Cloud UK

Paper seventeen

Cloud and the digital imperative

17

Introduction

Digital Transformation are the words of the moment in the IT industry and businesses are being told that if they don't digitally transform themselves, they will wither on the vine. This may sound like hyperbole, but there is more than an element of truth here.

We have witnessed time and again how young start-ups are leveraging digital technologies to disrupt industries and fundamentally change the way that consumers do things. The speed and innovation facilitated by digital technologies have over the last few years seen market leaders toppled and the balance of power shift from the old guard to digitally native organisations. But what is clear is that this sort of innovation is happening across the entire spectrum of organisations, from the *Ubers* and *Airbnbs* of this world to more established organisations.

This research project, the sixth in the Cloud Industry Forum's body of research on Cloud adoption within the UK end user community, set out to establish the extent to which organisations are exploring Digital Transformation and how Cloud computing is facilitating business change.

It should come as no surprise that Digital Transformation is creeping up businesses' agendas as they seek to stay ahead of the competition, steer and make better use of technology, attract talent and drive innovation. Although Digital Transformation strategies are somewhat in their infancy today, seven in ten UK organisations expect to have implemented one by the end of 2017.

Cloud is very much part of the Digital Transformation agenda, and it is clear from this research project that for those companies with designs on digitally transforming themselves, struggle to do so without the delivery model. Unbound, at least from a technology point of view, from fixed infrastructure and proprietary IT, businesses using Cloud are free to take more risks and are able to drive change within their organisations and respond quickly to changing market conditions.

However, the journey to Cloud – and, by extension, to unlocking the potential of Digital Transformation – is far from complete. While Cloud adoption rates remain high and the majority of businesses are using Cloud services to an extent, data is still more likely to be kept in-house than in the Cloud. When we consider the benefits reported by Cloud-users in this research project, those organisations that are yet to fully explore and exploit the delivery model would be advised to do so – and quickly.

Organisations using Cloud routinely report that it has helped them to save time, gain competitive advantage and achieve a whole host of other tangible and intangible benefits, from improved customer engagement and employee satisfaction to a significantly more resilient IT estate. Those businesses that don't use Cloud are placed at a distinct disadvantage.

This White Paper seeks to explore the ways in which UK businesses are using Cloud services today, the drivers and inhibitors of Cloud adoption, and how Cloud computing is facilitating Digital Transformation across the IT estate.

Digital Transformation are the words of the moment in the IT industry and businesses are being told that if they don't digitally transform themselves, they will wither on the vine

Snapshot of key findings

Cloud landscape:

● Cloud adoption remains high with 78% of organisations using Cloud services today and this is likely to increase to 85% within the next two years;

● Of those organisations using Cloud, three quarters expect to increase their usage in 2016;

● 77% of organisations that use Cloud have deployed two or more services and they store, on average, 29% of their data in the Cloud;

● Around six in ten (63%) foresee a time when they will move their entire estates to the Cloud, with the remainder intending to keep certain applications in-house;

● Webhosting (57%), email (56%), ecommerce (53%) and collaboration services (52%) are the applications most likely to be hosted in the Cloud today;

● The biggest growth over the next few years will be in Unified Communications, which promises to deliver significant benefits for end users.

The adoption process:

● On average, it took 19 months to migrate respondents' applications to the Cloud;

● Over two thirds (69%) of organisations were required to invest in additional hardware and software in order to migrate their applications;

● The vast majority were satisfied with their chosen methods of migration, although 93% felt that it could have been improved in some way;

● Final decision-making about the move to Cloud falls to the Head of IT/CIO in around six in ten organisations, although a range of internal stakeholders are involved in the decision-making process.

The benefits of Cloud:

● The flexibility of the delivery model (77%) stands as the most common reason given by Cloud users for their initial adoptions. This is followed closely by scalability (76%) and 24/7 service dependence (74%);

● Over two in five (45%) say that enabling innovation is a business objective driving their continued investment in Cloud. Enhancing business continuity (37%) and improving customer service (31%) are the other objectives most likely to drive investment;

● 64% have found that using Cloud has saved their organisation time and 86% report that their organisation has experienced at least one intangible benefit of Cloud.

Inhibitors of Cloud:

● Security concerns are a primary reason for not wanting to move specific applications to the Cloud for two thirds of organisations;

● Similarly, during the decision-making process for Cloud migration, 75% were concerned about data security and 56% about data privacy;

● However, the vast majority (98%) of all respondents have never experienced a breach of security when using a Cloud service.

Digital Transformation strategy:

● A minority (16%) currently have a Digital Transformation strategy, but a further 55% report that their organisation is in the process of implementing one;

● Digital Transformation strategies benefits Cloud users – 38% of organisations using Cloud and that have a Digital Transformation strategy say that Cloud has given their organisation a significant competitive advantage;

● 79% of respondents whose organisation has implemented a Digital Transformation strategy say that Cloud is important/very important to it;

● The driving force behind an organisation's Digital Transformation strategy (60%) is most likely to come from the CIO in the organisation.

> The vast majority (98%) of all respondents have never experienced a breach of security when using a Cloud service

Methodology and sampling

In November 2015 Vanson Bourne conducted the sixth body of research on behalf of the Cloud Industry Forum (CIF) to determine the level of Cloud adoption among participants and to gain insights into attitudes, experiences and trends across the UK end user community.

The research polled 250 senior IT and business decision-makers in enterprises, small to medium sized businesses (SMBs) and public sector organisations. The organisations participating all had UK based operations.

Of the 250 end user organisations questioned, 15% came from the IT and technology sector, 15% from manufacturing, 13% from business/professional services, 12% from construction and property, and 10% from financial services and retail, distribution and transport respectively. A further 20% comprised of public sector and not-for-profit organisations ranging from central and local government to healthcare and charities.

The research polled 250 senior IT and business decision-makers in enterprises, small to medium sized businesses (SMBs) and public sector organisations

In which sector does your organisation primarily operate?

IT, TECHNOLOGY AND TELECOMMUNICATIONS
MANUFACTURING AND UTILITIES
BUSINESS/PROFESSIONAL SERVICES
CONSTRUCTION AND PROPERTY
RETAIL, ENTERTAINMENT AND TRANSPORT
FINANCIAL SERVICES
PUBLIC SECTOR: CENTRAL
PUBLIC SECTOR: LOCAL
EDUCATION

This White Paper summarises the results of this research and sets out to comment on the following:

1 Use of Cloud services

2 Drivers and benefits of Cloud adoption

3 Digital Transformation

4 Cloud inhibitors and concerns

Cloud defined:

There have been many definitions of Cloud computing since the phrase was first coined in the 1990s and it has, to an extent, become a catch-all term for hosted IT services of any type, including, but not limited to, multi-tenanted services accessed via the internet. However, for the purposes of this report, we have used the National Institute of Standards and Technology's (NIST) definition of Cloud services, which is as follows:

Cloud computing is a term that relates to the IT infrastructure and environment required to develop/host/run IT services and applications on demand, with consumption-based pricing, as a resilient service. Communicating over the internet and requiring little or no client end components, it provides resources and services to store data and run applications, from many devices, anytime, anywhere, as-a-service. The services can, in turn, be scaled up and down as needed to meet a customer's variable operational needs, ensuring maximum cost efficiency.

Digital Transformation defined:

Digital Transformation is about more than just changing analog processes into digital ones; it relates to the ground-up critical examination of an organisation to look at how it does things and reimagine how it interacts and engages with its employees, partners and customers. As the name suggests, technology is central to Digital Transformation, but it is first and foremost about business change and how businesses can reorientate themselves to take advantage of digital technologies.

1. Use of Cloud services

The Cloud adoption rate amongst UK-based organisations today stands at 78%. This represents a slight decline from the figure we reported in the first half of 2015 (84%), although the data suggests that the overall adoption rate should climb up to 85% over the course of 2016/17.

The reasons for this dip are not entirely clear, although when broken down by organisational size and sector, we can see that see those organisations with fewer than 21 employees and those in the public sector report lower levels of adoption than we have seen previously. This is surprising, not least because we have seen growing levels of momentum in these sections of the market.

It may be that the figures reported in Q2 were above average, or that the results in Q4 are not fully representative of the wider business community. One possible way forward is to take the mean results from both research projects, which will likely give us a clearer picture or Cloud adoption in the UK, standing at 81% overall.

Does your company have any hosted or Cloud-based services in use today?

YES NO
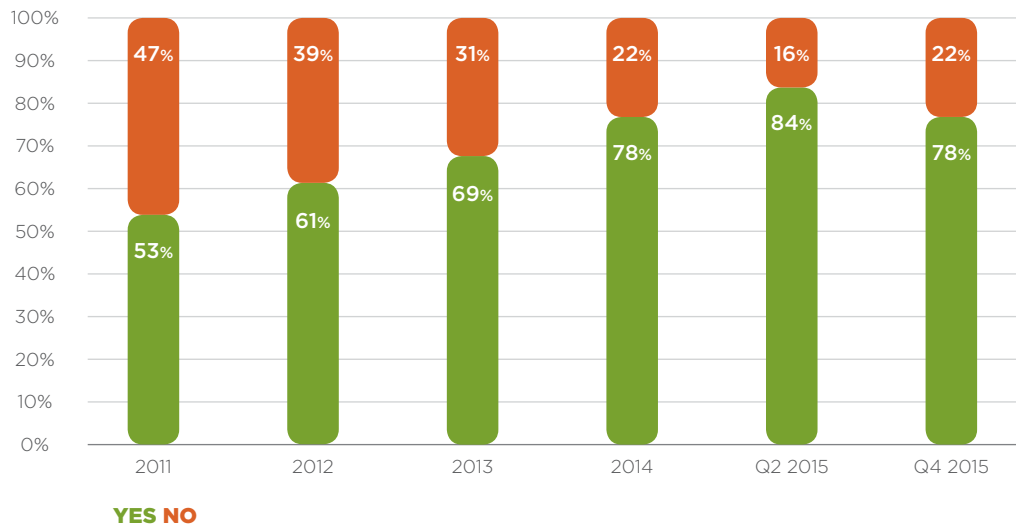
Does your company have any hosted or Cloud-based services in use today?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees	Public sector	Private sector
Q2 2015	**84%**	78%	74%	96%	78%	85%
Q4 2015	**78%**	54%	71%	96%	62%	82%
Average	**81%**	66%	73%	96%	70%	84%

These figures represent a healthy increase in Cloud service penetration in UK businesses from the levels reported in 2014, suggesting that organisations' engagement with Cloud is deepening

Of those organisations that use Cloud, three quarters (77%) use at least two services and one in eight (12%) have deployed five or more. These figures represent a healthy increase in Cloud service penetration in UK businesses from the levels reported in 2014, suggesting that organisations' engagement with Cloud is deepening. This engagement is set to increase further still for the majority of Cloud users, with 75% expecting to increase their usage over the year ahead.

How many different Cloud-based services does your company use today?
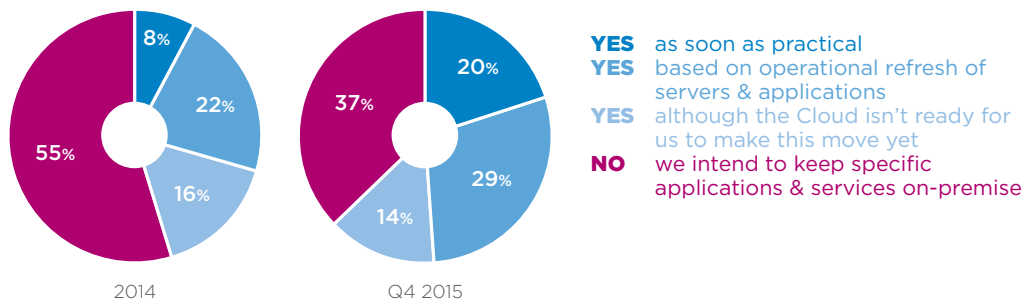

FIVE OR MORE
FOUR
THREE
TWO
ONE

Do you expect your adoption of Cloud services to increase over the next 12 months?

YES NO
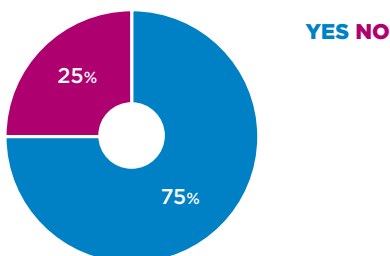
Importantly, we have seen a marked increase in the proportion of businesses that expect to move their entire IT estates to the Cloud; one in five (20%) organisations intend to move everything to the Cloud as soon as possible, up from just 8% in 2014, and almost two thirds (63%) expect to move everything to the Cloud at some point in the future. Interestingly, it was the smallest organisations in the sample (those with fewer than 21 employees) that appear to have most faith in the delivery model, with 88% stating that they can foresee a time when they will move everything to the Cloud.

88% of small businesses can foresee a time when they will move everything to the Cloud

Do you foresee that you will ever move your entire IT estate to remotely hosted Cloud services?

2014   Q4 2015

YES as soon as practical
YES based on operational refresh of servers & applications
YES although the Cloud isn't ready for us to make this move yet
NO we intend to keep specific applications & services on-premise

Do you foresee that you will ever move your entire IT estate to remotely hosted Cloud services?

	Fewer than 21 employees	21-200 employees	More than 200 employees
YES: as soon as practical	20%	25%	14%
YES: based on operational refresh of servers & applications	52%	21%	26%
YES: although the Cloud isn't ready for this move yet	16%	14%	14%
NO: we intend to keep specific apps & services on-premise	12%	40%	46%

Cloud is clearly gaining ground and legitimacy in the IT estate though it is important to note that, today, data is still more likely to be stored on-premise than it is in the Cloud. Respondents, on average, store 55% of their data in-house, 29% in the Cloud, with the remainder stored between the two.

What percentage of your organisation's information is stored on-premise, what percentage is stored in the Cloud, and what percentage of data is stored on both?
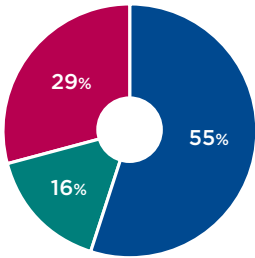
STORED ON-PREMISE
STORED BOTH ON-PREMISE AND IN THE CLOUD
STORED IN CLOUD

29%
55%
16%

Respondents, on average, store 55% of their data in-house, 29% in the Cloud, with the remainder stored between the two

17% of organisations state that their primary approach to IT is in the Cloud, up from just 10% a year ago, and those organisations report distinct benefits from managing their estates in this way; 67% of respondents say that this approach has aided business growth, while 86% say that it has made IT easier to manage.

Would you describe your primary approach to IT as being:

	2014	Q2 2015	Q4 2015
On-premise	48%	40%	38%
Hybrid	41%	45%	45%
In the Cloud	10%	15%	17%
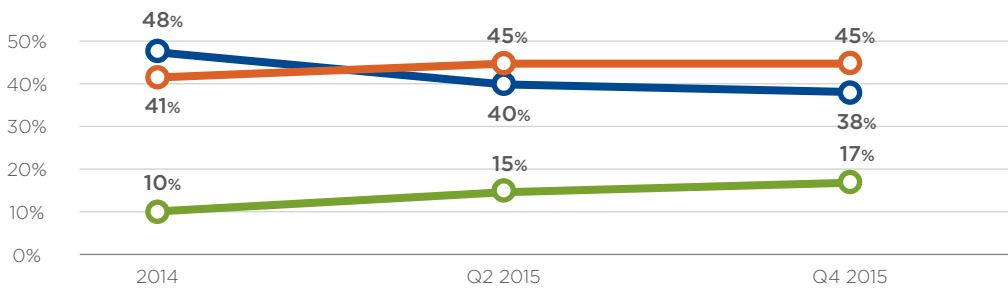
ON-PREMISE HYBRID IN THE CLOUD

Looking at specific applications, much like previous years, webhosting, email and ecommerce and collaboration services are the applications most likely to be Cloud-based. Taking into account planned adoptions, it is likely that these applications will maintain their lead in the Cloud space, though other areas are in for healthy increases; for example, 28% of organisations not using Clo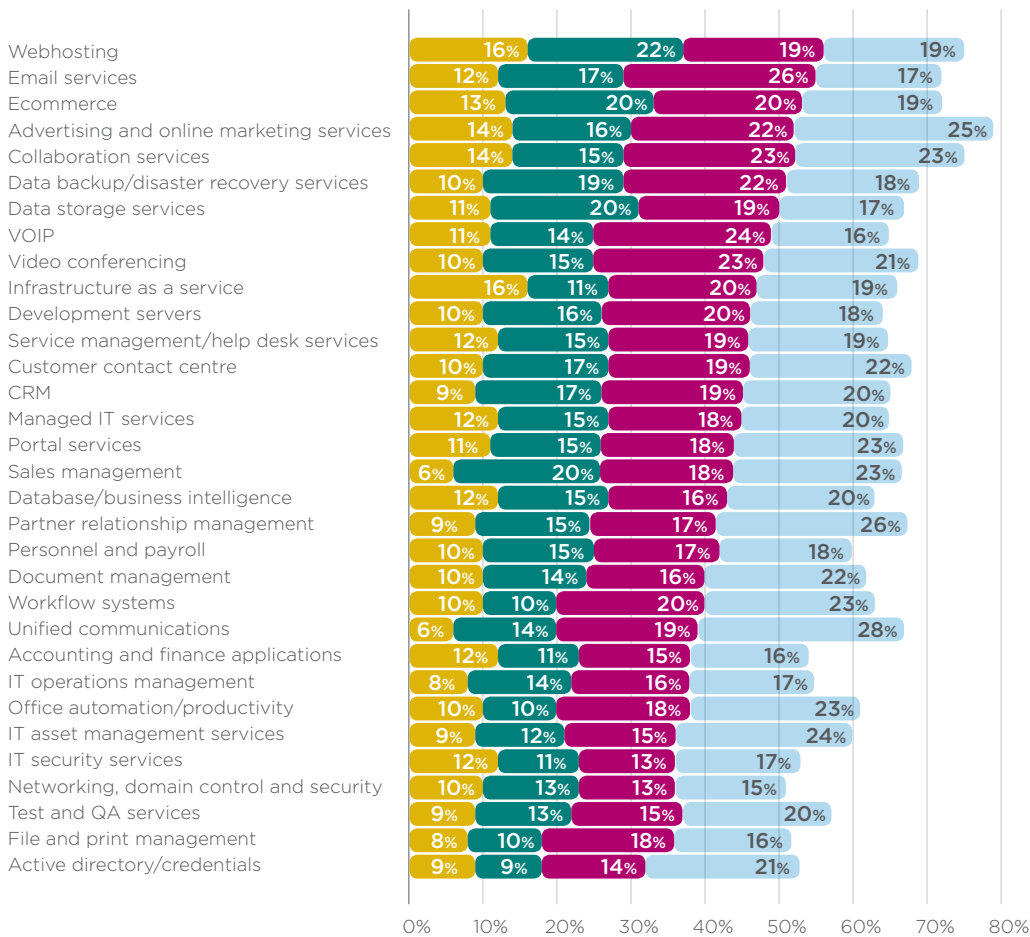ud-based Unified Communications services expect to do so in future and 26% plan to migrate to Cloud-based Partner Relationship Management platforms.

Do you use hosted or Cloud-based services for the following applications?

Application	Yes, >3 years ago	Yes, within last 3 years	Yes, within last 12 months	Use on-premise & plan future
Webhosting	16%	22%	19%	19%
Email services	12%	17%	26%	17%
Ecommerce	13%	20%	20%	19%
Advertising and online marketing services	14%	16%	22%	25%
Collaboration services	14%	15%	23%	23%
Data backup/disaster recovery services	10%	19%	22%	18%
Data storage services	11%	20%	19%	17%
VOIP	11%	14%	24%	16%
Video conferencing	10%	15%	23%	21%
Infrastructure as a service	16%	11%	20%	19%
Development servers	10%	16%	20%	18%
Service management/help desk services	12%	15%	19%	19%
Customer contact centre	10%	17%	19%	22%
CRM	9%	17%	19%	20%
Managed IT services	12%	15%	18%	20%
Portal services	11%	15%	18%	23%
Sales management	6%	20%	18%	23%
Database/business intelligence	12%	15%	16%	20%
Partner relationship management	9%	15%	17%	26%
Personnel and payroll	10%	15%	17%	18%
Document management	10%	14%	16%	22%
Workflow systems	10%	10%	20%	23%
Unified communications	6%	14%	19%	28%
Accounting and finance applications	12%	11%	15%	16%
IT operations management	8%	14%	16%	17%
Office automation/productivity	10%	10%	18%	23%
IT asset management services	9%	12%	15%	24%
IT security services	12%	11%	13%	17%
Networking, domain control and security	10%	13%	13%	15%
Test and QA services	9%	13%	15%	20%
File and print management	8%	10%	18%	16%
Active directory/credentials	9%	9%	14%	21%

0% 10% 20% 30% 40% 50% 60% 70% 80%

Looking at specific applications, much like previous years, webhosting, email and ecommerce and collaboration services are the applications most likely to be Cloud-based

YES, BEGAN USING HOSTED OR CLOUD-BASED SERVICES FOR THIS TYPE OF APPLICATION MORE THAN 3 YEARS AGO

YES, BEGAN USING HOSTED OR CLOUD-BASED SERVICES FOR THIS TYPE OF APPLICATION WITHIN THE LAST 3 YEARS

YES, BEGAN USING HOSTED OR CLOUD-BASED SERVICES FOR THIS TYPE OF APPLICATION WITHIN THE LAST 12 MONTHS

WE USE THIS APPLICATION ON-PREMISE & PLAN HOSTED OR CLOUD-BASED SERVICES IN THE FUTURE

CLOUD INDUSTRY FORUM®

The IT landscape appears to be shifting slowly as businesses become more open to receiving IT as-a-service and arrive at their natural technology refresh cycles. The proportion of organisations operating on-site servers/data centres has dropped from 85% in 2014 to 76% today. This change could be attributed to the increase in those organisations that consider infrastructure refresh to be an opportunity to adopt alternative deployment models such as Cloud, which has risen to 85% from 71% a year ago.

The proportion of organisations operating on-site servers/data centres has dropped from 85% in 2014 to 76% today

Does your company operate on-site servers/an on-site data centre?

YES NO

24%
76%
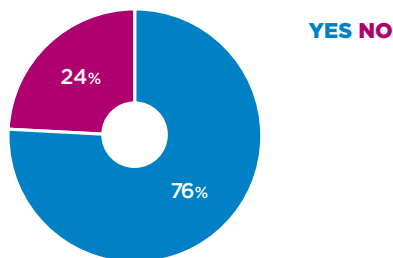
Do you consider infrastructure refresh to be an opportunity to adopt alternative deployment models such as Cloud IaaS/SaaS or third party hosting?

YES NO

15%
85%
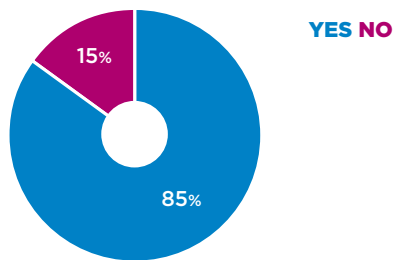
Do you predominantly run IT internally or use a third party service provider to deliver your IT services?

INTERNALLY
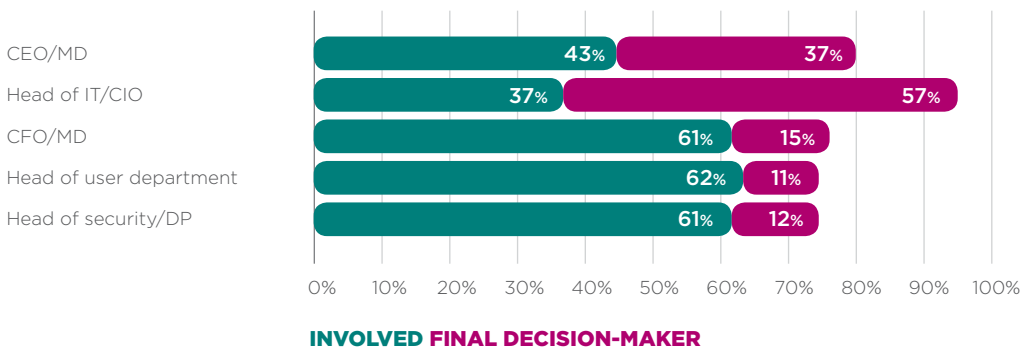**THIRD PARTY SERVICE PROVIDER**

26%
74%
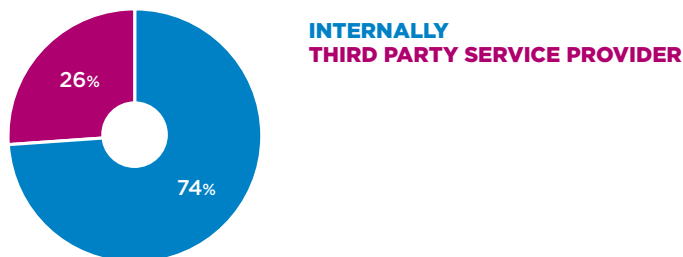
The adoption process

The driving force behind the move to Cloud is, in more cases than not, the head of IT/CIO, who was involved in the decision-making process to migrate in 94% of cases and was the final decision-maker in over half (57%) of migrations. However, a wide range of stakeholders are involved in the decision-making process to some extent and the figures suggest that CEOs and department heads are taking an active role in IT procurement decisions.

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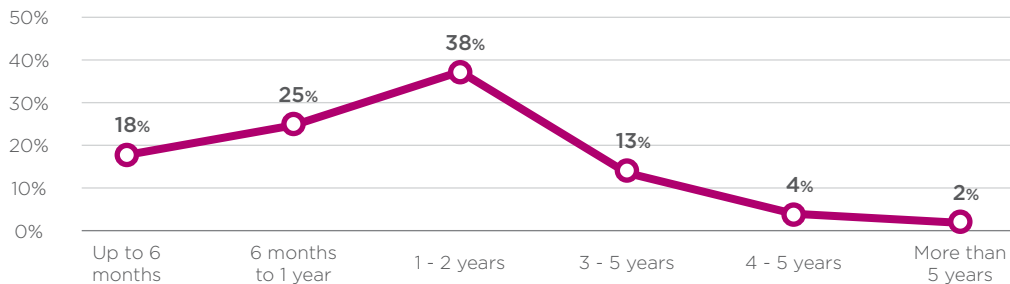
Who was involved, and to what extent, in the decision-making process to move to the Cloud?

	INVOLVED	FINAL DECISION-MAKER
CEO/MD	43%	37%
Head of IT/CIO	37%	57%
CFO/MD	61%	15%
Head of user department	62%	11%
Head of security/DP	61%	12%

Once the decision to move to Cloud has been made, the migration to it can be long, challenging and require further investment. While Software-as-a-Service projects are relatively fast and straightforward, more heavy duty infrastructure projects can take significantly longer. Looking at the data, one in five (19%) Cloud projects took over three years to finish and the average migration takes 19 months. Perhaps unsurprisingly, the bigger the business, the longer the migration. The average migration took 22 months for organisations with more than 200 employees, compared to around 17 months for those with fewer.

A significant proportion of Cloud users were required to make additional investments to support their Cloud-based applications; over half (54%) were required to invest in additional hardware and a similar proportion (47%) were required to invest in software.

## How long did it take to migrate, or how long do you expect it to take?

Up to 6 months	6 months to 1 year	1 - 2 years	3 - 5 years	4 - 5 years	More than 5 years
18%	25%	38%	13%	4%	2%

Did you invest in any additional software or hardware in order to migrate your applications to the Cloud?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Software investment was required	**15%**	15%	17%	14%
Hardware investment was required	**22%**	37%	21%	19%
Both software & hardware investment required	**32%**	22%	21%	43%
Neither of the above was required	**31%**	26%	41%	25%

In spite of the timeframes and investments involved, organisations are largely happy with their chosen methods of migration; just 5% reported being unsatisfied with their migrations and over half (51%) described in as either fairly easy or extremely easy.

How satisfactory has your chosen method for migrating to the Cloud been?

1% 4%
18%
32%
46%

1: Completely unsatisfactory
2: Somewhat unsatisfactory
3: Neutral
4: Somewhat satisfactory
5: Completely satisfactory

Organisations are largely happy with their chosen methods of migration; just 5% reported being unsatisfied with their migrations and over half (51%) described in as either fairly easy or extremely easy
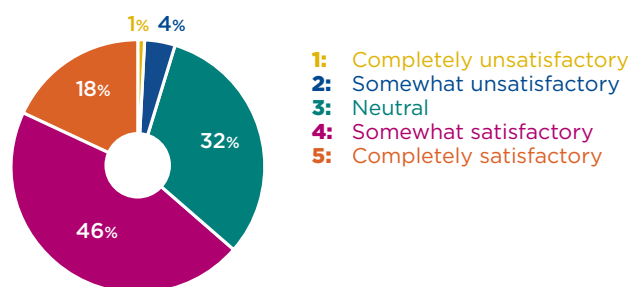
How easy has the migration process been?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Extremely easy	**6%**	6%	7%	4%
Fairly easy	**45%**	45%	42%	43%
Neither easy nor difficult	**29%**	29%	30%	29%
Fairly difficult	**19%**	19%	20%	22%
Extremely difficult	**2%**	2%	1%	2%

Many organisations do, however, encounter difficulties when moving to Cloud services; 41% experienced difficulties relating to dependency on internet access, 36% found their migrations overly complex, and data sovereignty was difficult for a third of respondents (34%). These difficulties were not trivial and led, in 37% of cases, to delays in product/service development, lost employee productivity (30%) and revenue losses (19%).

That dependency on the internet has been highlighted as a difficulty for two in five Cloud users is significant. While the Government has repeatedly pledged to fast-track the roll-out of superfast broadband, many businesses still struggle to access the bandwidth they need, limiting their ability to access new technologies such as Cloud.

While the Government has repeatedly pledged to fast-track the roll-out of superfast broadband, many businesses still struggle to access the bandwidth they need

Which, if any, of the following difficulties did you experience when migrating to a Cloud solution?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Dependency on internet access	41%	41%	51%	33%
Complexity of migration	36%	44%	31%	36%
Data sovereignty concerns	34%	44%	28%	35%
Vendor lock in	26%	26%	21%	29%
Contractual issues such as liability	22%	19%	21%	24%
Took longer than we estimated or were quoted	22%	15%	17%	27%
Lack of advice from within the company to adopt	19%	22%	24%	14%
Confidence in the clarity of charges	18%	22%	17%	18%
Lack of business case to need Cloud services	18%	26%	21%	13%
Cost was higher than estimated or were quoted	17%	15%	20%	16%
Lack of confidence in vendor	12%	15%	8%	14%
We did not experience any difficulties	10%	0%	13%	10%

What was the business impact of these difficulties?

|	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Delay in product/service development	37%	30%	34%	41%
Loss of employee productivity	30%	33%	35%	26%
Loss of revenue	19%	37%	16%	16%
Loss of customer confidence/loyalty	18%	26%	18%	15%
Delay in getting products/services to market	16%	11%	11%	21%
Loss of repeat business	15%	26%	11%	14%
Loss of customers	14%	22%	15%	10%
Loss of new business	9%	30%	3%	7%
These difficulties had no impact	27%	26%	29%	27%

Impact on the IT department

Cloud services are having a direct and profound impact on the way that the IT department operates, the type of work that it engages in and its relationship with the rest of the organisation.

Rather than eclipsing the IT function, as is often thought to be the case, the research demonstrates that the majority of IT departments remain very much in control; 69% of Cloud users state that their adoptions are led by the IT department as part of their strategy, and 80% include consideration for Cloud services within their wider IT strategies.

Rather than eclipsing the IT function, as is often thought to be the case, the research demonstrates that the majority of IT departments remain very much in control

Is Cloud adoption driven within your business principally by the IT function as a technological strategy, or by the business on an operational needs basis?
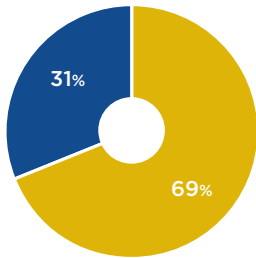
BY THE IT FUNCTION AS A TECHNOLOGICAL STRATEGY
BY THE BUSINESS ON AN OPERATIONAL NEEDS BASIS

31%
69%

Does your company include consideration for Cloud services within its wider IT strategy?

YES NO

20%
80%
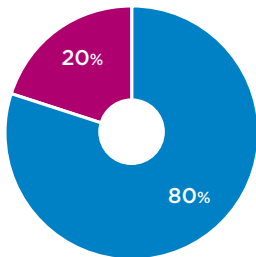
Free from the burden of server and infrastructure management, many IT teams can devote their efforts to more strategically important work that can add value to their organisations. In over half of cases, the IT department has been able to focus on new priorities and in a third, the team has seen their maintenance workload reduced, now spending less time on troubleshooting and more time on strategy and value-added activities.

What impact has Cloud migration had on the structure of the IT department in your organisation?

|	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Team has been maintained but focused on new priorities	**55%**	48%	52%	58%
Team has remained unchanged but workload for maintenance reduced	**34%**	37%	41%	28%
It has encouraged self-service purchasing of IT by people/departments outside of the IT department	**26%**	41%	21%	26%
Team has been reduced in size	**21%**	30%	23%	18%
New practices implemented to monitor and manage IT end to end in a distributed environment	**15%**	15%	10%	19%
Cloud migration has not had an impact on the structure of our IT department	**11%**	11%	13%	9%

Has your role changed with the adoption of Cloud-based solutions in your organisation?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Less time spent on general server management	**38%**	48%	44%	30%
Less time spent troubleshooting server issues	**36%**	41%	42%	29%
Less time spent troubleshooting app issues	**32%**	30%	35%	30%
More time spent planning strategy/activity	**27%**	56%	25%	20%
More time spent on value-added activities	**25%**	26%	30%	22%
More time spent talking to vendors	**9%**	4%	11%	8%
No change with adoption of Cloud-based solutions	**26%**	11%	20%	35%

2. Drivers and benefits of Cloud adoption

Operational cost savings are necessarily important for IT decision-makers, who continually work to do more with less, but it is clear that organisations are more likely to turn to Cloud services for their ability to fuel and support business transformation than they are to save money. The most commonly-cited reason for initially moving to Cloud services is the flexibility of the delivery model, selected by 77% of respondents, followed closely by Cloud's scalability and organisations' 24/7 service dependencies.

Which of these were reasons for initially adopting hosted or Cloud-based services?

THIS WAS A REASON **THIS WAS THE PRIMARY REASON**
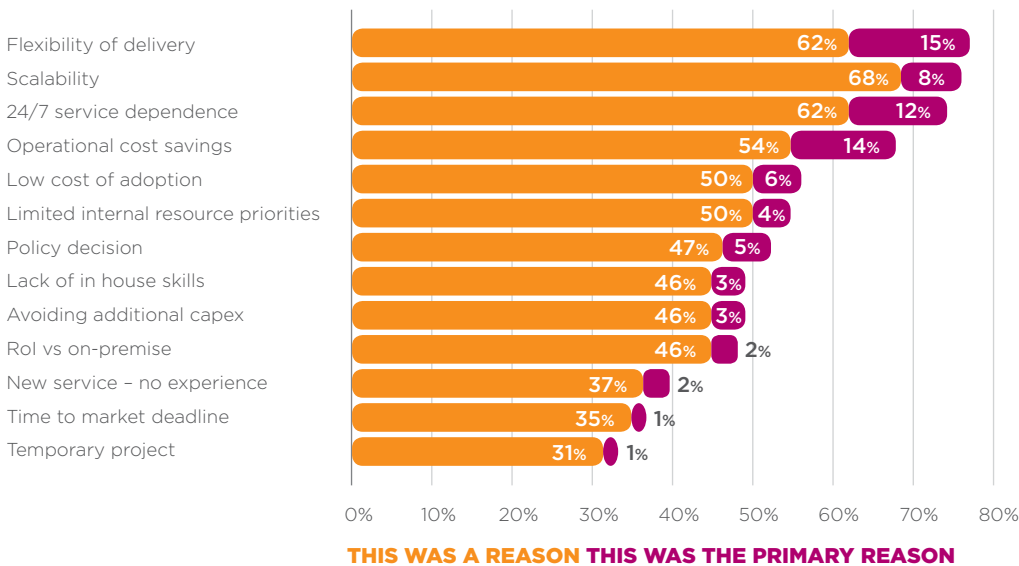
In a similar vein, the innovation agenda is creeping up Cloud users' and would be users' objectives for using Cloud services. Almost half (45%) stated that enabling innovation was a business objective driving their businesses' investment in Cloud, up from 29% in March 2015. The next most popular drivers came out as enhancing business continuity (selected by 37% of respondents), and improving customer support/service (31%).

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Which of the following business objectives have or are driving investment initiatives in Cloud within your organisation?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Enabling innovation	**45%**	42%	46%	46%
Enhancing business continuity	**37%**	46%	38%	32%
Improving customer support/service	**31%**	38%	30%	29%
Lower total cost of ownership	**30%**	30%	29%	31%
Flexibility to react, changing market conditions	**28%**	32%	28%	27%
Replacing legacy IT technologies	**28%**	22%	27%	33%
Development of new product or services	**27%**	32%	21%	30%
Gaining competitive advantage	**24%**	24%	21%	27%
Enhanced data analytics	**23%**	36%	12%	28%
Capex savings	**23%**	10%	16%	35%
Improved return on investment	**20%**	22%	19%	20%
Speed of deployment	**15%**	6%	15%	20%
New revenue generation opportunities	**10%**	16%	14%	3%

Cloud projects are, by any measure, very successful. 91% of Cloud users are satisfied with their use of Cloud services and businesses are on the whole meeting their desired objectives, albeit sometimes with difficulty; 88% have successfully increased the flexibility of their access to technology, while around four in five have improved IT service levels and the reliability of their IT.

It is worth noting here that 41% of Cloud users report not having met their objective of improving their cash flow making it the objective least likely to be achieved.

88% have successfully increased the flexibility of their access to technology, while around four in five have improved IT service levels and the reliability of their IT
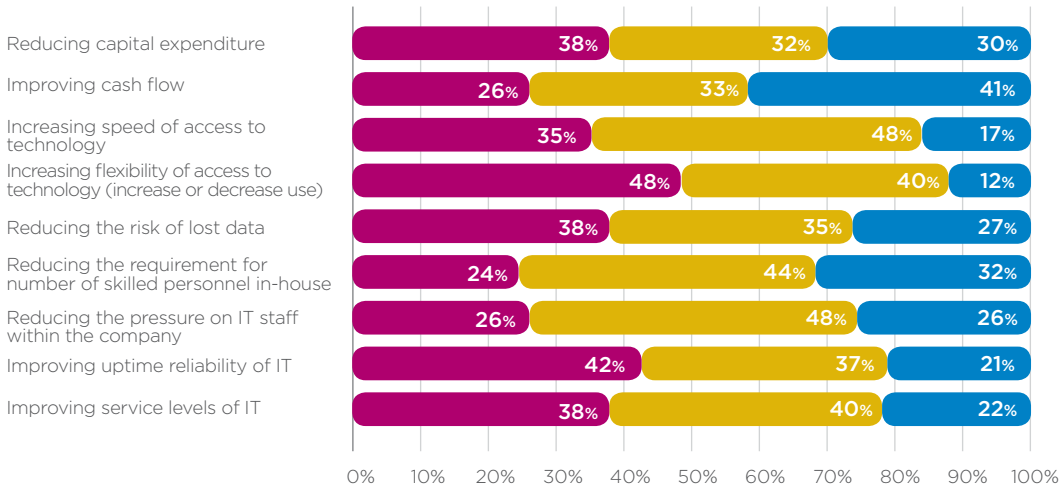
Have you been satisfied with the results of your use of hosted or Cloud-based services?

YES NO

9%

91%

CLOUD INDUSTRY FORUM®
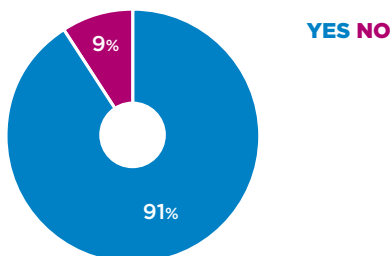
Which of the following business objectives were achieved when migrating to the Cloud?

Objective	Achieved without difficulty	Achieved with difficulty	Not achieved
Reducing capital expenditure	38%	32%	30%
Improving cash flow	26%	33%	41%
Increasing speed of access to technology	35%	48%	17%
Increasing flexibility of access to technology (increase or decrease use)	48%	40%	12%
Reducing the risk of lost data	38%	35%	27%
Reducing the requirement for number of skilled personnel in-house	24%	44%	32%
Reducing the pressure on IT staff within the company	26%	48%	26%
Improving uptime reliability of IT	42%	37%	21%
Improving service levels of IT	38%	40%	22%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

THIS WAS AN OBJECTIVE, & ONE WE HAVE ACHIEVED WITHOUT DIFFICULTY

THIS WAS AN OBJECTIVE, & ONE WE HAVE ACHIEVED BUT WITH DIFFICULTY

THIS WAS AN OBJECTIVE, BUT NOT ONE WE HAVE ACHIEVED

These factors are, in turn, translating into tangible competitive advantage for businesses – 63% of Cloud users report having already achieved a competitive advantage as a direct result of their Cloud adoptions, and a further 20% expect one to materialise in future.

63% of Cloud users report having already achieved a competitive advantage as a direct result of their Cloud adoptions, and a further 20% expect one to materialise in future

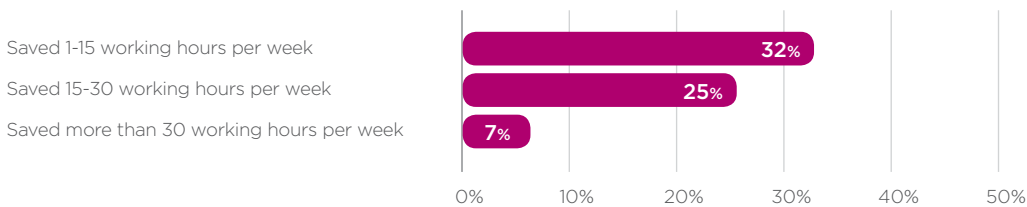## Has utilising Cloud services given your organisation a competitive advantage?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Yes, a significant advantage	**13%**	11%	15%	11%
Yes, some advantage	**51%**	67%	46%	49%
No advantage yet, but anticipating to see one	**20%**	19%	20%	20%
No advantage and not anticipating one	**17%**	4%	18%	20%

Cloud users widely report savings of time and money. Some 73% of organisations that use Cloud service report having made cost savings, saving on average 14% each. This figure is expected to increase to 24% in five years' time. Similarly, two thirds (64%) of Cloud users say that migrating to the Cloud has saved their organisation's IT departments time, each, on average, saving 10 work hours every week.

What cost savings are you experiencing from your organisation's use of Cloud services?

	Nothing	Less than 10%	10%-20%	20%-35%	35%-50%	More than 50%
Currently saving	27%	25%	25%	13%	6%	4%
Savings in the next 12 months	21%	26%	23%	18%	7%	5%
Savings in the next 2 years	19%	18%	27%	21%	10%	6%
Savings in the next 5 years	19%	14%	17%	24%	17%	10%

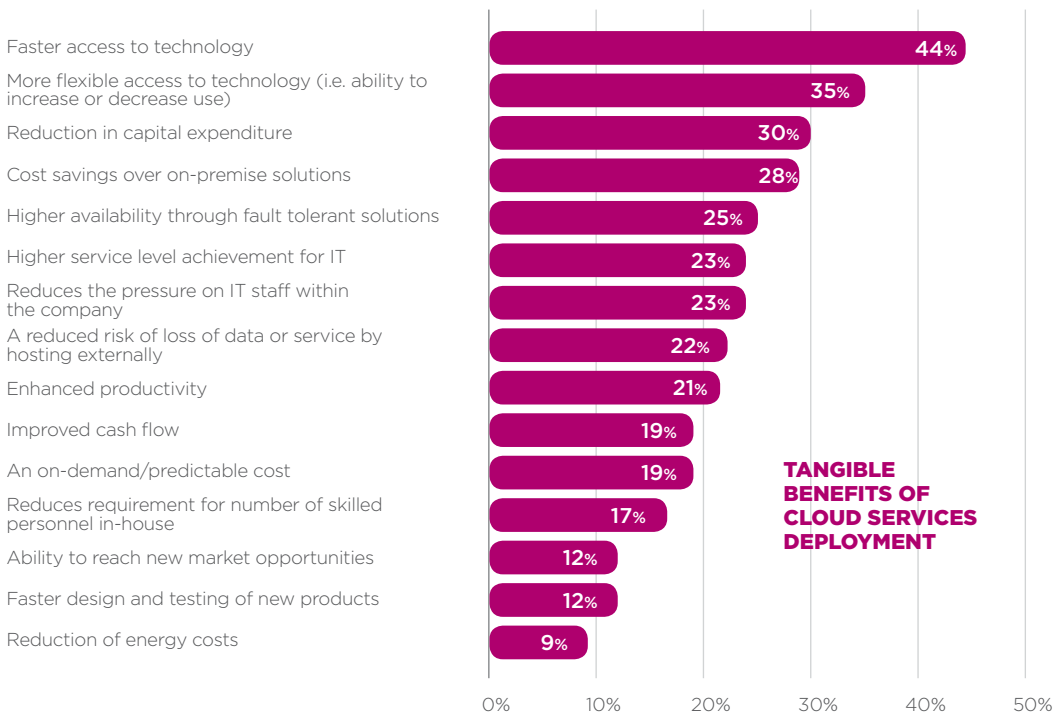## *How much time has migrating your IT systems saved, or cost, your organisation each week, on average, once the migration was completed?*

Saved 1-15 working hours per week — **32%**
Saved 15-30 working hours per week — **25%**
Saved more than 30 working hours per week — **7%**
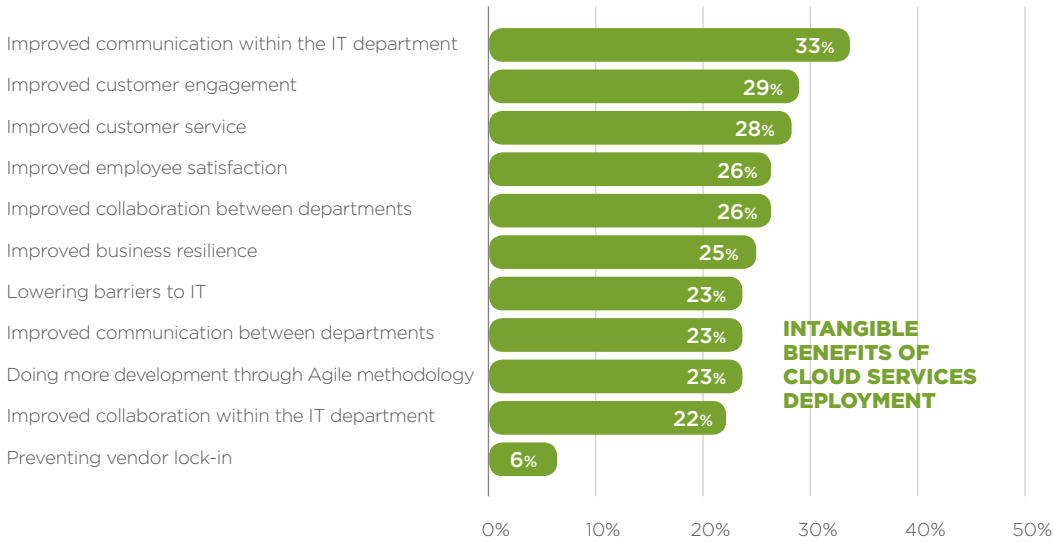
0% 10% 20% 30% 40% 50%

Faster and more flexible access to technology and a reduction in capital expenditure are some of the most likely tangible benefits to be experienced by Cloud users, but arguably it is the intangible benefits that Cloud is bringing to businesses that are more interesting. Some 86% of respondents reported experiencing intangible benefits of some kind from their use of Cloud services, with improved communication within the IT department, customer engagement and employee satisfaction some of the biggest beneficiaries. This is fundamental to a successful Cloud implementation considering a Digital Transformation strategy and looking beyond pure technical return on investment.

Which of the following tangible benefits of Cloud services deployment has your organisation achieved?

Respondents reported experiencing intangible benefits of some kind from their use of Cloud services, with improved communication within the IT department, customer engagement and employee satisfaction being some of the biggest beneficiaries

Benefit	%
Faster access to technology	44%
More flexible access to technology (i.e. ability to increase or decrease use)	35%
Reduction in capital expenditure	30%
Cost savings over on-premise solutions	28%
Higher availability through fault tolerant solutions	25%
Higher service level achievement for IT	23%
Reduces the pressure on IT staff within the company	23%
A reduced risk of loss of data or service by hosting externally	22%
Enhanced productivity	21%
Improved cash flow	19%
An on-demand/predictable cost	19%
Reduces requirement for number of skilled personnel in-house	17%
Ability to reach new market opportunities	12%
Faster design and testing of new products	12%
Reduction of energy costs	9%

TANGIBLE BENEFITS OF CLOUD SERVICES DEPLOYMENT

Which of the following intangible benefits of Cloud services deployment has your organisation experienced?

Benefit	Percentage
Improved communication within the IT department	33%
Improved customer engagement	29%
Improved customer service	28%
Improved employee satisfaction	26%
Improved collaboration between departments	26%
Improved business resilience	25%
Lowering barriers to IT	23%
Improved communication between departments	23%
Doing more development through Agile methodology	23%
Improved collaboration within the IT department	22%
Preventing vendor lock-in	6%

INTANGIBLE BENEFITS OF CLOUD SERVICES DEPLOYMENT

0%   10%   20%   30%   40%   50%

3. Digital Transformation

Although becoming increasingly common business language, today, just 16% of organisations have a Digital Transformation strategy in place. It is, however, clear that interest in such roadmaps is increasing; in two years' time, 72% of organisations expect to have implemented a Digital Transformation strategy. Interestingly, the public sector seems to be more attuned to this agenda than the private sector; just 22% of public sector organisations do not intend to develop a Digital Transformation strategy, compared to 29% of private.

Does your organisation have a Digital Transformation strategy?

YES we have a Digital Transformation strategy in place
YES we are implementing our Digital Transformation strategy
NO but we intend to have one in the next 12 months
NO but we intend to have one in the next 24 months
NO and we do not intend to have one in the near future

The head of IT/CIO is the most likely to be the driving force behind Digital Transformation within an organisation, and by some margin. The next most likely is the CEO/MD in 18% of cases, followed by the CFO/head of finance.

Who is most keen for your organisation to implement or continue its Digital Transformation strategy?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Head of IT/CIO	**60%**	47%	62%	65%
CEO/MD	**18%**	16%	23%	16%
CFO/MD	**11%**	23%	8%	7%
Head of security/DP	**3%**	9%	0%	2%
This is still to be decided	**8%**	5%	8%	9%

Perhaps unsurprisingly given the leading role played by IT leaders in this field, the better use of technology stands at the forefront of businesses' minds when devising their Digital Transformation strategies. A significant minority will, however, be using the strategy for more advanced purposes. Six in ten (59%) organisations that currently have or are in the process of implementing a Digital Transformation strategy say that it is designed to steer the use of technology over the next decade and over half (53%) also report that a key objective is to make better use of technology within the company. Around four in ten (43%) report that the intention is to achieve better use of data and analytics, and three in ten (30%) report it is to improve innovation abilities.

Around four in ten (43%) report that the intention is to achieve better use of data and analytics, and three in ten (30%) report it is to improve innovation abilities

What are the key objectives for your organisation's Digital Transformation strategy?

	Total	Fewer than 21 employees	21-200 employees	More than 200 employees
Steer how our organisation should be using technology over the next ten years	59%	65%	54%	59%
Make better use of technology in our company	53%	47%	50%	58%
Continue to evolve and improve our business agility using digital tools to support this outcome	45%	58%	42%	41%
Achieve better use of data and analytics	43%	51%	37%	42%
Attract younger employees to ensure best skill-sets making the most of future technologies	34%	37%	40%	29%
Improve our ability to innovate	30%	21%	25%	37%
This is still to be decided	4%	0%	6%	5%

It is also clear from our research that Digital Transformation strategies serve to directly enhance the effectiveness of Cloud implementations in their own right

Plainly, the effectiveness of said strategies will depend on their clarity, but it is apparent that there is room for improvement in this regard. Only a quarter of all respondents – and only 12% of the smallest organisations in the sample – report that their Digital Transformation strategies are completely clear.
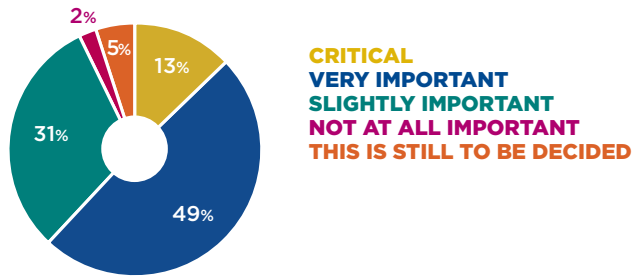
How clear is your organisation's Digital Transformation strategy?

COMPLETELY CLEAR
FAIRLY CLEAR
FAIRLY UNCLEAR
COMPLETELY UNCLEAR
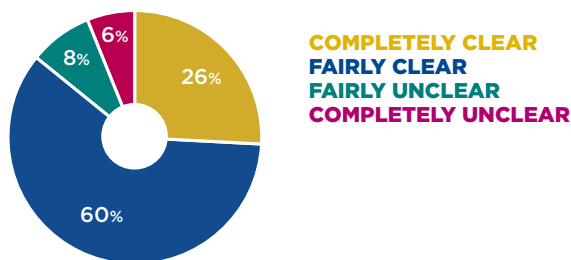
Cloud computing and Digital Transformation go hand-in-hand. Cloud services, which effectively offer unlimited and dynamic compute resources, form the foundation of Digital Transformation and can facilitate rapid business change. But it is also clear from our research that Digital Transformation strategies serve to directly enhance the effectiveness of Cloud implementations in their own right.

13% of organisations that have implemented, or are planning on implementing a Digital Transformation strategy, say that Cloud is critical to it, and a further 49% say that Cloud is very important. The proportion that believe Cloud to be critically important to Digital Transformation climbs to 29% when we look at only those organisations that have implemented a Digital Transformation strategy. This suggests that the importance of Cloud becomes more apparent once an organisation has rolled out a Digital Transformation strategy.
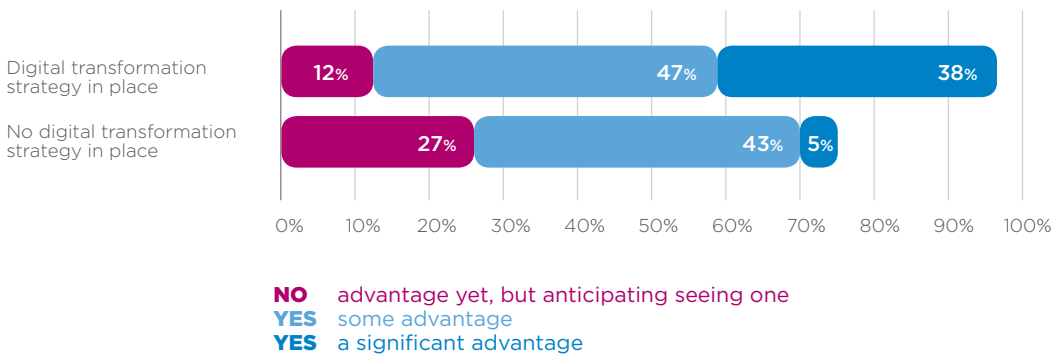
To what extent is Cloud important to your organisation's Digital Transformation strategy?

2%
5%
13%
31%
49%

CRITICAL
VERY IMPORTANT
SLIGHTLY IMPORTANT
NOT AT ALL IMPORTANT
THIS IS STILL TO BE DECIDED

Implementing a Digital Transformation strategy benefits Cloud users, and those that have are statistically more likely to report experiencing greater benefits from their Cloud deployments

Implementing a Digital Transformation strategy benefits Cloud users, and those that have are statistically more likely to report experiencing greater benefits from their Cloud deployments. 38% of respondents in organisations using Cloud and that have a Digital Transformation strategy say that Cloud has given their organisations a significant competitive advantage. This figure is significantly higher than the number that do not have a Digital Transformation strategy reporting the same (5%).

Has utilising Cloud services given your organisation a competitive advantage?

Digital transformation strategy in place
12% 47% 38%

No digital transformation strategy in place
27% 43% 5%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

NO advantage yet, but anticipating seeing one
YES some advantage
YES a significant advantage

The cost savings of Cloud users also increases if the organisation has implemented a digital strategy (26% average savings) compared to those who have not implemented a Digital Transformation strategy (9% average savings). In addition, respondents whose organisation already has a Digital Transformation strategy in place report, on average, more benefits (3.3 intangible benefits and 4 tangible benefits) than those without a strategy.

This supports the view that the combination of cloud services and a Digital Transformation strategy is more beneficial to an organisation than using only one of these elements.

4. Cloud inhibitors and concerns

Security dominates the discussion about Cloud, and given the severity and frequency of data breaches experienced by organisations in the current climate, it is understandable and indeed advisable that businesses are concerned about the security of their data. However, our research suggests that Cloud is more likely to be the solution to the security problem than the cause.

Cloud computing is one of many IT delivery models available to organisations to use today and is, in principle, perfectly safe to use, or certainly as safe as running IT on-premises via a business' own servers. In fact, most organisations, in particular SMEs who perhaps have limited full-time IT resources, could not afford the level of security that a professional Cloud Service Provider (CSP) can deliver around the clock, suggesting a Cloud service may in fact be more secure.

But as with any IT delivery model, it's important that security risks are understood and that appropriate commercial judgment is used to assess and mitigate risks on an ongoing basis through policy, training, process and tools.

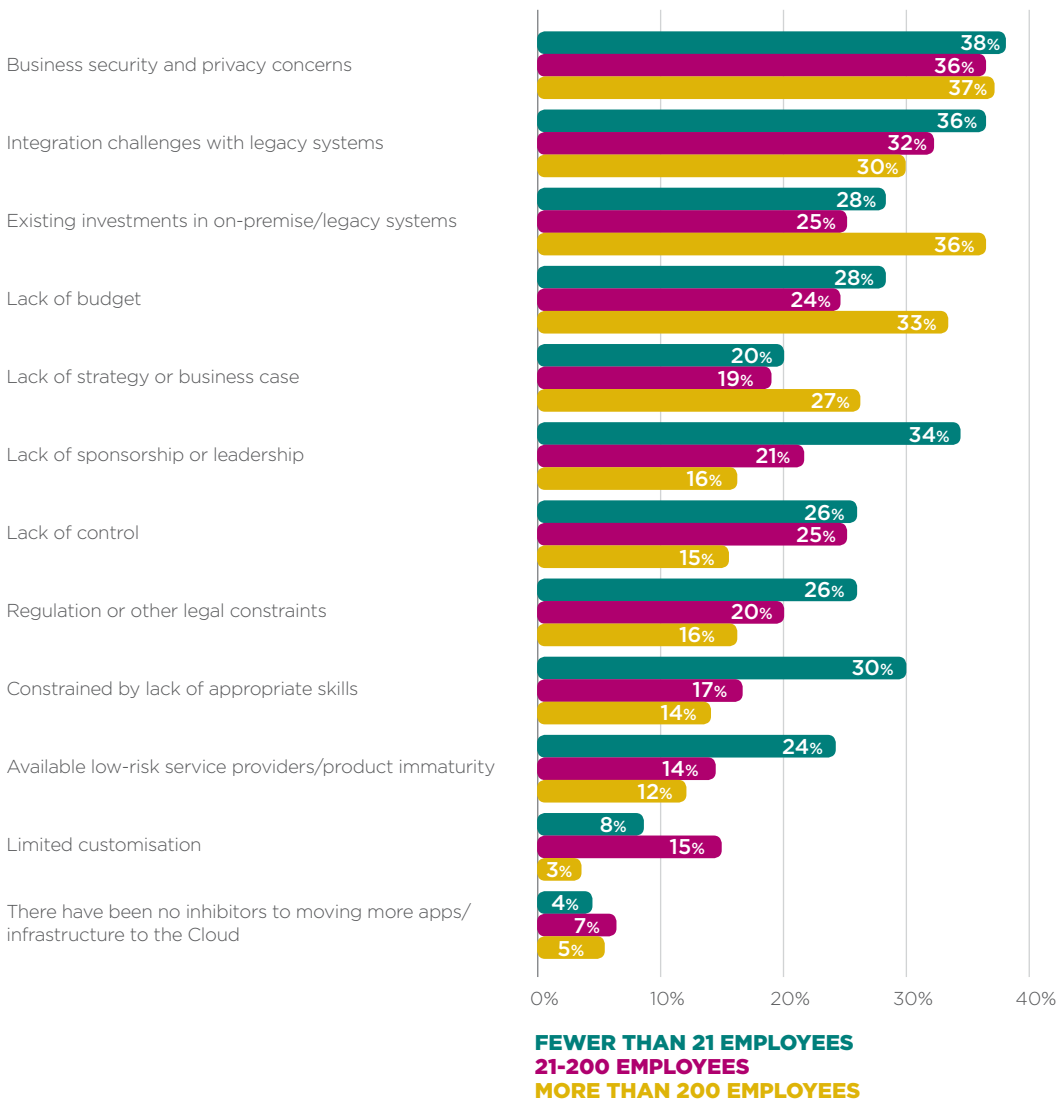Security is regularly cited by businesses as an objection to Cloud, so it should come as little surprise that it has topped the list of end users' concerns in this body of research; 61% of the entire sample stated that security was a significant concern about the adoption of Cloud services within their organisations. This was followed by data privacy, selected by 54% of respondents, and data sovereignty (31%).

Security is regularly cited by businesses as an objection to Cloud, so it should come as little surprise that it has topped the list of end users' concerns

What are your most significant concerns, if any, about the adoption of Cloud services in your business?

	2014	Q4 2015
Business security and privacy concerns	31%	37%
Integration challenges with legacy systems	27%	32%
Existing investments on-premise/legacy systems	34%	30%
Lack of budget	37%	28%
Lack of strategy or business case	19%	22%
Lack of sponsorship or leadership	16%	22%
Lack of control	17%	21%
Regulation or other legal constraints	16%	20%
Constrained by lack of appropriate skills	14%	18%
Available low-risk service providers/product immaturity	12%	15%
Limited customisation	10%	9%
Other (please specify)	3%	1%
No problems moving apps/infrastructure to the Cloud	6%	6%

Business security and privacy concerns are most likely to be reported as an inhibitor to moving more applications to the Cloud (37% up from 31% in 2014). The number reporting integration challenges as an inhibitor has also increased, but existing investments and lack of budget are less likely to be reported as inhibitors. This suggests that over the past year there has been a shift in the issues most likely to concern IT decision makers, moving from financial issues to security, integration and skills concerns.

While organisations of all sizes report many of the same inhibitors, there are some clear differences. The smallest businesses in the sample were significantly more likely to report being constrained by internal skill sets and they are also more likely to report a lack of leadership. The focus in this area of the market should be on training and reskilling to ensure that small businesses are able to take advantage of what Cloud has to offer.

What have been the biggest inhibitors to moving more apps and/or infrastructure to the Cloud?

Inhibitor	Fewer than 21 employees	21-200 employees	More than 200 employees
Business security and privacy concerns	38%	36%	37%
Integration challenges with legacy systems	36%	32%	30%
Existing investments in on-premise/legacy systems	28%	25%	36%
Lack of budget	28%	24%	33%
Lack of strategy or business case	20%	19%	27%
Lack of sponsorship or leadership	34%	21%	16%
Lack of control	26%	25%	15%
Regulation or other legal constraints	26%	20%	16%
Constrained by lack of appropriate skills	30%	17%	14%
Available low-risk service providers/product immaturity	24%	14%	12%
Limited customisation	8%	15%	3%
There have been no inhibitors to moving more apps/infrastructure to the Cloud	4%	7%	5%

FEWER THAN 21 EMPLOYEES
21-200 EMPLOYEES
MORE THAN 200 EMPLOYEES

However, in spite of reported security concerns, just 2% of organisations report having experienced a Cloud service-related security breach. This confirms our belief that concerns about Cloud security are more likely to be fuelled by misconception, fear, uncertainty and doubt, than a legitimate or inherent threat.

Have you ever experienced any breach of security when using a Cloud service?

YES NO

2%

98%
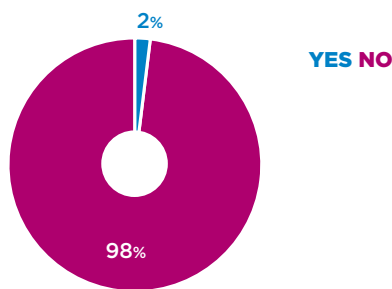
Security is not a fixed outcome: it is dynamic and a variety of security breaches can impact any business which does not take appropriate precautions against risks from the penetration of viruses and malware such as keyloggers, to attempts to deny service availability. In other words, a business is no more likely to suffer a security breach with a Cloud service as with its own servers.

Professional CSPs should be aware of the risks and will have appropriate countermeasures put in place should an attack be launched against their business. You shouldn't be afraid of asking prospective CSPs tough questions about how your data will be kept secure. For example, what mechanisms does the CSP operate in regard to access control, data storage, and data in transit to ensure compliance with data protection as well as offer effective security and sovereignty?

Opting to work with a CSP that has signed up to a relevant code of conduct, such as that operated by the Cloud Industry Forum, can add comfort on these issues and ensure that the CSP operates in a trustworthy and accountable way. CIF continues to operate the only certified Code of Practice for Cloud Service Providers, and this has now been formally recognised by the European Union Agency for Network and Information Security (ENISA). The CIF Code of Practice exists as an independent benchmark of best practice and key credentials that credible CSPs should be able to measure up to and be able to provide sufficient assurance about their transparency, capability and accountability of their offering to the market.

Do you see value in working with CSPs who sign up publicly to an industry code of practice that is independently audited over those that have no public accountability?

YES NO

45%

55%
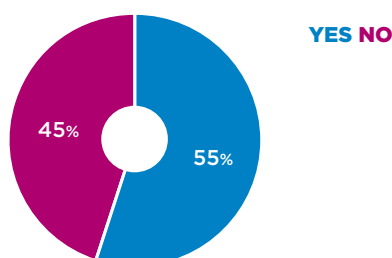
Conclusion

The way in which forward-thinking organisations transact today has fundamentally changed, as businesses of all sizes have come to embrace digital technologies as a means to disrupt industries and secure competitive advantage. The imperatives for change are many, but chief among them are the mounting demands of consumers and the increasingly blurred line between our personal and professional lives; customers, both internal and external, want to be able to access information in real time and staff expect the same functionality of their business applications as they experience in their private lives. But the data suggests that the Digital Transformation of UK businesses is still relatively immature and too many organisations are only just scratching the surface. While a high proportion of businesses have Digital Transformation in their sights, work is needed if they are to reach their digital potential.

Cloud computing is the agent of this digital disruption, and it is clear from this research that there are significant benefits to be had by businesses that pursue both Digital Transformation and Cloud strategies in tandem. The benefits of Cloud and adopting a Cloud-first approach are considerable and, indeed, well documented. Flexible, on-demand, consumption-based Cloud services and applications are removing the barriers to change, allowing businesses to react quickly to changing market conditions, move on new opportunities faster than their competitors – without having to invest heavily in IT infrastructure and skills. Cloud removes – or at least lessens – the risks.

It is worth stating that the move to Cloud is, often by necessity, evolutionary, not revolutionary. We have seen that while the vast majority of organisations are using Cloud to some extent, data is still more likely to be located on-premise than it is in the Cloud. Encouragingly, there are strong indications that that will change in the not-too-distant future; three quarters of Cloud users expect to increase their usage over the next year and over six in ten organisations can foresee a time when they will migrate everything to the Cloud, representing a significant shift from this time last year.

There are, however, a wide range of barriers, be they perceived or otherwise, that must be overcome for businesses to make the wholesale move to Cloud. Security is a persistent worry, as too are data privacy, data sovereignty and a lack of available internet bandwidth. At an organisational level other more practical issues often need to be navigated; existing investments in legacy systems slow the pace of adoption, SMEs in particular lack leadership internally, while one in five organisations are constrained by a lack of appropriate skills. Addressing these barriers must now be a priority.

The Cloud Industry Forum calls upon UK business and technology leaders to consider how they support their staff and their businesses by ensuring access to the necessary training and skills development. 43% of businesses are facing a very real challenge to their growth because of a lack of access to talent and this is also hampering the pace of Cloud adoption which has clear and significant benefits to UK business and its global position.

A high proportion of businesses have Digital Transformation in their sights, work is needed if they are to reach their digital potential

The Cloud Industry Forum (CIF) was established in direct response to the evolving supply models for the delivery of software and IT services. Our aim is to provide much needed clarity for end users when assessing and selecting Cloud service providers based upon the clear, consistent and relevant provision of key information about the organisation/s, their capabilities and operational commitments.

We achieve this through a process of self-certification of vendors to a Cloud service provider Code of Practice requiring executive commitment and operational actions to ensure the provision of critical information through the contracting process. This Code of Practice, and the use of the related Certification Mark on participant's websites, is intended to provide comfort and promote trust to businesses and individuals wishing to leverage the commercial, financial and agile operations capabilities that the Cloud-based and hosted solutions can cover.

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