last three years, why has your organisation used the cloud? Please select top three.

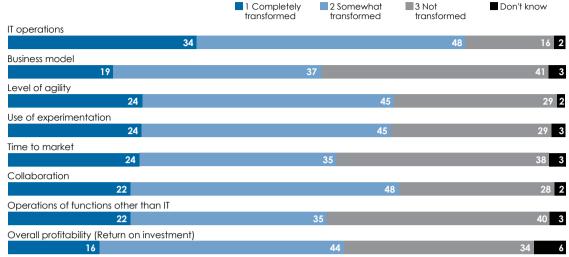
(% respondents)



### The Intelligence Economist Unit

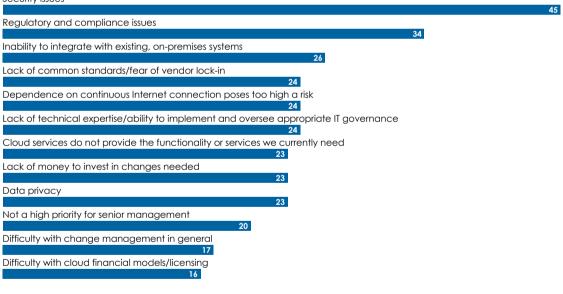
### To what extent have the following at your organisation been transformed through cloud use?

Please answer on a scale of 1 to 3, where 1=Completely transformed and 3=Not transformed. (% respondents)



### What are the primary barriers to the increased use of the cloud at your organisation? Please select top three. (% respondents)

Security issues



38

# Considering the barriers you selected in the previous question, how do these barriers affect adoption of the cloud at your organisation?

(% respondents)

Completely—They prevent us from using the cloud altogether
13

A great deal—We have only limited cloud usage when it would be beneficial to have far more

30 Somewhat—They prevent use of certain cloud services we would benefit from using A little—They prevent use of a few cloud services we would benefit from using 14 Not at all—Our current cloud usage is at the level that is ideal for our organisation 4 Don't know

# In your opinion, which functions impede the adoption of cloud technology at your organisation? Select all that apply.

(% respondents)

Information/Information Security		34
General Management		- 29
Risk Management	25	27
Finance 23	20	
Legal 19		
Compliance 17		
Human Resources		
Operations 14		
Nothing impedes the adoption of cloud technology at my organization		
None of the above		
Don't know 5		

# To what extent is increasing trust in use of the cloud a priority at your organisation? (% respondents)

It is a leading priority for senior executives		
	23	
It is not a leading priority for senior executives but it is for the IT function		
		28
It is important, but not a leading priority for anyone		
		27
It would be useful to have, but gets little attention		
10		
It is not at all a priority		
7		
Don't know		
5		

Overall, how would you describe your organisation's willingness to take risks as concerns adopting or implementing new business processes or technologies? (% respondents)

Highly risk averse			
13 Somewhat risk averse			
Roughly balanced between risk averse and risk tolerant			32
Somewhat risk tolerant			35
13 Highly risk tolerant			
3 Don't Know			
4			
<b>Do you agree or disagree with the following s</b> Please select one from each row.	tatements?		
(% respondents)	Agree	Disagree	Don't know
The issue of trust in cloud technologies at our organisation i between the IT function and the rest of the organisation	s complicated by a sub-o	optimal relationship	
	57		34 9
The level of trust in cloud technologies at our organisation g	gives us a competitive ac	lvantage over our p	
47 Our organisation sees cloud technology as a cost saver rat	har than as a way to cho	ngo how it operator	44 9
Cor organisation sees cloud technology as a cost saver fai	51	inge now ir operates	43 6
The complexity of international regulations regarding data that would involve cross border transfer of information	makes it difficult for us to	consider using cloud	ds
43			48 9
Our due diligence procedures do not yet adequately add	ress the risks involved in c	loud computing	
45			44 10
We feel more constrained by our cloud investments than like 37	Deratea	48	3 16

How familiar are you with the technology within and outside of your organisation? (% respondents)

Very familiar

, , , , , , , , , , , , , , , , , , ,	51
Somewhat familiar	
	49
Not very familiar 0 Not at all familiar	
0	

How many people does your organisation employ? (% respondents)

100 to 999	
	33
1,000 to 1,999	
18	
2,000 to 2,999	
16	
3,000 to 4,999	
20	
5,000 to 10,000	
10	
Over 10,000	
4	

In which country are you personally located? (% respondents)

Brazil	
France	11
Germany	11
India	11
	11
Japan	11
Netherlands	11
UK	11
US	
Australia	11
9 New Zealand	

Which of the following best describes your title? (% respondents)

Board member 0
CEO/President
Chief Financial Officer/Head of finance
Chief Strategy Officer/Head of strategy 3
Chief Marketing Officer/Head of marketing ٥
Chief Operating Officer/Head of operations
Chief Information/technology officer/ Head of technology/information technology 6
Chief Risk Officer/Head of risk
Chief Security Officer/Head of security
Chief Sales Officer/Head of sales
Chief Data Officer
Other C-level executive
Managing Director
SVP/VP/Director
Head of business

Head of department

What is your main functional role? (% respondents)
Business development
2 Communications
2
Customer service/experience
7 Distribution/logistics 7
Finance 4
General management
Human resources
7 IT/technology 13
Marketing
8
Operations 12
Procurement 7
Product/service development 7
R&D
7 Sales
10
Strategy
4

21

### What is your primary industry?

(% respondents)

1

Chemicals 3	
Consumer goods/services	
11	
Financial services/insurance	
11	
Healthcare/life sciences	
11	
Manufacturing	
8	
Media/entertainment/communications	
11	
Professional services	
11	
Public sector/government	
11	
Retail	
11	
Technology/IT/telecommunications	
	12

How long has your company been operating, irrespective of ownership changes over time? (% respondents)

More than 100 years 0 Between 51 and 100 years 5 Between 26 and 50 years 32 Between 11 and 25 years 47 Between 6 and 10 years 16 Between 1 and 5 years Whilst every effort has been taken to verify the accuracy of this information, neither The Economist Intelligence Unit Ltd. nor the sponsor of this report can accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in the report.

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