UK Public Sector: Why the Journey to the Cloud is like Pizza

SURVEY REPORT 2019

Survey Partners

TABLE OF CONTENTS

Foreword

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Looking at the title and cover of this report you might well ask yourself what on Earth cloud has got to do with eating pizza. Bear with me for a minute.

When it comes to cloud, from our experience the whole is greater than the parts. For example, when you're eating a pizza and you take out the first slice, it doesn't matter how well it's been cut, there are bits of pizza still connected to what remains. Stringy bits of mozzarella cling on to adjacent segments. Olives and other loosely attached toppings fall off. Things aren't that simple and that's what our clients are finding when it comes to extracting applications and moving them to cloud.

Let's say that the first two or three slices represent 30% of your IT workload. You could probably get it to the cloud but may experience some complexity integrating services and shared data. You're then left with the complexity and cost of maintaining what is left and what hasn't been migrated to cloud. In our experience 50% of the workloads that are left have multiple security requirements and service levels attached to them, resulting in challenges around the security of data and latency.

This is where the public cloud vendors including Amazon Web Services, Microsoft and Oracle are now turning to traditional Systems Integrators like Fujitsu. We have the expertise and knowledge to simplify infrastructure and move them to the cloud.

Sometimes, due to the complexities of government this isn't a one-off step. You need a stepping stone. This is why Fujitsu is working with Amazon Web Services, Microsoft, Oracle, VMware as well as Crown Hosting.

Due to this multi-staged, transitional journey we're also finding there is a need for multi-cloud management. Few organisations set out on a hybrid strategy, preferring to limit their number of suppliers. But whether your cloud lies on premise, is hosted through a 3rd party or is already public, what matters is maintaining the end services from the user's perspective. The panacea is that in the future you'll be able to move workloads to the lowest cost base at the click of a mouse.

And let's not forget the 20% that's left – that no one wants. At this moment in time organisations are left with large legacy systems that are uneconomical and too complicated or risky to move. This is where Fujitsu can help you plan your remaining strategy to modernise or re-platform these systems into the public cloud. You have to think about the whole and design it optimally otherwise you'll replicate what was a complex and expensive environment, only in the public cloud and your total costs could go up.

INTRODUCTION

Ever since the government first announced the Cloud First policy, organisations across the public sector have been encouraged to consider and evaluate cloud-based solutions before looking at more traditional options. This approach was made mandatory for organisations that sit within central government and strongly recommended for organisations across the wider public sector.

The need for organisations to increase the efficiency of their IT infrastructures, as well as the ongoing requirement to reduce operating costs continues to top the list of priorities, but given the technology now available, it could be time for the public sector to re-focus on searching for and implementing cloud-based solutions.

In 2017, iGov Survey research found that more than half of surveyed public sector organisations had only partially adopted cloud, whilst just 5% of respondents said they had a fully optimised cloud solution in place. Meanwhile, though over half considered G-Cloud along with other procurement options, only 8% procured all their solutions this way and a fifth of respondents said that they weren't taking a 'Cloud First' approach to procurement at all. This showed that despite government policy, a number of organisations across the wider public sector were either unable or unwilling to prioritise cloud adoption.

But why is this the case? According to research carried out by Gartner, the adoption of cloud across government is expected to accelerate by 2021. Despite this however, significant concerns around security, data protection, vendor lock in and the usability of features remain.

However, the ever-constant advances in technology will put increasing pressure on public sector organisations to transform their processes and fully integrate cloud services.

1. https://www.gartner.com/smarterwithgartner/understanding-cloud-adoption-in-government/

Last year, the government rolled out G-Cloud 10, and with more suppliers on the framework than any of its predecessors, public sector organisations are now able to procure a wider variety of cloud services that ever before from a single, central website.

As the pressure for public sector to modernise grows, iGov partnered with leading technology provider, Fujitsu, to examine the current state of cloud adoption across the sector.

Specifically, we considered:

- The top priorities for organisations regarding their digital transformation strategies
- The key drivers and barriers to public sector cloud adoption
- Cloud services already being used in the public sector
- The benefits of working with external service providers when implementing Cloud solutions

ABOUT FUJITSU

As a strategic supplier to government for over forty years, Fujitsu is a global IT company offering a complete range of products, services, solutions. From critical national infrastructure helping to protect the UK and its borders to digital policing and transformation, AI, IoT, Cloud and Security, Fujitsu is helping departments, agencies and authorities to make a difference to peoples' lives. As a responsible business with a 5* rating in Business in the Community's Corporate Responsibility Index, we are also proud to work alongside our charity partner Autistica. For more information visit www.fujitsu.com/uk

SURVEY METHODOLOGIES AND RESPONDENTS' PROFILE

The survey was conducted by iGov Survey in partnership with Fujitsu. The project ran from Wednesday 5 December 2018 to Thursday 17 January 2019.

Survey respondents represented a broad cross-section of roles across the public sector. This included:
Architect, Business Development, Chief Executive, Commissioning, Computer Security, Customer Services, Digital, Engineer, Environment, Facilities and Estates, Finance Management, Governance, Health and Safety, Human Resources, Information, IT Management, Marketing Communications, Modernisation, Operations, Procurement/Purchasing, Programme Management, Project, Research, Senior Manager, Service Delivery, Strategy, Training, and Transformation/Change Management.

114 individuals took part in our survey, representing 108 unique organisations across the public sector. There was no inducement to take part in the survey, and Fujitsu was not introduced as the survey partner. The results displayed throughout this report are based on those who fully completed the questionnaire and are displayed as a percentage of this group, unless explicitly stated otherwise.

KEY FINDINGS

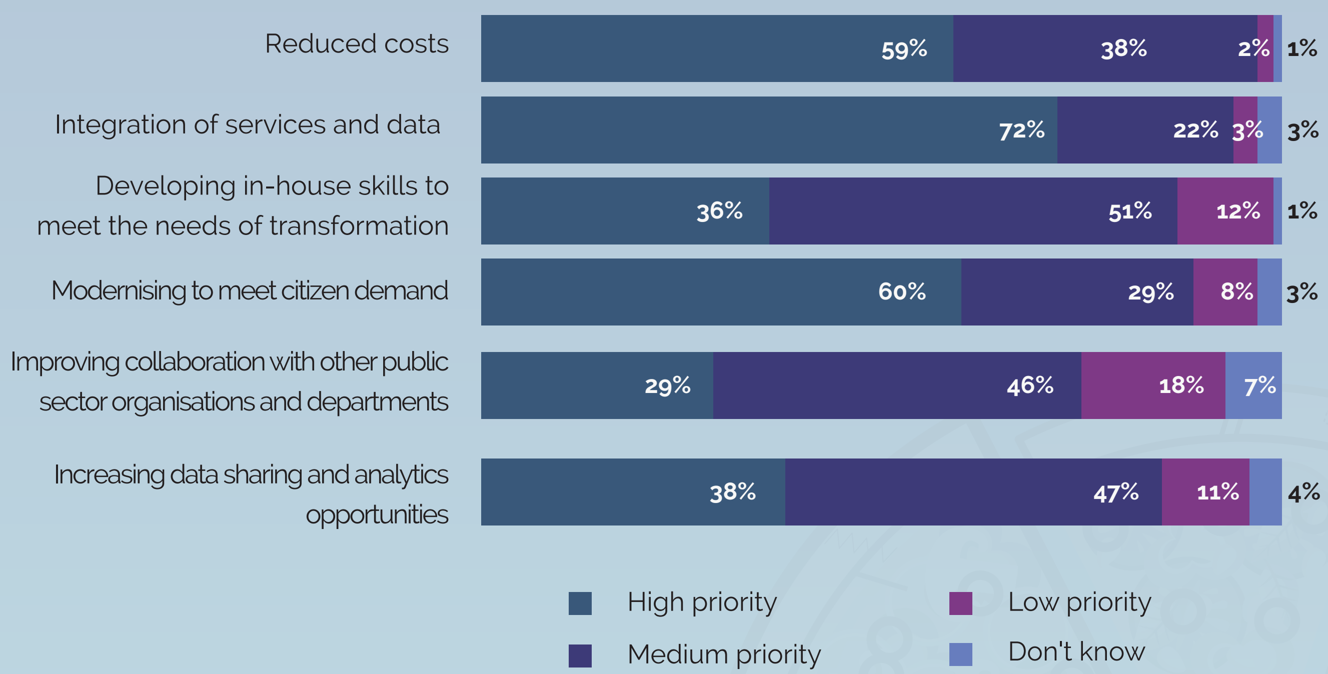
1 Successful integration of services and data is seen as a top priority for organisations considering new transformation strategies

The digital drive is unquestioned, yet the reasons behind it vary. Interestingly, a number are significantly prominent - almost three-quarters (72%) state the integration of services and data is a top priority, closely followed by the need to modernise and meet citizen demand (60%) and reduce costs (59%).

It is interesting and perhaps encouraging to see that reducing costs, whilst still a key priority for many, is not as high a priority as modernising to meet demand or the integration of services and data. This reinforces the fact that there is a renewed focus across the public sector on improving digitisation.

Figure 1:

When considering new technologies and transformation strategies, which of the following are top priorities for your organisation?



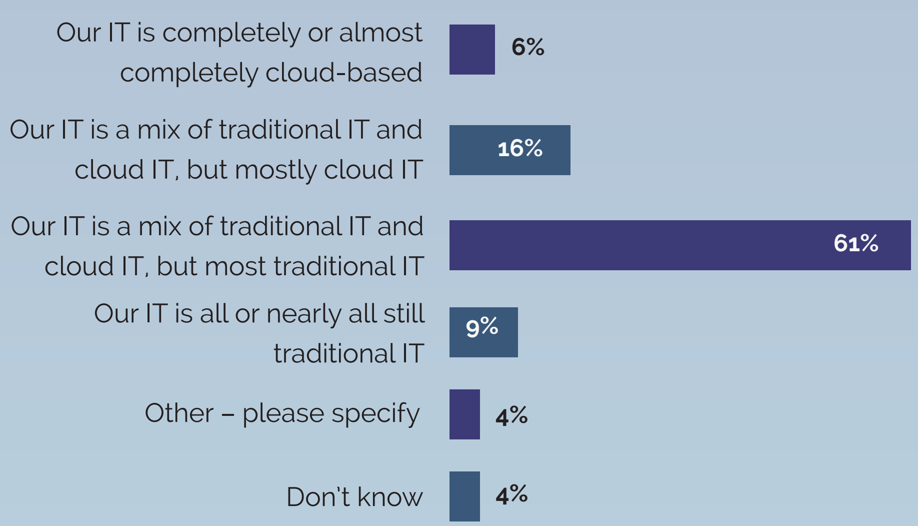
Importantly, as organisations collect larger amounts of data and use this intelligently for service delivery, it is encouraging to see that 85% are prioritising increased data sharing and analytics opportunities, with only 11% considering this as a low priority. This shows us that the majority of organisations in the public sector are aware of the need to use their data more effectively. Achieving this could result in benefits such as faster response times, better and more personalised customer services as well as greater collaboration between public sector organisations.

2 The majority of organisations are still using traditional IT to some extent

Despite government policy strongly advocating the move to the cloud, many organisations still find themselves relying on more traditional IT infrastructures to at least some degree. Almost two thirds (61%) report that although cloud services are being used in their organisation, traditional methods still remain, with only 6% of participants stating that their organisation's infrastructure is completely cloud-based.

Figure 2:

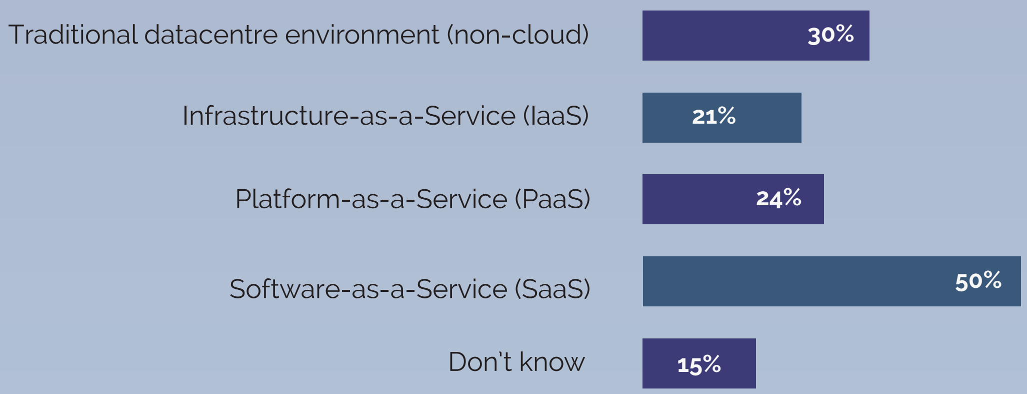
Thinking about cloud technology and its role in transforming public services, to what extent is your organisation embracing cloud?



The cloud service most commonly used is Software as-a-Service (SaaS), with half of participants stating that their organisation is using this service. This could be because of the ease of implementing SaaS, as well as the fact that implementation doesn't require large up-front investments. Interestingly, 30% of respondents said that their organisations are still using traditional on-site data centres. The costs involved in keeping these centres could also be holding organisations back from adopting cloud.

Figure 3:

Which of these best describes the cloud services your organisation mostly uses currently?

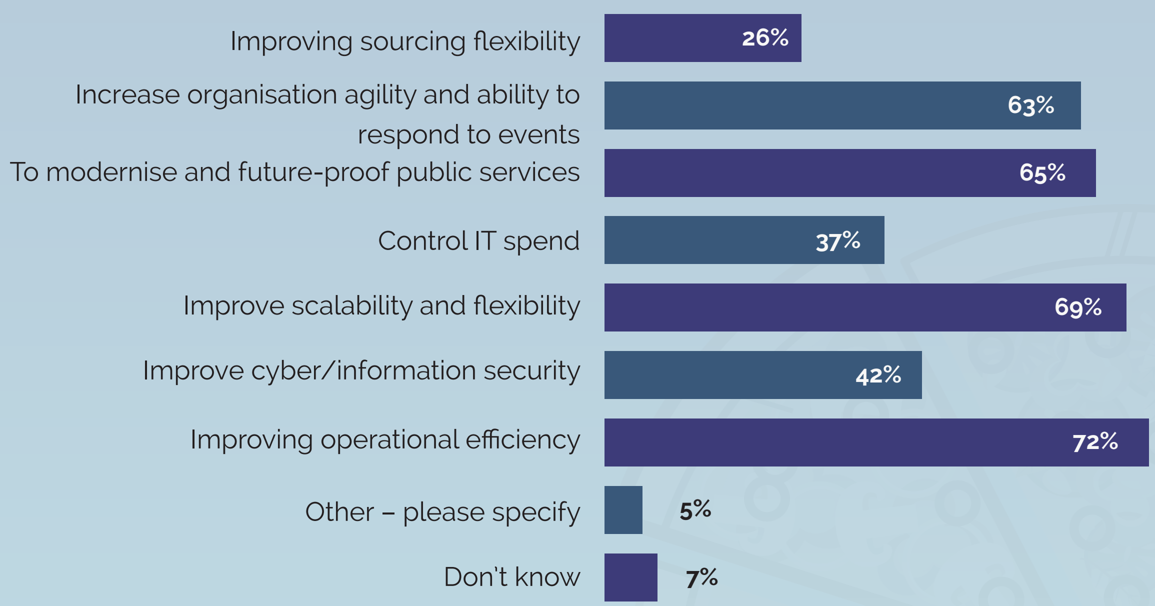


3 The costs involved in upgrading IT infrastructure is still a major concern for public sector organisations

Almost three-quarters of respondents (72%) said improving operational efficiency is the main driver for their overall cloud strategy. This is followed closely by improving scalability and flexibility (69%), modernising and future proofing services (65%) and increasing agility and ability to respond to events (63%). This seems to show that there are many strong drivers in play for organisations in terms of implementing their cloud strategies.

Figure 4:

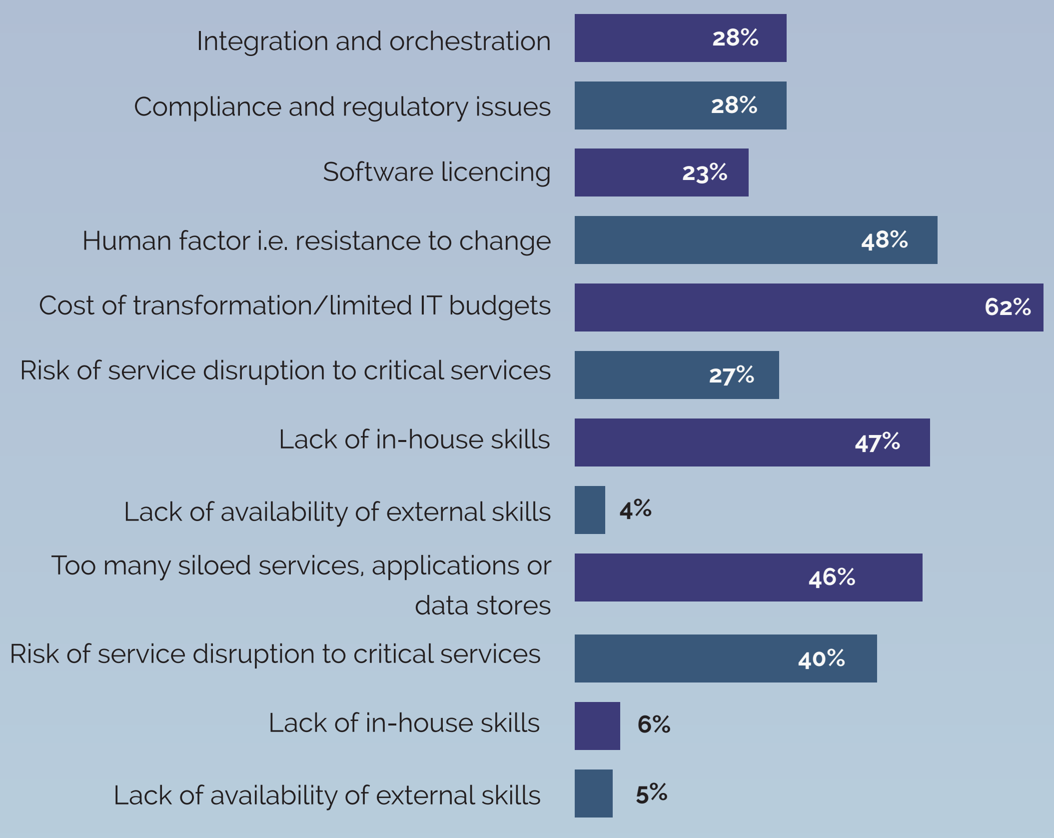
In your opinion, what are the biggest drivers for your cloud strategy? Please tick all that apply.



Considering the barriers affecting cloud adoption, the cost of transformation (or limited IT budgets) has been cited as the largest challenge (62%). Human factors are also a significant issue across the sector; almost half note that cultural resistance to change is affecting adoption (48%) alongside a lack of necessary in-house skills to implement their strategy successfully (47%).

Figure 5:

In contrast, what do you consider to be the greatest barriers to your organisation's Cloud strategy? Please tick all that apply.



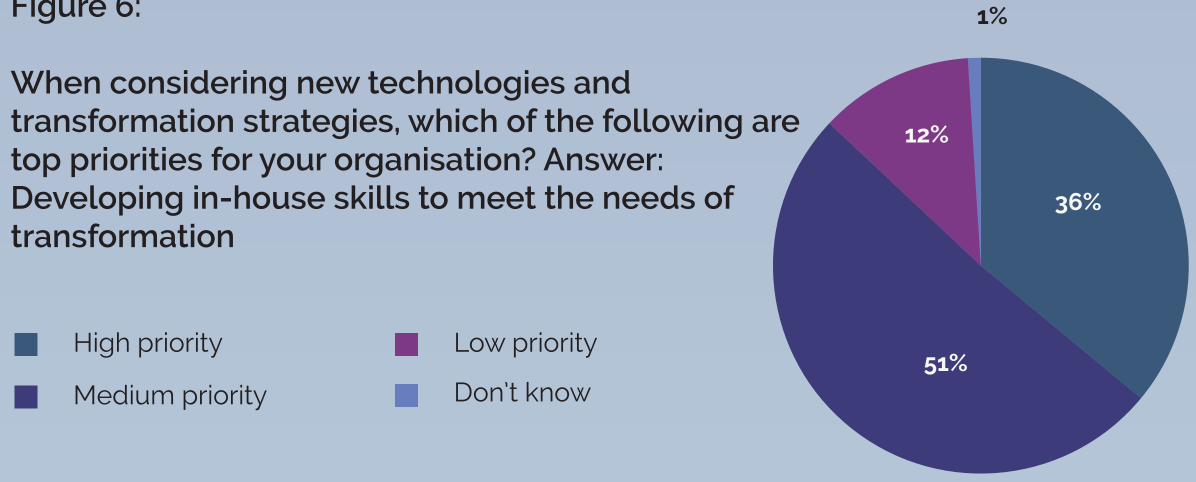
If we consider the drivers and barriers as a whole, it is interesting to note that there isn't one single stand-out key driver pushing organisations towards cloud adoption, with four key drivers being cited by more than 60% of respondents. This shows us that across the public sector, organisations have different reasons for pursuing cloud technology. However, cost seems to be a clear barrier common to most organisations. This suggests that while many have the desire to look for and implement cloud solutions, they are held back by lack of budget, perhaps in part due to maintaining legacy infrastructures.

4 Only 36% of participants consider developing in-house skills to meet the needs of transformation to be a high priority

Interestingly, looking at the use of third parties and a lack of in-house skills - just 36% of participants say developing in-house skills to meet the needs of transformation is a top priority, and when it comes to cloud, this doesn't seem to be a significant concern. Whilst 47% state it's a barrier to cloud strategies, just 4% feel there wasn't enough external support, and nearly two-thirds rely on external providers due to their experience improving the likelihood of success (61%) and the provision of essential skills that participants wouldn't otherwise have (69%).

Figure 6:

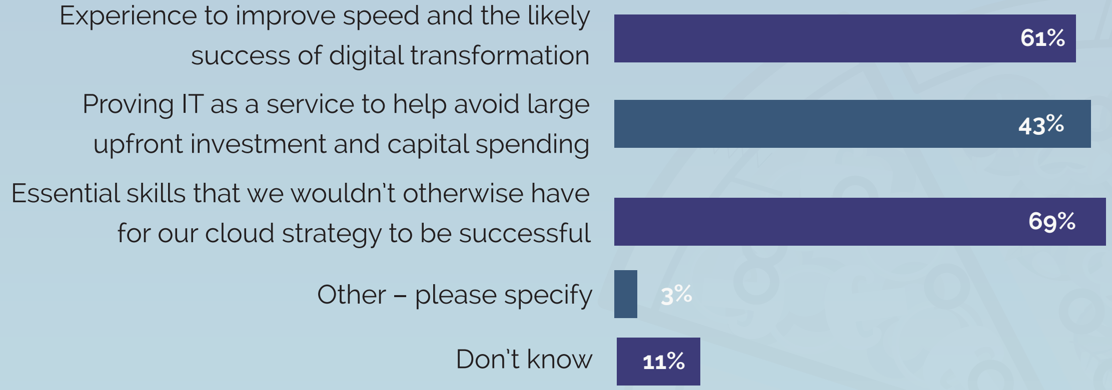
When considering new technologies and transformation strategies, which of the following are top priorities for your organisation? Answer: Developing in-house skills to meet the needs of transformation



It seems that there is also a lack of awareness of newer developments in cloud – less than half are looking to the tech to help improve cyber/information security, despite vast improvements that largely result in increased security (42%). In fact, 40% are still concerned about data security. The issue of data security has historically been a worry for many organisations, especially in light of recent cyber-attacks, coupled with the introduction of new data regulations. However, due to ever-advancing technology and improvements in cloud security, cloud migration is increasingly being seen as a benefit, compared to maintaining cyber skills in-house alongside separate data centre costs.

Figure 7:

What do you believe to be the biggest benefits of working with external service providers to implement your organisation's cloud strategy? Please tick all that apply.



5 36% say they don't know the procurement approach taken by their organisation

Uncertainty is an important factor which could be holding organisations back from making full use of the technology at their disposal. Almost one in five (18%) say that they don't know their organisation's preferred strategy for transforming applications and workloads.

Meanwhile, more than a third say that they don't know how their organisation procures cloud services. Of those that do know, the most common cloud procurement approaches are G-Cloud (34%) and OJEU Procurement (33%), with almost a quarter (23%) currently using Crown Hosting Services.

Figure 8:

When transforming applications and workloads to new cloud environments, which of the following would you use as your primary strategy?

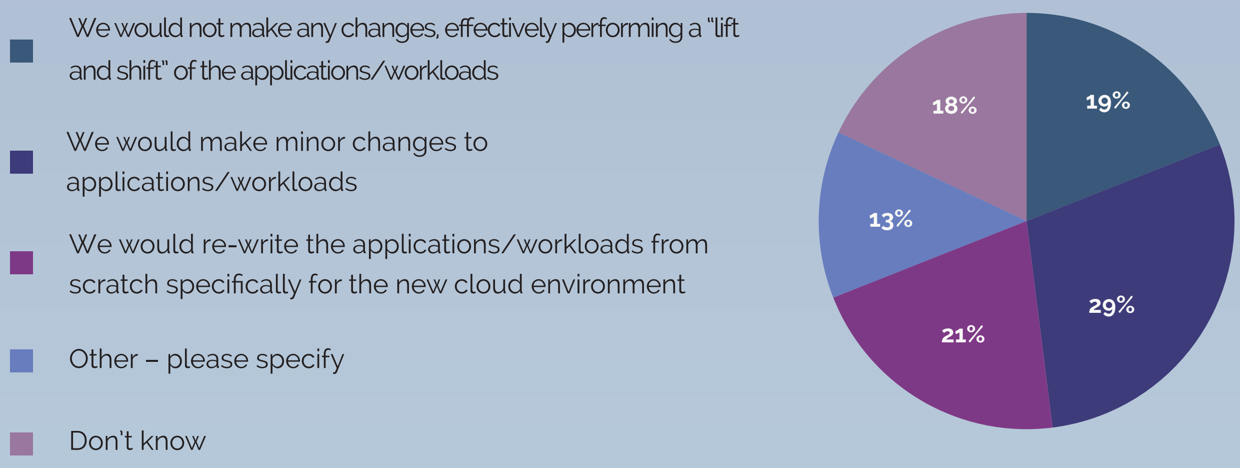
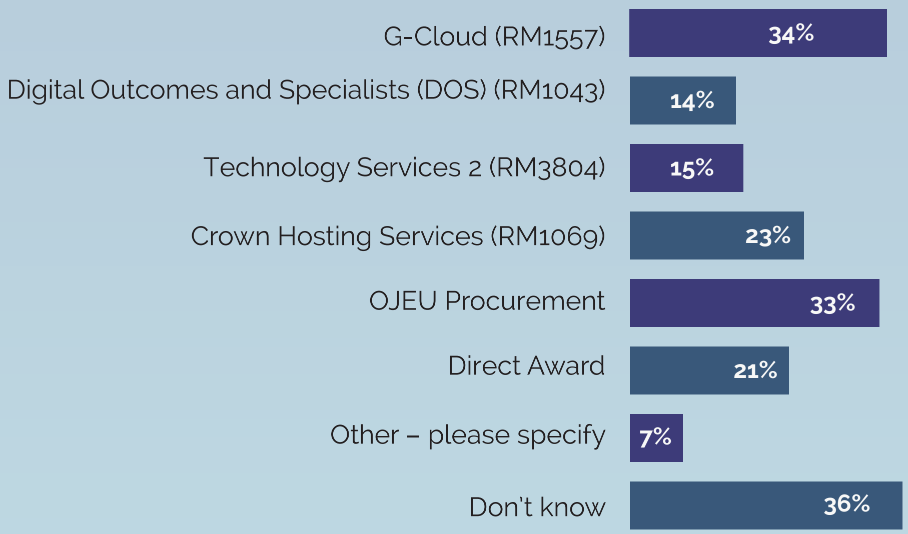


Figure 9:

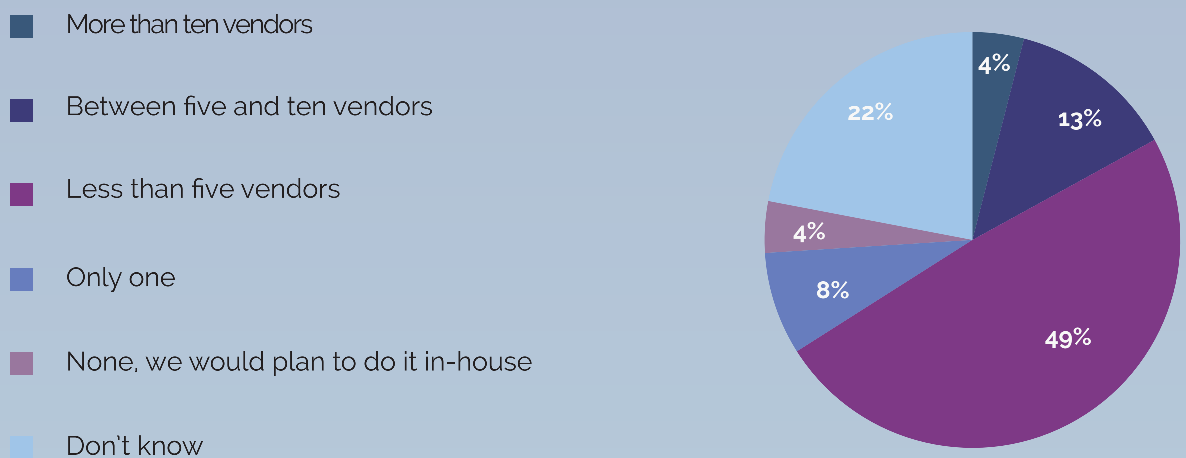
In procuring cloud services, what are your preferred routes for award cloud contracts? Please tick all that apply.



Most respondents expect to be using a small number of vendors, with 49% saying they expect to use fewer than five vendors. 8% say that they only plan to work with one vendor to help them achieve their cloud strategy. This is interesting when considering the reliance on SaaS solutions as procuring each separate service will inevitably increase the risk of using multiple vendors.

Figure 10:

In implementing your strategy for each of the platforms above or moving your traditional IT, how many cloud vendors would you expect to work with?



APPENDIX 1: SURVEY QUESTIONS

Grid

When considering new technologies and transformation strategies, which of the following are top priorities for your organisation?

Question

Reduced costs

Answer	Percent
High priority	59%
Medium priority	38%
Low priority	2%
Don't know	1%

Question

Integration of services and data

Answer	Percent
High priority	72%
Medium priority	22%
Low priority	3%
Don't know	3%

Question

Developing in-house skills to meet the needs of transformation

Answer	Percent
High priority	36%
Medium priority	51%
Low priority	12%
Don't know	1%

Question

Modernising to meet citizen demand

Answer	Percent
High priority	60%
Medium priority	29%
Low priority	8%
Don't know	3%

Question
Improving collaboration with other public sector organisations and departments

Answer	Percent
High priority	29%
Medium priority	46%
Low priority	18%
Don't know	7%

Question
Increasing data sharing and analytics opportunities

Answer	Percent
High priority	38%
Medium priority	47%
Low priority	11%
Don't know	4%

Question
Thinking about Cloud technology and its role in transforming public services, to what extent is your organisation embracing Cloud?

Answer	Percent
Our IT is completely or almost completely cloud based	6%
Our IT is a mix of traditional IT and Cloud IT , but mostly Cloud IT	16%
Our IT is a mix of traditional IT and Cloud IT , but mostly traditional IT	61%
Our IT is all or nearly all still traditional IT	9%
Other - please specify	4%
Don't know	4%

Question
Which of these best describes the Cloud services your organisation mostly uses currently?

Answer	Percent
Traditional datacentre environment (non-cloud)	30%
Infrastructure as a Service (IaaS)	21%
Platform as a Service (PaaS)	24%
Software as a Service (SaaS)	50%
Don't know	15%

Question
Thinking about the Cloud services you currently use, are they primarily:

Answer	Percent
Public	16%
Private	37%
A combination of both	35%
Other - please specify	1%
Don't know	11%

Question
In your opinion, what are the biggest drivers for your Cloud strategy? Please tick all that apply.

Answer	Percent
Improve sourcing flexibility	26%
Increase organisation agility and ability to respond to events	63%
To modernise and future-proof public services	65%
Control IT Spend	37%
Improve scalability and flexibility	69%
Improve cyber/information security	42%
Improving operational efficiency	72%
Other - please specify	5%
Don't know	7%

Question
In contrast, what do you consider to be the greatest barriers to your organisation's Cloud strategy? Please tick all that apply.

Answer	Percent
Integration and orchestration	28%
Compliance and regulatory issues	28%
Software licencing	23%
Human factor i.e. resistance to change	48%
Cost of transformation/limited IT budgets	62%
Risk of service disruption to critical services	27%
Lack of in-house skills	47%
Lack of availability of external skills	4%
Too many siloed services, applications or data stores	46%
Concern over data/cybersecurity	40%
Other - please specify	6%
Don't know	5%

Question
When transforming applications and workloads to new Cloud environments, which of the following would you use as your primary strategies?

Answer	Percent
We would not make any changes effectively performing a "lift and shift" of the applications/workloads	19%
We would make minor changes to applications/workloads	29%
We would re-write the applications/workloads from scratch specifically for the new Cloud environment	21%
Other - please specify	13%
Don't know	18%

Question
How does your organisation avoid vendor lock in when writing or re-writing applications/workloads f or the new Cloud environment?

Answer	Percent
We use open source infrastructure/platform technology (e.g. Containers, OpenStack)	21%
We use tools that abstract management from the underlying Cloud infrastructure	21%
We are not concerned about the risk	4%
We accept lock in as inevitable	17%
Other - please specify	12%
Don't know	25%

Question
How does your organisation avoid vendor lock in when writing or re-writing applications/workloads f or the new Cloud environment?

Answer	Percent
Retain traditional datacentre environment (Non-Cloud)	25%
On premise private Infrastructure-as-a-Service (IaaS)	13%
Hosted private IaaS	20%
Public IaaS	17%
Private Platform-as-a-Service (PaaS)	19%
Public PaaS	19%
Private Software-as-a-Service (SaaS)	28%
Public SaaS	30%
Other - please specify	1%
Don't know	26%

Question

In implementing your strategy for each of the platforms above or moving your traditional IT, how many Cloud vendors would you expect to work with?

Answer	Percent
More than ten vendors	4%
Between five and ten vendors	13%
Less than five vendors	49%
Only one	8%
None, we would plan to do it in-house	4%
Don't know	22%

Question

What do you believe to be the biggest benefits of working with external service providers to implement your organisation's Cloud strategy? Please tick all that apply.

Answer	Percent
Experience to improve speed and the likely success of digital transformation	61%
Providing IT as a Service to help avoid large upfront investment and capital spending	43%
Essential skills that we wouldn't otherwise have for our Cloud strategy to be successful	69%
Other - please specify	3%>
Don't know	11%

Question

In procuring Cloud services, what are our preferred routes for awarding Cloud contracts? Please tick all that apply.

Answer	Percent
G-Cloud (RM1557)	34%
Digital Outcomes and Specialists (DOS) (RM1043)	14%
Technology Services 2 (RM3804)	15%
Crown Hosting Services (RM1069)	23%
OJEU Procurement	33%
Direct Award	21%
Other - please specify	7%
Don't know	36%

Question

Are you aware of the Crown Hosting Data Centres, the Government framework which enables Cloud transf ormation?

Answer	Percent
Yes	49%
No	51%

APPENDIX 2: PARTICIPATING ORGANISATIONS

All Saints Catholic School and Technology College
Ashfield Comprehensive School
Ashford and St Peter's Hospitals NHS Foundation Trust
Association for Science Education
Autism Initiatives UK
Aylesbury Vale District Council
Bield Housing Association
Birmingham City Council
Birmingham City University
Birmingham Community Healthcare NHS Foundation Trust
Blackburn with Darwen Borough Council
Blackpool and the Fylde College
Bloodwise
Bolsover District Council
Braintree District Council
Brentwood Borough Council
British Council
British Institute for Brain Injured Children
Cambridgeshire and Peterborough NHS Foundation Trust
Carmarthenshire County Council
Causeway Coast and Glens District Council
Central College Nottingham
Central Procurement Directorate
Chiltern District Council
City of Bradford Metropolitan District Council
Clackmannanshire Council
Contact the Elderly
Conwy County Borough Council
County Durham Housing Group
Craven District Council
De Montfort University
Defence Academy of the United Kingdom
Department for Environment Food and Rural Affairs
Dundee and Angus College
East Cheshire NHS Trust
East Sussex Fire and Rescue Service
Edinburgh College
Elmbridge Borough Council
Embrace the Middle East
English National Ballet
Epsom and Ewell Borough Council
Gloucester City Council
Gloucester City Homes
Gloucestershire County Council
Govanhill Housing Association
Government Legal Department
Grand Union Housing Group
Greater London Authority
Greater Manchester Police
Hands Around The World
Healthcare Quality Improvement Partnership
Highways England
Historic Environment Scotland
Home Office
Homes for Haringey
King's College Hospital NHS Foundation Trust
Lewisham and Greenwich NHS Trust
London North West University Healthcare NHS Trust
Maidstone Borough Council
Met Office
Mid and West Wales Fire and Rescue Service
Milnbank Housing Association
Milton Keynes Council
Myerscough College
National Records of Scotland
Natural England
Newman University
NHS England
NHS Guildford and Waverley CCG
NHS Hounslow CCG
NHS North West Surrey CCG
NHS Southwark CCG
NHS West Hampshire CCG
North Lincolnshire Council
North of England Commissioning Support Unit
North Yorkshire Fire and Rescue Service
Ofwat
Optivo
Oxford City Council
Places for People Group
Plymouth Hospitals NHS Trust
Provide
Public Health England
RHP Group
Shropshire Council
Skills for Logistics
South Kesteven District Council
South Lanarkshire College
South Somerset District Council
South Tyneside Homes
South Ulster Housing Association
Southampton Solent University
STAGETEXT
Suffolk Coastal District Council
Surrey County Council
Tameside Metropolitan Borough Council
Tees, Esk and Wear Valleys NHS Foundation Trust
The British Library
The Electoral Commission
The Fostering Network
The Health Informatics Service NHS
The Leeds Teaching Hospitals NHS Trust
The Mid Yorkshire Hospitals NHS Trust
The Pensions Regulator
The University of Nottingham
The West of England SchoolandCollege
Thrive Homes
Together Trust
Torbay and South Devon NHS Foundation Trust
Tourism Ireland
Turning Point Scotland
United Response
University Hospital Southampton NHS Foundation Trust
University Hospitals of Leicester NHS Trust
University of Aberdeen
University of Brighton
University of Leeds
University of Strathclyde
Valleys to Coast Housing
Vehicle Certification Agency

Wales Co-operative Centre
Wandle Housing Association Ltd
Watford Borough Council
Watford Community Housing Trust
WHG
Worcestershire County Council
World Vision UK
Wrightington, Wigan and Leigh NHS Foundation Trust
Wyre Council
Yorkshire and Humber Academic Health Science Network

ACKNOWLEDGEMENTS

The survey team at iGov Survey would like to take this opportunity to thank all of those who were kind enough to take part – and especially to those who found the time to offer additional insights through their extra comments. We would also like to thank our partners, Fujitus, for their assistance in compiling the survey questions, scrutinising the responses, and analysing the results.

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