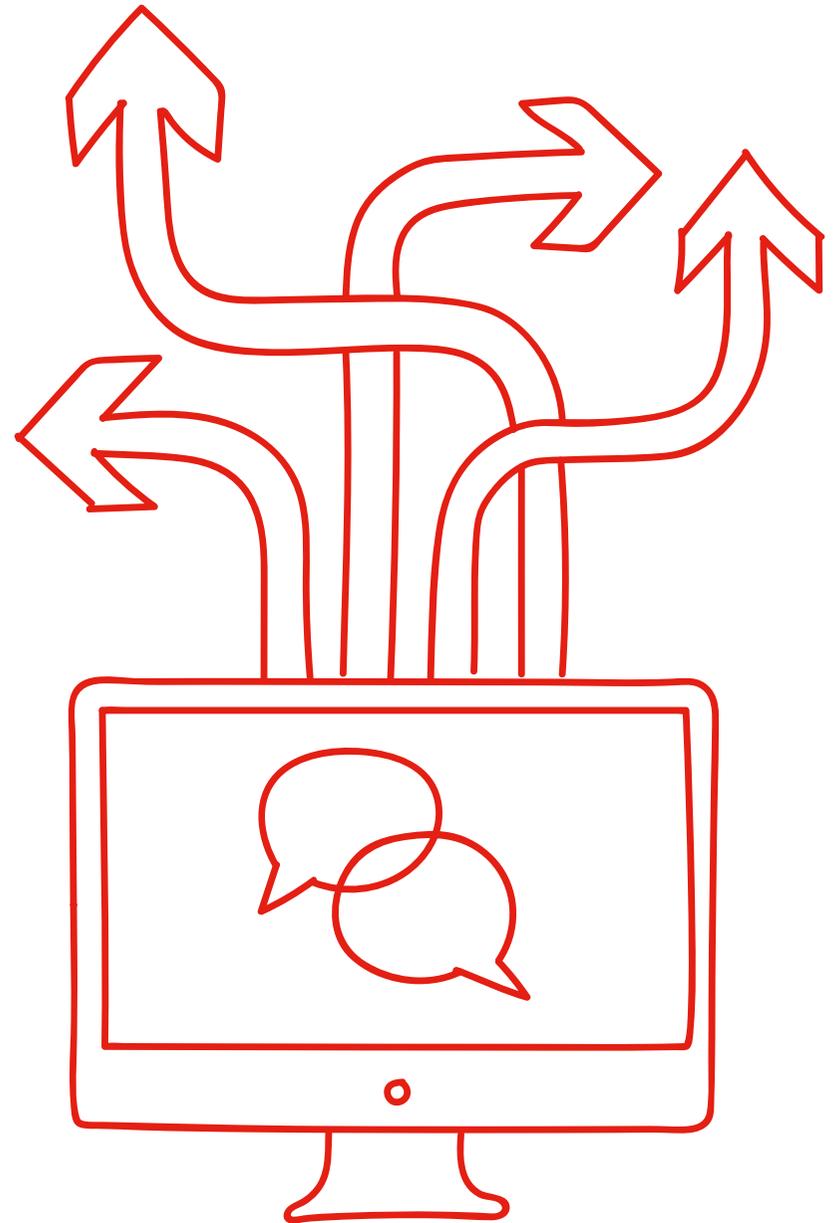# Logicalis Global CIO Survey

Digital enablers: the challenges facing CIOs in an age of digital transformation

A research paper from Logicalis based on a global study of CIO pressures and priorities

In summary

This report details key findings from the fourth annual Logicalis Global CIO Survey, which seeks to assess the changing role of CIOs and IT departments as the digital transformation of business gathers pace.

Over the last three years the study has answered a series of questions, including:

- How is the role of the CIO changing?
- Are CIOs' priorities yet aligned with a reality in which IT decisions must reflect and directly support business imperatives?
- Are CIOs spending as much time on strategic priorities as they would like?

This year, we draw on a survey of 708 CIOs worldwide to revisit these questions and look at the digital transformation of business – how quickly it is taking place and the impact on CIOs and IT departments.

DIGITAL TRANSFORMATION
We are now in a digital age for business – an age in which organisations are rightly fascinated by digital transformation driven by cloud, mobility, big data analytics and social business. It will bring higher standards of automation, control and security to everything businesses provision and deploy.

Digital is creating new companies and new business models that allow traditional businesses to transform the customer experience, streamline their own business models, and – more fundamentally – open up a wealth of opportunity for innovation across industry and government.

Interestingly, we find that this transformation is taking place at speed. While adoption broadly conforms to a classic innovation bell curve, innovators outnumber laggards and the late majority accounts for less than a quarter of all businesses.

THE CHALLENGES FOR CIOS
In step with this rapid change, new challenges for CIOs come thick and fast – from increasingly complex data, analytics and security issues to the emerging employment of IT staff within line of business departments creating the rise of 'Shadow IT departments'.

This report looks at this new reality in detail to assess the four big challenges facing CIOs and the steps they are taking to overcome them – as well as their success to date in reshaping their roles, and that of the IT department, to more effectively support digital transformation.

"As digital innovation accelerates and new competitors emerge, businesses will need to orientate themselves quickly to new digital-driven business models. Our survey shows that CIOs have their eyes firmly on the business value of digital and their minds focused on the changes they need to make in terms of the people, skills, processes and platforms in IT that will make a digital future a reality for their organisation."

Chris Gabriel, Chief Digital Officer, Logicalis Group

Key findings:
digital transformation

To what extent are businesses now 'digitally enabled' and how is this changing the nature of technology in business?
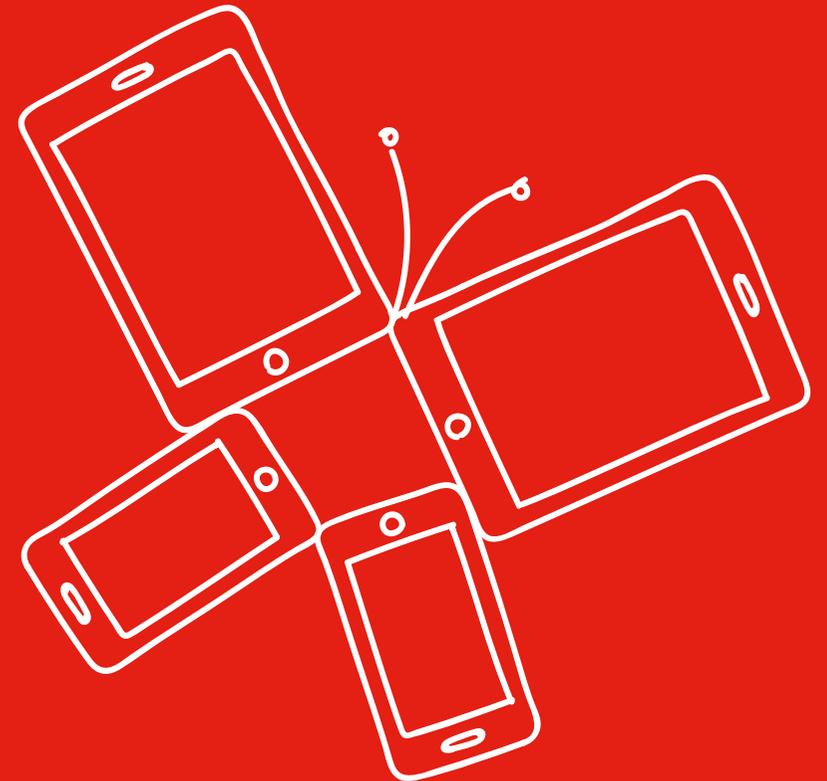
Digital transformation: a familiar trend

We are witnessing the acceptance of a digital age for business – a time of fundamental transformation as digital technologies enable new business models and the transformation of familiar ones.

Digital is enabling the emergence of innovative businesses, digital disrupters – famous examples include Über and Airbnb but these kinds of emerging businesses are challenging almost every market. As figure 1 demonstrates, 7% of the respondents to our survey feel that their organisation is entirely digitally enabled.

These firms are using digital to challenge traditional market leaders – their streamlined internal processes enable innovation and agility, and their simple, useful interfaces with customers deliver superior, almost frictionless customer experiences.

These innovators are, however, unlikely to have the field to themselves for long. The 2016 CIO survey points to an innovation or technology adoption bell curve – traditional businesses are responding to the challenge by embracing digital transformation for themselves:

- 22% of firms fall into the early adopter category
- 45% into the early majority, 22% into the late majority
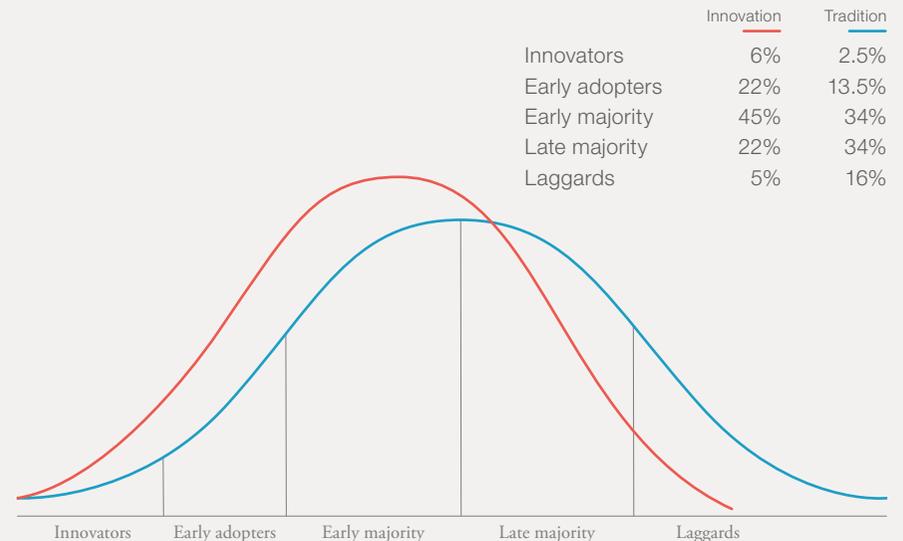- Just 5% could be categorised as laggards.

However, in a traditional curve (figure 2), the early majority and late majority are roughly equal in number, while the proportion of laggards tends to correspond with the combined total of innovators and early adopters. The figures from this year's CIO survey, then, suggest an accelerated pace of adoption compared with a traditional bell curve – with innovators outnumbering laggards and a general skew towards earlier adoption.

"This speaks both to the huge benefits that digital transformation brings, and also the scale of the challenge posed by digital disrupters and early transformers – while such a rapid transformation almost certainly means big changes for CIOs and IT departments."

Mark Rogers, Chief Executive Officer, Logicalis Group
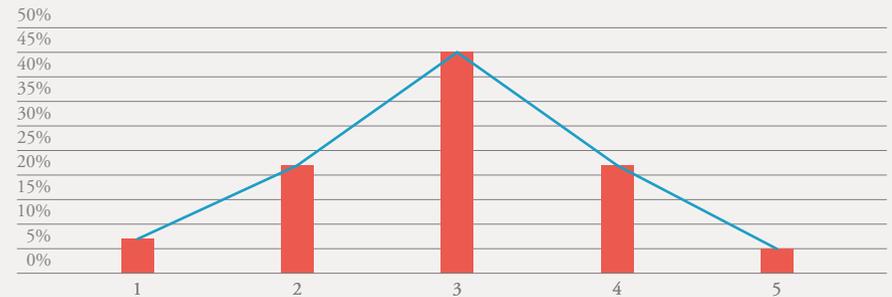
Fig. 1: On a scale from 1 to 5, where 1 is 'entirely enabled' and 5 is 'not enabled at all', rate the extent to which you feel your organisation is 'digitally enabled'?

	Innovation	Tradition
Innovators	6%	2.5%
Early adopters	22%	13.5%
Early majority	45%	34%
Late majority	22%	34%
Laggards	5%	16%

Fig. 2: Technology adoption/innovation bell curve.

Distributed IT and the Shadow IT department

One clear consequence of the digital transformation, the survey found, was a significant decentralisation of IT.

The days of a single, central IT function are all but gone it seems – with the distribution of IT through the business coming as a natural extension of so-called Shadow IT. In previous years this was seen as subversive, but it is now a key component of digital transformation.

Indeed, the survey finds that this distributed IT model goes further still, with IT skills increasingly distributed throughout the business rather than held centrally by IT.

- Almost a quarter of CIOs (23%) report that they work on a daily basis with IT people employed by line of business (LoB) departments, whose role is to support business function-specific software, applications and cloud services.

- Almost half work with line of business IT staff at least weekly (41%).
- The vast majority (83%) report that line of business departments now employ their own IT staff.
- Just 8% do not interact with these 'distributed IT skills' at all, while 16% of LoB do not employ their own IT specialists.

THE SHADOW IT DEPARTMENT AND 'SHADOW INNOVATION'

With distributed IT increasingly enabling digital disruption from within organisations – shadow innovation – line of business departments are now employing staff purely to support line of business specific technologies and services. According to our respondents, this is the case in 84% of firms – it is clearly the new norm for CIOs and IT departments.
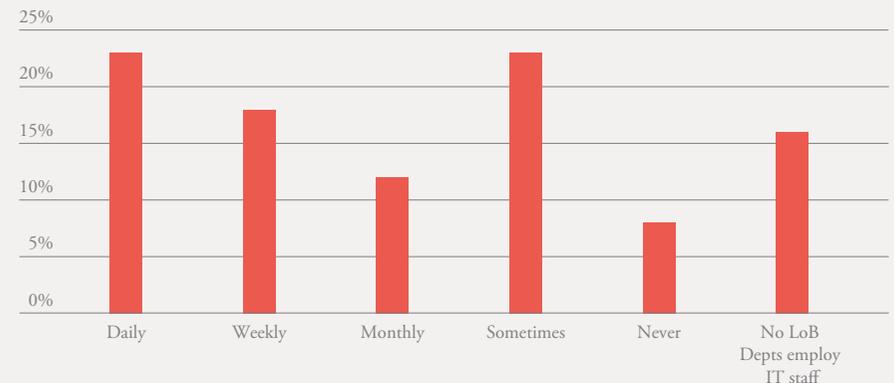
Fig. 3: How often do you work with IT people, employed by line of business departments, whose role is to support business function-specific software, applications and cloud services?

Apps are central to transformation

The 2016 CIO survey also identified a big change in technology focus, almost across the board. In keeping with a trend towards digital transformation, the emphasis is now firmly on apps, rather than 'big tech'.

Indeed, more than three-quarters of businesses are now 'in the software developing business' to some extent – 77% are developing apps, in-house, with the help of third parties or drawing on a combination of internal and external skills. This reflects recent trends amongst Logicalis' customer base, which is increasingly seeking support in the development of apps that connect customers to organisations and organisations to each other.

Once again emphasising the digital shift and the refocusing on IT skills, the vast majority of those businesses developing apps have in-house developers – accounting for 64% of all firms. What's more, this figure is likely to rise in short order – more than a third of the firms not currently developing apps (9% out of 23%) are thinking about doing so.

CENTRAL ROLE FOR APPS
This app development is no longer, however, relegated to the fringes – with apps used purely as marketing and promotional tools.

Rather, as figure 5 demonstrates, apps are central to digital transformation, driving everything from core customer experience improvement to the development of new revenues and internal business process streamlining. Today, less than a quarter of apps (23%) are purely promotional.

This perhaps reflects the dwindling importance of promotional apps as improved mobile web experiences take over – but also clearly demonstrates the central role that apps are playing in the digital transformation of businesses worldwide, and therefore the increased importance of specialist developer skills.
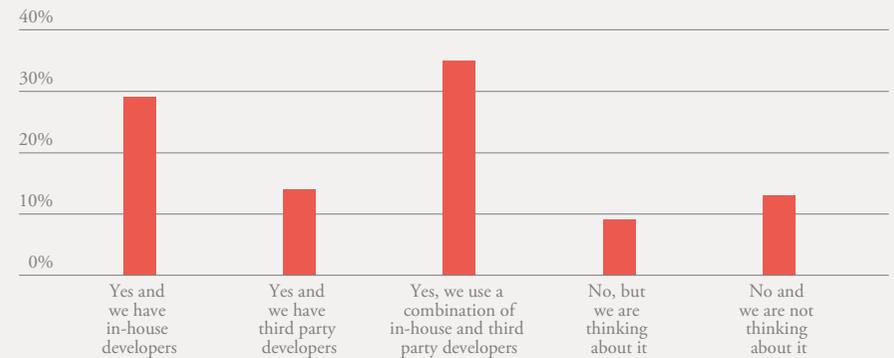
Fig. 4: Does your organisation develop internal and/or customer apps?
Chart shows global responses
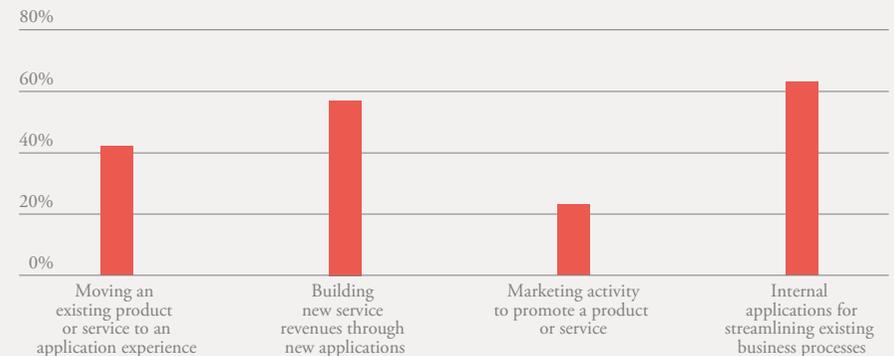
Fig. 5: What is your organisation's app development aimed at?
Chart shows global responses

Digital business and the Internet of Things

This year's survey also looked at CIO perceptions of another much talked about technology trend, the Internet of Things (IoT), which can be viewed as another consequence of the digitisation of everything from business to public services.

There can be little doubt that the IoT will bring big changes to the way businesses and governments interact with customers and citizens to deliver services, and to gather and use data – but to what extent is it already impacting on businesses?

According to our sample of CIOs worldwide, the IoT is already a reality for one-fifth (19%) of businesses and will be for 59% of businesses in just two years' time.

In fact, only around one in ten (11%) do not expect the IoT to have any impact at all – a view that will surely change as its pervasive impact becomes clear.

This rapid impact is likely to create real challenges for the unprepared, those without the infrastructure, apps, skills and streamlined processes required to deal with, and draw value from, the 'tsunami' of data that the IoT will generate.

Indeed, while the IoT is partly a consequence of digitisation, its impact is also likely to have a significant influence – speeding up digital transformation and leaving the late majority and laggards with little choice but to move faster in delivering the transformation they will need to remain competitive.

One thing is clear from this year's CIO survey: distributed IT, 'Shadow Innovation', the Internet of Things and apps are fundamental to digital transformation. The question now is what does this mean for CIOs and IT departments?
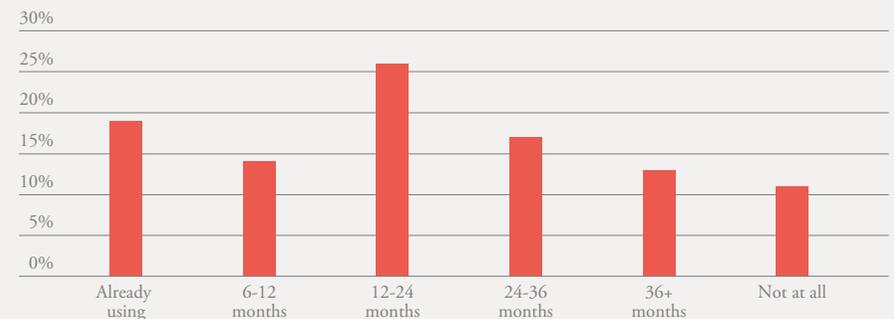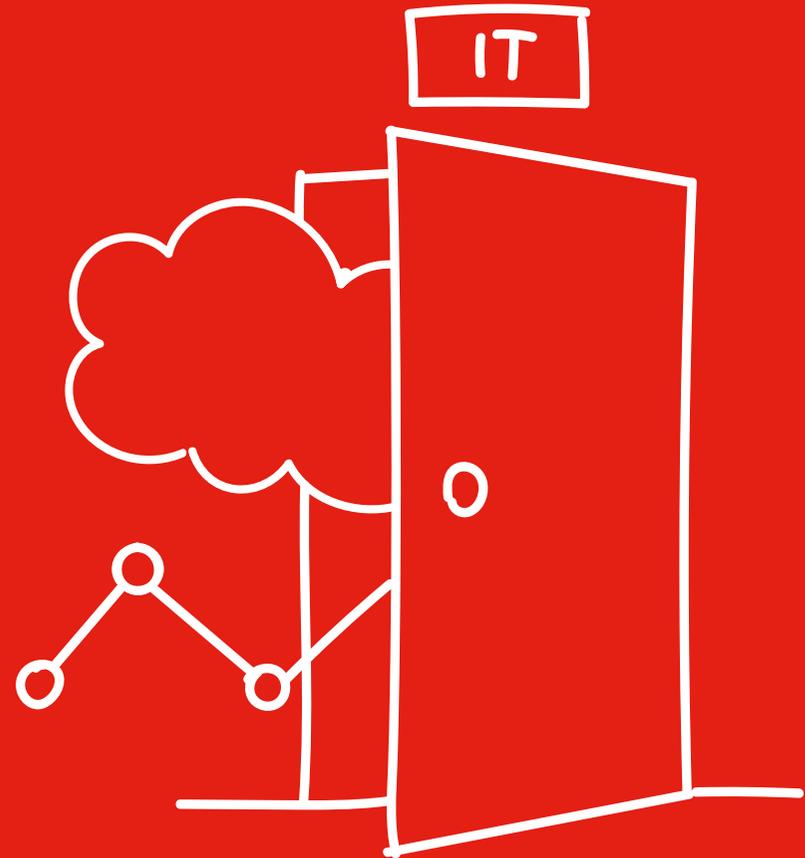

Fig. 6: Much is being made of the Internet of Things (IoT) and its effect on products, services and operations. Thinking of your own organisation, over what timeframe do you think IoT will affect you?
Chart shows global responses

Key findings:
the role of the CIO

Challenges and changes in CIO offices
and IT departments.

Challenge 1: focusing on strategy

CIOs have regularly stated a desire to refocus their roles on strategy and away from managing technology on a day-to-day basis.

Indeed, in our first CIO survey in 2013, almost half of respondents worldwide said they wanted to spend at least 70% of their time on strategic initiatives.

Every year since, the shift towards a more strategic role has continued, but at a very slow pace, and this year's findings show that the trend has continued in much the same way.

Today, around 14% of CIOs have achieved the goal they set in 2013 (70% of time on strategy), but the overall picture reflects that of previous years – a slow shift towards strategic activities, but with the majority of CIOs' time still taken up by day-to-day tasks.

This continued slow pace of change is starkly at odds with the pace of digital transformation, a contrast that is likely to create big challenges for CIOs and their teams.

The role of the CIO and the IT department, therefore, must increasingly be that of digital enabler – providing the infrastructure, support and services required to deliver and maximise returns on digitisation, while defending against its inherent security risks.

"Only strategic oversight can deliver that kind of role in the holistic way required, so the need to transition to a strategic role is becoming more urgent by the day."
Robert Bailkoski, Chief Financial Officer, Logicalis Group

■ 2015 ■ 2016
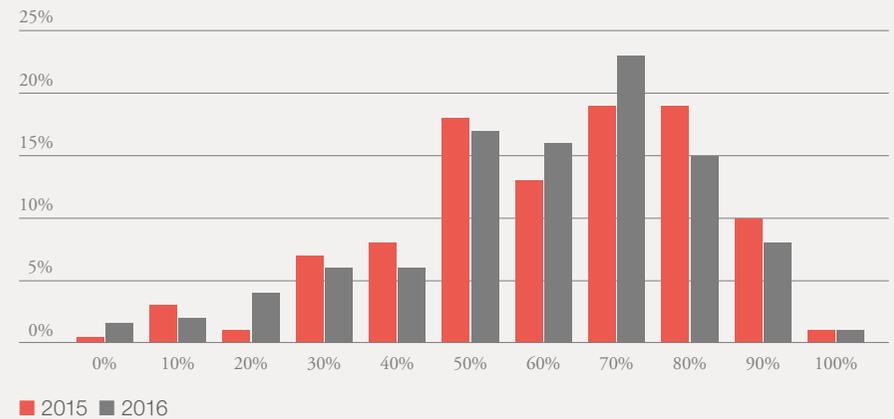
Fig. 7: Approximately how is your time split between day-to-day management of technology and strategic planning/initiatives?
Chart details percentage of time spent on day-to-day initiatives

Challenge 2: distributed IT

The increasingly decentralised nature of IT, from apps and solutions to skills, presents its own challenges, with CIOs holding far less control over IT spending than they once did.

This progressive loss of overall control is something that the Logicalis CIO Survey has noted each year since 2014, and the trend continues this year.

In 2016 almost a quarter (23%) of CIOs report that the balance of IT decision-making is now shared equally between themselves and line of business colleagues. Meanwhile, approaching half of CIOs (40%) say that they make 50% of decisions or less.

This trend is also reflected in the frequency with which CIOs are by-passed altogether – with line of business buying technology without involving IT at all. The proportion reporting that this happens often, very often or most of the time has risen from 29% in 2015 to 39% in 2016 – a year on year rise of 34%.

More than likely this reflects the CIOs' failure to focus more on strategic overview, coupled with the rise of the 'Shadow IT Department', which gives line of business greater ability to take control.
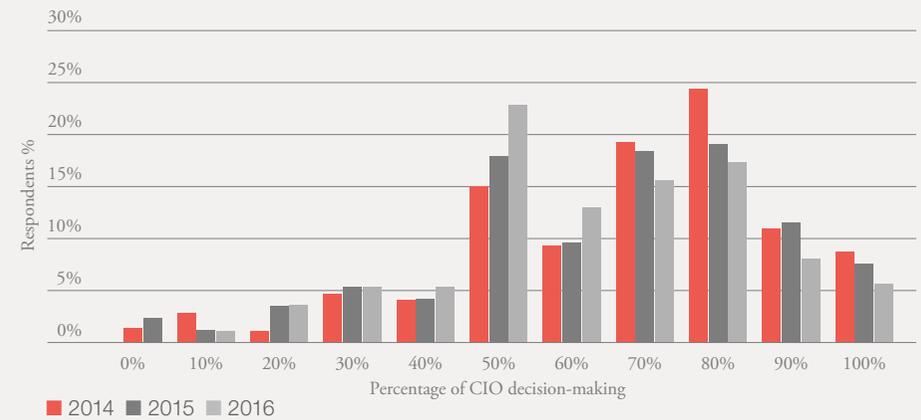
Fig. 8: What is the balance, between CIO and LoB, of IT decision-making in your organisation?
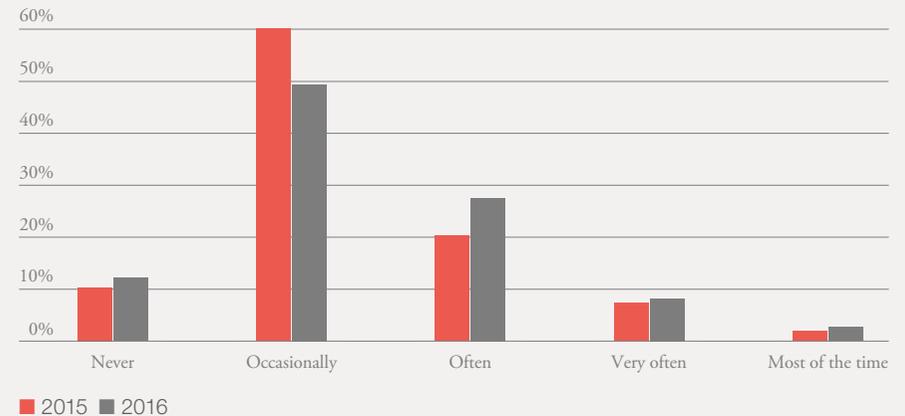
Fig. 9: How often do you experience Line of Business managers going outside the IT department to secure technology-based applications or business solutions?

Challenge 3:
big data and analytics

As the march of digitisation advances, coupled with the rise of the Internet of Things, dealing with increasingly vast amounts of complex data from disparate sources will become more important, and more challenging.

Indeed, in the digital age, data will undoubtedly be businesses' most important asset – but only data that can be organised and exploited for commercial advantage. Competitive edge will increasingly be about the speed with which businesses can draw insight from data and put it in front of the people who are able to act on it.

Cognitive, or predictive, analytics will introduce new views of the business from previously untapped and unshared sources.

This year's CIO survey found that CIOs already face a significant big data challenge – over half (52%) reported that their organisations already work with big data.

However, approaches to converting that data from a storage headache to an asset are likely to be hampered by a significant issue – in the majority of cases, big data analytics is still seen as an IT issue, not a business imperative.

Just 23% of CIOs reported line of business involvement and only 7% said analytics programmes enjoyed board level involvement.

This lack of board level involvement is a real problem. It affects solution design and it affects the extent to which analytics is used, once deployed – so dealing with these issues must be a priority for CIOs.

"All too often, delivering analytics – from end to end – is seen as an IT problem. Clearly, IT has a vital role to play, but it cannot and should not be the project sponsor – those who can define the need and articulate the 'why' must lead."

Rodrigo Parreira, Chief Executive Officer, Logicalis Latin America

Fig. 10: Do you consider your organisation as working with big data?
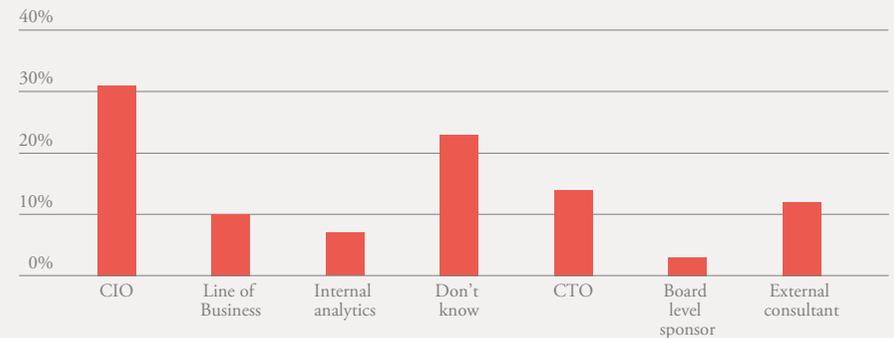
Fig. 11: Who is primarily responsible for specifying solutions that derive business intelligence from big data in your organisation?

Challenge 4: distributed IT and security

Perhaps the most significant and pressing challenge for CIOs is security.

Together, the combination of IoT, distributed IT and the increased pervasion of apps into the very core of the business – along with an ever-evolving threat landscape – represent a perfect security storm.

Greater openness, mobility and a burgeoning array of access points are making corporate systems more vulnerable than ever before. The constant emergence of new and more sophisticated threats makes mitigating those threats more difficult. And the consequences of serious security incidents and data breaches are ever more dire.

Small wonder then that our sample of CIOs cited security as far and away the biggest challenge related to the increased use of cloud services. More than three-quarters (78%) cited security as a challenge, with related issues like data sovereignty (47%) and local data regulations (37%) coming in second and third.

Looking at security threats in more detail, CIOs cited the prevalence of increasingly sophisticated threats (61%) as the number one issue for the next 12 months, while issues like ransomware and corporate extortion were highlighted by more than half (56%).

Interestingly, 'malicious insiders' is likely to be an issue for almost a third (30%) of CIOs.

CIOs' investment priorities as they seek to defend against these threats are investigated in the following section.
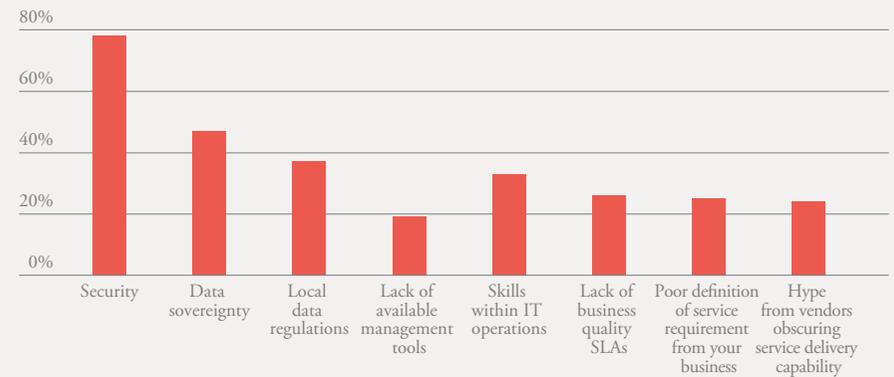
Fig. 12: What are the challenges facing your organisation related to the increased use of cloud services?
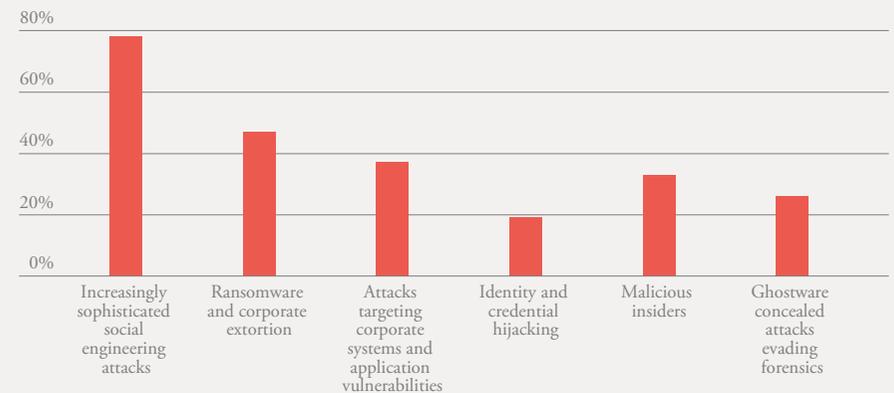
Fig. 13: Which IT security threats do you think will pose significant risk to businesses over the next 12 months?

Key findings: the response

Social, mobile, analytics, cloud and security – and support from outside.

Social, mobile, analytics, cloud and security

Overall, CIOs are faced with the need to support more open service and app-orientated digital environments, while defending against ever more pervasive threats.

Not surprisingly, then, social, mobile, analytics and cloud solutions (SMAC) are currently high on the priority list for many CIOs.

Indeed, most are seen as more important than ever. As figure 14 demonstrates, compared with 2015, CIOs are more likely to cite them as very important or critical to business innovation in all cases except analytics (an anomaly that perhaps reflects the current lack of senior level sponsorship).

The perceived importance of cloud has increased the most since 2015, perhaps reflecting an ever increasing adoption of the cloud model for core IT systems such as CRM and email.

The story, when it comes to investments in security, is more complex, reflecting the complicated threat – issues CIOs must address.

It is clear that CIOs are extending the traditional, multi-layered approach to security, to address both new threats and the expanding range of vulnerabilities that are inherent in digital transformation.

While 70% are planning to invest in core network security, 47% are planning to strengthen identity and access management, 38% will invest in advanced malware protection and 34% will seek to expand their endpoint protection portfolios.

Meanwhile, reflecting the need to detect and respond to new threats quickly, as well as mitigate internal threats, 36% and 40% respectively are planning to invest in security intelligence and analytics and user training and awareness.

■ 2015 ■ 2016
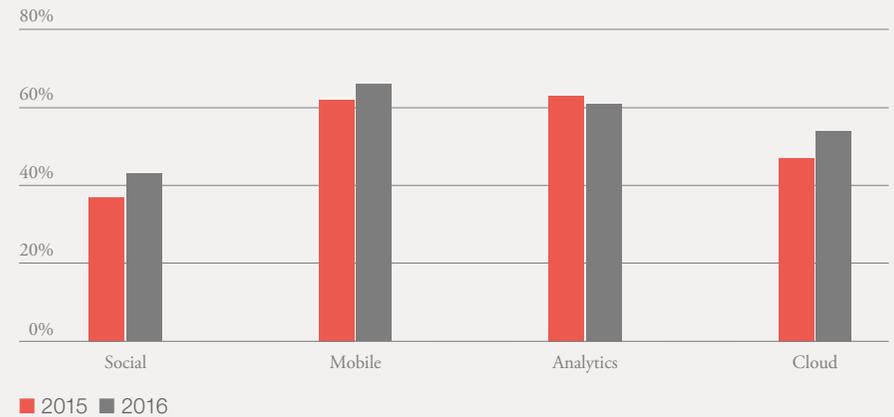
Fig. 14: Rate the importance of social, mobile, analytics and cloud technologies in driving business innovation in your organisation.
Chart shows those selecting 'very important' or 'critical'
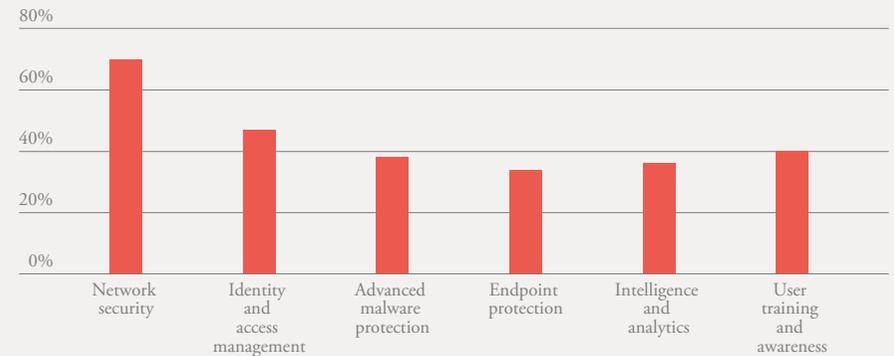
Fig. 15: Which of the following areas of security investment will be priorities for your organisation over the next 12 months?

Looking outside for help

The sheer range of issues facing CIOs as a result of digital transformation – from the need to support ever more diverse and distributed environments, working with 'Shadow IT departments' and stepping up security – is a challenge in itself.

As a result, the pressure to hand off day-to-day technology management, to focus on strategy and reframe IT departments as internal service providers, is greater than ever.

Despite this, CIOs' progress in using external service providers to provide or manage IT is slow. There is a greater reliance on outside help, but the bulk of IT remains in-house.

This year a quarter (24%) of CIOs outsource most of their IT (more than 50% outsourced), and the number outsourcing none or just 10% of their IT has fallen dramatically – respectively, to 9% (13% in 2015) and 19% (26% in 2015).

Overall, however, figure 16 shows a clear bias towards in-house, a situation that will surely change dramatically as the digital transformation gathers pace amongst the majority adopters.

■ 2015 ■ 2016
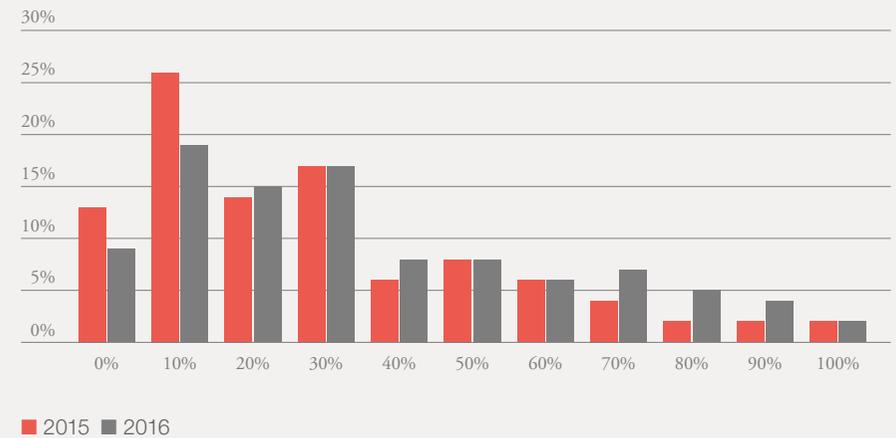
Fig. 16: Approximately what percentage of your IT is provided or managed by external service providers, including cloud (Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), Software-as-a-Service (SaaS))?
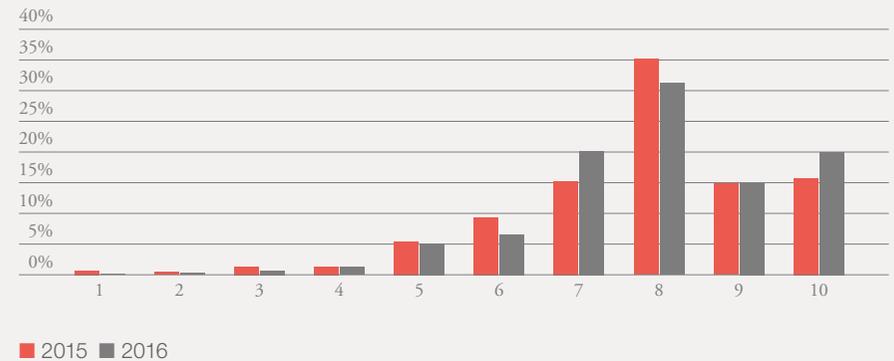
Delivering business value?

When asked to rate the performance of IT in delivering business outcomes, CIOs remained generally bullish – once again awarding themselves and their teams an average score of eight out of 10.

In fact, 66% rated performance at eight or more out of ten – the same as in 2015. On the other hand, only 7% of CIOs globally scored the performance of IT at five or less out of 10.

However, whether line of business colleagues would take the same view is open to question – especially in light of the slow progress in refocusing on strategy, which is so important to supporting digital transformation, the reluctance to hand over technology provision and management to specialist third parties, and the emergence of the 'Shadow IT Department'.

On balance, though, the overall positive view of IT's contribution to delivering business outcomes suggests that CIOs are rising to the challenges and adapting to the fast-changing technological environment they find themselves in.

■ 2015   ■ 2016

Fig. 17: On a scale of 1-10, how do you rate the value of IT in delivering business outcomes?
Chart shows CIOs' responses in marking the performance of IT

8/10

When asked to rate the performance of IT in delivering business outcomes, CIOs rated their teams at an average score of eight out of 10.

Conclusions

It is clear that business technology is undergoing a major shift towards a distributed and digital model. In a continuation of trends identified by previous Logicalis CIO surveys, the role of the IT department is changing; a result of an explosion of data, the rise of mobile and the cloud.

The Logicalis Global CIO Survey 2016 highlights that, for CIOs and IT leaders, change brings fresh challenges, shifting roles and new responsibilities. Technology has never played a larger role in business than it does today and CIOs and IT leaders have the opportunity to deliver more business value than ever before.

As digital innovation accelerates, the winners will create new customer experiences, make faster and better decisions through smarter collaboration, and create new digital business models and revenue streams, securely.

CIOs and IT leaders can play a leading role in enabling that innovation, drawing on skills from insightful partners to help shape their businesses and lead their sectors through the application of digital technologies.

I am delighted that Logicalis is already helping clients to plan their digital journeys – releasing the creativity that runs through their workforces and using digital technology to deliver outstanding results.

Technology and innovative services are transforming business – enabled by Logicalis.

MARK ROGERS
CHIEF EXECUTIVE OFFICER
LOGICALIS

"Technology has never played a larger role in business than it does today."

ABOUT LOGICALIS
Logicalis is an international multi-skilled
solution provider supplying digital
enablement services to help customers
harness digital technology and
innovative services to deliver powerful
business outcomes.

Our customers cross industries and
geographical regions; and our focus
is to engage in the dynamics of our
customers' vertical markets;
including financial services, TMT
(telecommunications, media
and technology), education, healthcare,
retail, government, manufacturing and
professional services, and apply the skills
of our 4,000 employees in modernising
key digital pillars; data centre and cloud
services, security and network
infrastructure, workspace communications
and collaboration, data and information
strategies, and IT operation modernisation.

We are the advocates for some of the
world's leading technology companies
including Cisco, HPE, IBM, CA
Technologies, NetApp, Microsoft,
Oracle, VMware and ServiceNow.

The Logicalis Group has annualised
revenues of over $1.5 billion, from
operations in Europe, North America, Latin
America and Asia Pacific. It is a division of
Datatec Limited, listed on the Johannesburg
Stock Exchange and the AIM market of the
London Stock Exchange, with revenues of
over $6.5 billion.

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