Digital Culture Clash

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Foreword

Digital technology is changing our lives on all fronts. Not only is it influencing how we communicate, shop, order goods and services, and even travel from A to B, it is turning the way we work on its head. The drivers behind these new, digital ways of doing things are not only disrupting the status quo – they're gaining competitive edge, with dramatic consequences.

We are all operating in a world where the potential for digital disruption is very real. With productivity an ongoing challenge to the UK economy, understanding the barriers to making the best use of digital technologies to realise efficiency gains is a pressing concern.

Every organisation – government, public or private – is, or at least should be, on its own journey to digitise, spending an increasing amount of time and energy on digital technologies to compete effectively.

In the UK, we're reaching the point where investment in infrastructure and connectivity is falling into place. The playing field between organisations of all sizes is levelling, yet boardrooms up and down the country are still debating how and where to focus their digitisation efforts with varying degrees of success.

Our belief at Cisco is that digital evolution is as much about the people experiencing it as the technology itself.

We've long advocated that organisations looking to digitise for growth need to go beyond just investing in technology to realise all of the benefits that it has to offer. That is why we decided to create this report – to explore the difference between success and failure in the drive to digitise.

When you scratch beneath the surface, the report unsurprisingly shows that there's more to it than hoping an organisation's digital woes will be solved by shiny new technology and a surge in digitally adept millennials joining the workforce. Together with the Institute of Cultural Capital, we reveal that many of the factors influencing success, once understood, are possible for organisations to influence. Put simply, success is there for the taking.

Phil Smith
CEO, Cisco UKI

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We are all operating in a world where the potential for digital disruption is very real"

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Executive summary

This report examines just how digitally ready UK organisations are in terms of people, processes and, most significantly, company culture.

Existing research in this field broadly examines the perceived usefulness or ease-of-use of digital technology in the workplace. This report takes the research beyond technology, or individual perceptions, to explore whether UK organisations have the will and the processes to successfully digitalise and reap the benefits of increased productivity and growth. In particular, it looks to identify the most influential factors in the success of digital roll-outs.

In determining attitudes to and ultimately the success of digital roll-outs, the report reveals that different organisational cultures do in fact lead to contrasting digital adoption, and that culture ranks far above factors including employees' IT experience, wider organisational challenges, company size or the sector a company operates in.

> Digital technologies bring changes to both ideas and practices in the workplace. We look to explore the impact on the success of digital solutions if there is a mismatch between the new digital ideas and practices being introduced and those already held in the workplace – if there is a 'clash' between digital and existing workplace culture – and whether this means they run the risk of being rejected by the workforce.

The report discusses:

Section 1 – How people's digital efficacy at home influences their acceptance of digital technologies in the workplace
- Being confident with digital tools at home does not necessarily transfer to confidence with digital tools in the workplace

Section 2 – UK experiences of digital roll-outs
- While overall the workforce is engaged with digital technologies, with 67% stating that digital technology has had a positive impact on the way they work, 29% are yet to experience digital tools at work and over half (52%) either do not have access to, or hold negative views of, digital technologies

Section 3 – The influence of organisational challenges
- The report finds that clear planning can help avoid a lot of the organisational challenges that some workers have faced, from limiting practical barriers such as legacy systems or financing, to the importance of demonstrating clear leadership and getting employee communications and training right

Section 4 – The importance of creating the right company digital culture
- How company culture influences positive attitudes to digital roll-outs

Section 5 – The six key factors organisations need to consider for success

Evidently, businesses simply relying on shiny new technology and a surge in millennials joining the workforce to solve their digital woes may be in for a disappointment. The research presented here makes clear that successful implementation of new technologies requires the creation of a positive digital culture at work, encouraging confidence in the digital tools that people use.

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1. Digital efficacy at home and in the workplace

Interrogating the concept that digital skills are transferrable

To understand the barriers to UK industry successfully taking up digital solutions, this research examined the opinions of 3,040 UK workers. The research draws on 'technology acceptance models' developed in academic research on the uptake of new technologies in the home and workplace. The most recent versions of these models focus on four areas:

1. **The 'perceived usefulness' of technologies** – how much the user believes that using the technology will help them do their work or tasks
2. **The 'perceived ease-of-use' of the technology**
3. **'Social influence'** – user expectations around support required from others to use the technology
4. **'Facilitating infrastructure'** – if support exists to aid use of the system

The first two elements reflect personal experience of technology at home or work. The second two highlight organisational culture and infrastructure. We explore the impact of both in this section, starting with the idea of transferrable digital skills.
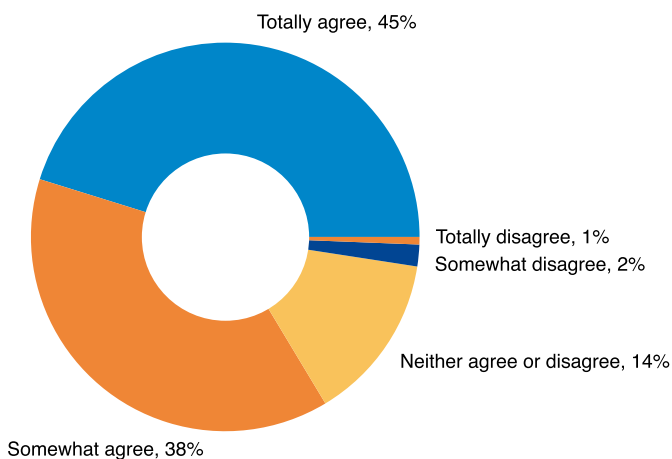
Confidence at home

In today's digital workplace it is fair to say that we are all probably guilty of assuming that someone's generation influences the expected ease with which they are able to adapt to new digital ways of working. After all, if we grew up expecting faultless access to the Internet and with smartphones and everything they offer us at our constant command, surely we would be adept at mastering digital ways of working? We assume that these skills should be easily transferrable.

Our research started by developing a clear picture of the digital skills held by today's workforce. We explored both their perceived digital efficacy at home and in the workplace, with the aim of understanding how this influences the success of digital roll-outs.

The findings that follow suggest it might be time to revisit our perception of 'digital natives' or 'millennials'. We found that workplace confidence and home confidence are not strongly linked. We also found that age is not a determining factor for confidence with digital technology in either setting.

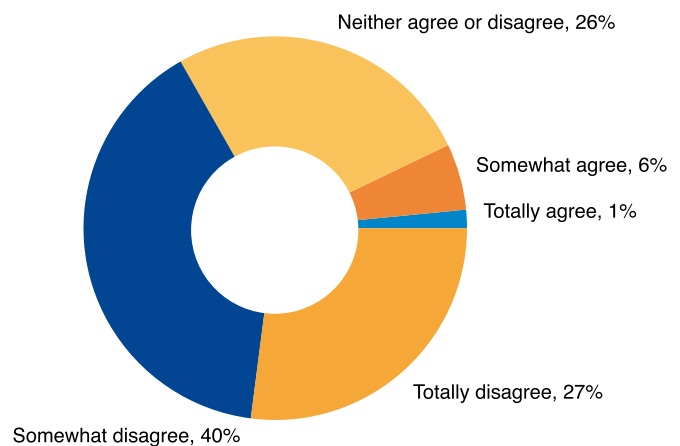Figure 1: Confidence at home

Figure 2: Access to technology at home

There is a tendency to assume that digital skills gained in one place translate to others. If we can use our smart phone we can use the new tools at work. This kind of thinking underpins the idea of 'digital natives' and 'millennials'. But we should be careful of such assumptions. The idea of digital natives comes from work published by Prensky in 2001 ('Digital Natives, Digital Immigrants'[1]). It is now used as a shorthand for those born after the mid-1990s who have always had access to the internet, social media and mobile devices. It is assumed that these are digital savvy citizens and have a broad range of digital skills. Yet 'digital native' was initially a worrisome term – raising concerns about school children's focus, attention span, and a lack of ability to use knowledge and information except in bite-sized chunks. We should also note that, even as digital natives enter the workforce, business and government keep calling for greater digital, communication and people skills. This implies that the skills and knowledge of digital natives may be more complex, and possibly far more 'patchy' than that we might assume from their lifelong attachment to technologies. Later in the report we explore the link between home and workplace confidence with digital tools.

Confidence at home

Broadly speaking, our survey revealed that UK workers feel confident in their technology use at home (Figure 1), and that the majority also like to have new technology at home (Figure 2).

When crafting our questionnaire, we used similar questions to Ofcom's Media Literacy Survey[2] to allow us to draw comparisons and our survey found similar clusters of users.

While our data doesn't include unemployed or retired citizens, as we looked only at those in employment, as with the Ofcom data, we found older people were more likely to be limited users at home and those in higher status and higher paid work made greater home use of the internet.[3] We can therefore be confident our sample matches closely the national picture with regard to access, use and confidence at home.

Table 2: Key predictors of UK workforce perceptions of successful digital roll-outs

Ofcom measures	Info & Social media user	General user	Limited user	Limited Social Media user	Social Media user	Extensive user	Extensive Political user
Watch TV or films							
Access public services							
Use the internet to contact a politician							
Pay bills online							
Use social media							

Heavy use

Average use

Limited use

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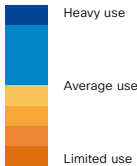
Ofcom's 2016[4] report found that 87% of the UK population had been online last year. This number has been pretty steady for the last few years. What is changing is that the use of laptops and desktops to go online is decreasing as the use of smart phones and tablets rises. This might mark a shift to using mobile smart devices at home and such things as laptops/desktops at work in the medium term, making our home and work use quite different experiences.

Confidence at work

Confidence was also fairly high at work, with the majority of the UK workforce who have had new digital tools at work stating that they felt 'fairly effective' in their use of digital tools at work. Feeling effective in your use of technology is one of the key elements of technology acceptance.

But as we will see in section 3, there is still at least a third of the UK workforce that has not found the majority of digital roll-outs 'successful' with this group often arguing that digital technologies made their job harder not easier to perform. In the technology acceptance model this would point to issues of usability and organisational context if we are to explain these more negative responses.
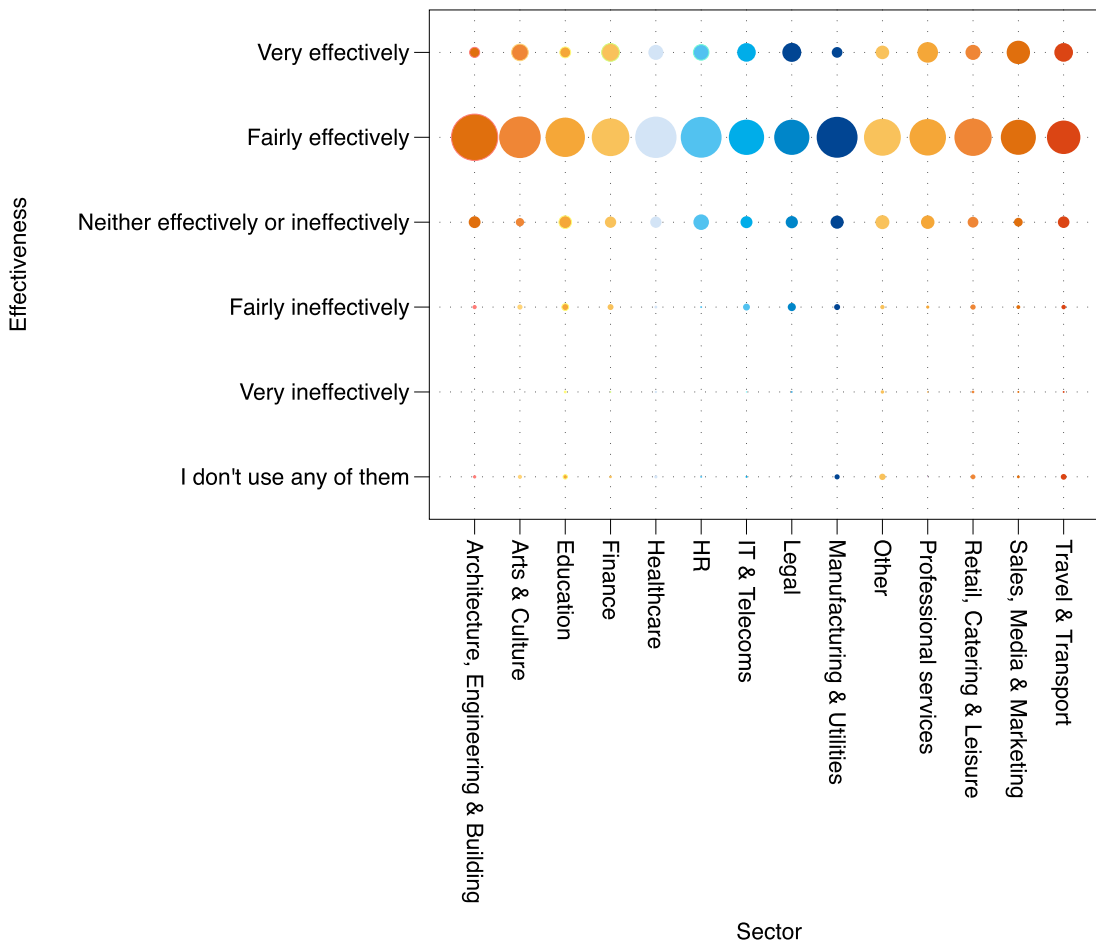

Figure 3: Feelings of effectiveness in digital technology use by sector

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We seem to have found that work and home digital confidence don't strongly relate to each other. As we noted earlier there is a tendency to assume those who have grown up with digital media will have transferable digital skills. Our data would question that. But with a bit of reflection maybe we should not be surprised by this. Reading a magazine at home and a manual at work both require the same basic reading skills, but that does not mean that everyone would be equally confident at both activities. Equally the ability to use Facebook is not the same as using accounting software, or even workplace email. Maybe the problem is our assumption that all digital skills are similar and that in fact many are very different between home and work. This puts the focus on both organisations and education to ensure that the UK workforce has the skills to best engage with digital at work.

Experiences at home and work don't connect

Though confidence with the use of digital at home reduced slightly with age this was not a substantial correlation. In the case of work and home confidence the two measures are only weakly statistically correlated (see Table 1). A clear relationship between these factors in a data set of this size would have resulted in a much stronger statistical result.

In considering age as a complicating factor here, with the expectation that that young people might be confident at work and home and older people less so, we found only a very weak statistical link. The link is even weaker for workplace confidence. In fact 'type of work' and 'level of employment' are better predictors of confidence with digital than 'age'.

Table 1: Correlations of age, personal and workplace confidence with digital technologies

Correlation coefficients	Age	Personal confidence	Workplace confidence	Key
Age		-.175**	-.104**	Weak correlation = .100 to .299
Personal confidence	-.175**		.256**	
Workplace confidence	-.104**	.256**		
** Correlation is significant at the 0.01 level (2-tailed).				

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2. Experiences of digital roll-outs

Before looking at the factors that impact perceptions of successful digital solutions at work we need to understand by whom, how many and why digital technologies are being rolled out – from the viewpoint of those being asked to adopt them.

Despite a growing drive by UK organisations to digitise, we found that 29% of the UK workforce has not experienced new digital solutions in the workplace. However high this may sound, this figure does in fact fit with other recent research (for example the Lloyds Digital Index[5]).

We also found that there is widespread understanding of the benefits digital technologies have the potential to bring and the business reasons for implementing them. In addition, we found that both organisational sector and size are statistically linked to the UK workforce's experience of new digital solutions being deployed.

- Workers in smaller SMEs are less likely to encounter new digital solutions
- Workers in organisations with more than 100 employees are likely to encounter a higher number of digital solutions being implemented
- Workers in 'professional' and technology sectors are more likely to have seen digital solutions implemented in their organisations

> The focus of much government policy to close the 'digital divide' has been on ensuring digital access at home – in part as it is assumed that digital skills at home will transfer to elsewhere in citizens lives. The digital divide at work, both among organisations and their workers, has not been a major concern until recently – for example recent moves to add coding to the curriculum. A future research and policy challenge might be in understanding and addressing access to and use of digital by UK SMEs.

We found some statistical differences between sectors that indicate workers in these areas understood the different business contexts for digital solutions:

- The HR and Manufacturing sectors are slightly more likely to think the goal is to make the business more competitive
- The Healthcare sector is slight more likely to see the goal as being to meet regulatory requirements

Which organisations are not rolling out digital technologies?

Our survey covered a representative sample of the UK workforce. This will of course include people who do not use digital technologies at work, and those who have not seen any new digital tools at work for quite some time. In the case of our survey we have already revealed that we found 29% of the surveyed workers were not aware of digital solutions being rolled out in their organisations. Looking at the responses in our survey, we found that it was mainly employees of smaller organisations who said they had not experienced digital roll-outs (see Figure 4):
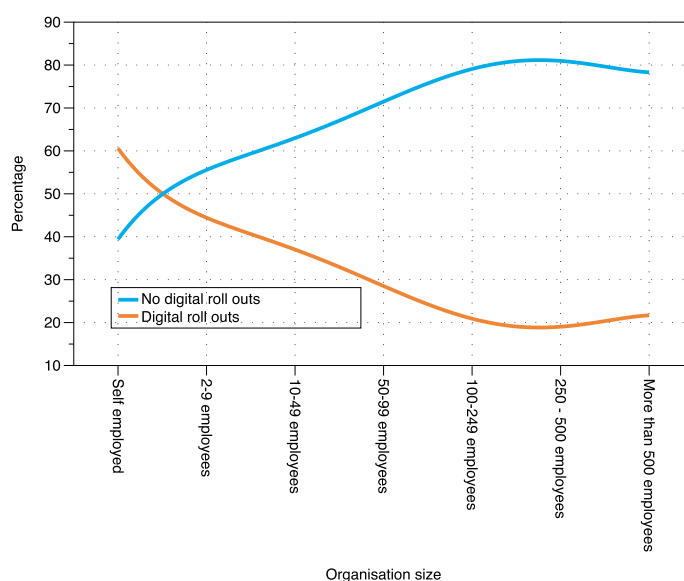

Figure 4: Number of roll-outs by company size

Are different sectors rolling out more or fewer digital solutions?

Overall more than 60% of the UK workforce in all sectors had knowledge of a digital solution roll -out in their organisation. We found that there are statistically significant differences between the most active and least active sectors. In particular, the workforce in the 'Travel and Transport' and 'Other' sectors were statistically the least likely to have seen new digital solutions. 'HR', 'Legal', 'Finance' and 'IT and Telecoms' were statistically the most likely to have seen roll-outs (see Figure 5).
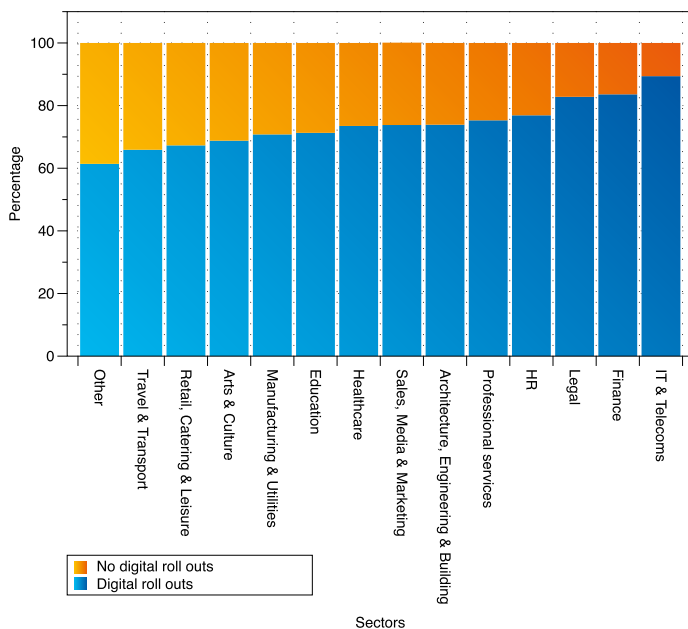
Does the size of the organisation impact the number of digital roll-outs?

We have already noted that smaller companies are less likely to roll-out digital solutions. Our research reveals a statistically significant difference in relation to the size of organisations, with those of 100 or more people being more likely to have encountered three or more new digital technologies over the last two years than those in smaller organisations (see Figure 6).
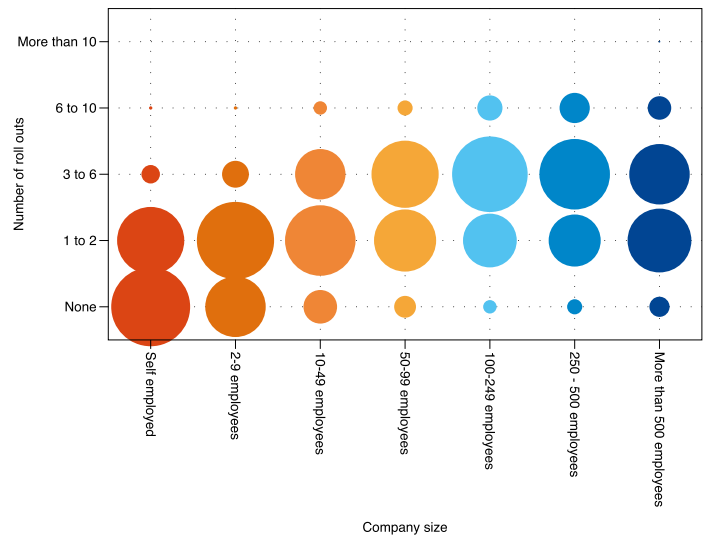
Figure 6: Number of digital roll-outs by organisation size

Now that we have a picture of how frequently the UK workforce is encountering new digital technologies at work, let's look at how readily these roll-outs are being embraced and how they are perceived by the people most affected by them.

Figure 5: Roll-outs or not by sector

Perceptions and acceptance of digital technology roll-outs

Overall we found that the UK workforce is engaged with digital technologies:

- They are making use of digital technologies in the workplace, with 45% stating that at least half of their working day is spent using digital technology of some kind
- More than two-thirds (67%) stated that digital technology has had a positive impact on the way they work, with 56% saying it had made their job quicker and 50% saying it has made their job easier

They are pragmatic about digital in the workplace:

- Most (65%) thought that the number of new digital services that had been rolled out in the past two years was 'just about right' (Figure 8) and respondents that had experienced between and three and five roll-outs were the most positive
- They also understand why their employers are implementing these services, with 58% stating it was to make the organisation more productive, 51% to cut costs and 47% to automate tasks (Figure 7).
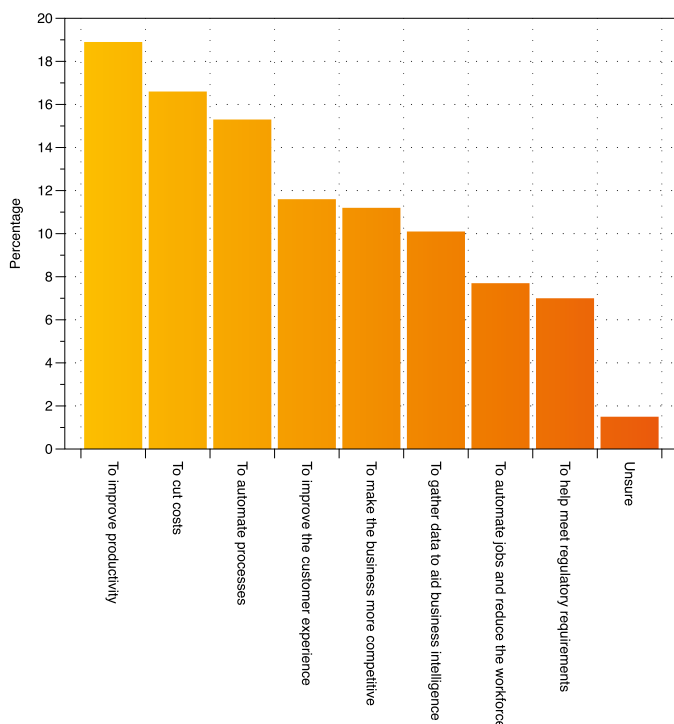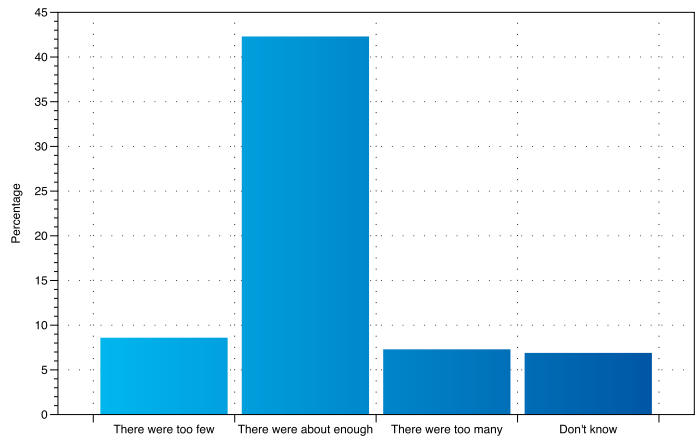
Figure 8: Knowledge workers and number of roll-outs

Perceptions of how many roll-outs were successful

Yet a third of the UK workforce does not view the implementation of new digital tools in their workplace as being successful.

- 33% thought *none, few* or *some* solutions were successful
- 36% thought *most* solutions were successful
- 28% thought *all* solutions were successful
- 3% were unsure

There are no major statistical differences between sectors in the UK workforce's perceptions of how many roll-outs workers thought were successful.
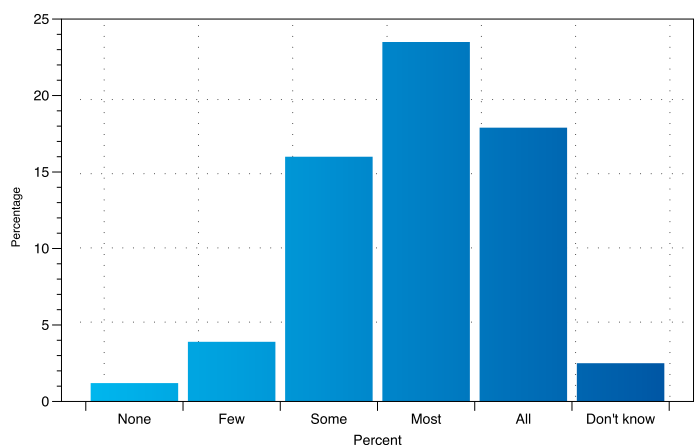
Figure 7: Reasons for digital roll-outs

Figure 9: Proportion of digital roll-outs UK workforce thought successful

> While 29% of workers say they haven't seen new digital solutions at work, 33% of those who have new digital tools think that only some, few or none of these were successful. As a total this is 52% of the UK workforce. If, as is often argued, digital tools can help with productivity, then the UK faces a significant challenge in making best use of them. It is important that we understand the barriers to digital in the workplace if this access and experience gap is to be reduced.

Perceptions of the success of roll-outs is key to their uptake and acceptance and vice versa. The fact that a third of the UK workforce believes that the majority of the digital roll-outs they experienced were not successful presents a significant challenge to both UK organisations and also to the suppliers and developers of these solutions. Predicting this measure of perceived success in terms of organisational culture, constraints and communication methods will be a key part of later analyses in this report.

Number of roll-outs companies perceived as successful

We then asked workers if they though their organisation viewed its digital roll-outs as successful or not.

We found no major statistical differences between sectors in the UK workforce's perceptions of how many roll-outs their *organisation* thought successful:

- 27% thought companies see *none, few* or some solutions were successful
- 36% thought companies see *some* solutions were successful
- 33% thought companies see *all* solutions were successful
- 4% were unsure

We found a 5% perception gap between UK workforce perceptions of successful roll-outs and those of their organisations. Having said this, 27% of the UK workforce thought their organisations shared their belief that the majority of digital roll-outs had not been successful.

Positive & negative impacts and belief that roll-outs were successful

A vital part of this comes down to understanding what influences **positive** experiences of digital roll-outs. If we look at the link between the two we find that the three most reported impacts are statistically significant:

- It made it easier to do my job
- It made it quicker to do my job
- It streamlined internal processes

This would imply that technologies that ensure these three benefits are experienced help to ensure they are more likely to embrace it and see it as a successful roll-out. This also fits with the idea that perceived usefulness is a key factor in acceptance.
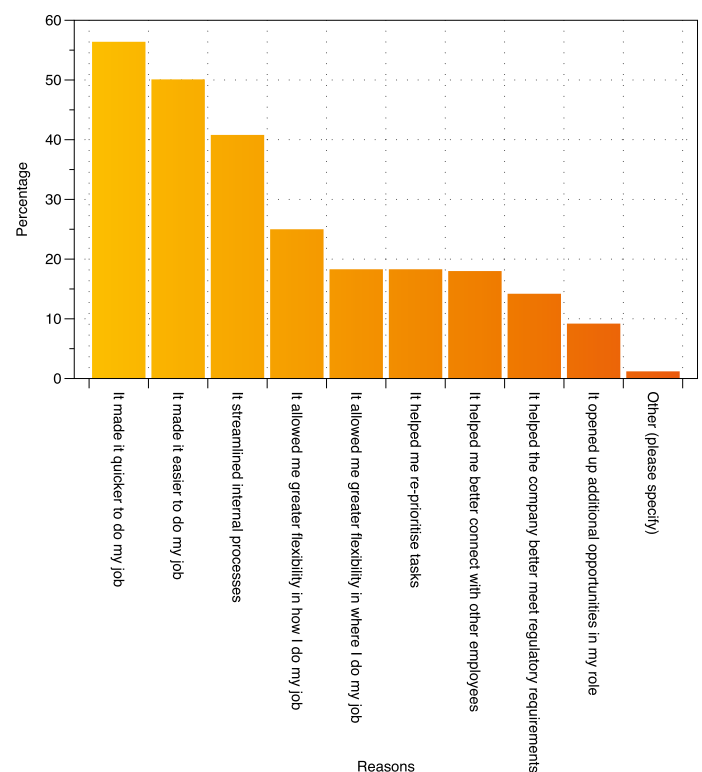

Figure 10: Positive impacts of new digital tools

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In the case of **negative** impacts, two issues were statistically significantly associated with a more negative attitude to digital roll-out success.

These were:
· It made it harder to do my job
· It disrupted internal processes already in place

Both of which imply that complex systems that disrupt existing process are less likely to be seen as successful by the UK workforce.

These findings underline the importance of understanding and discussing, before a solution is implemented, what the impact is likely to be for the workforce that will ultimately be using them. The idea of planning for the impacts on organisational culture and practice is a key theme throughout this report. Consulting employees to find out how technology can be used to make them more efficient, and communicating the benefits the technology being implemented is set to bring, will ultimately help to ensure they have a positive experience. A closer look at the cultural element to this, as well as the key factors in deploying the technology effectively, will be explored a little later in this report.
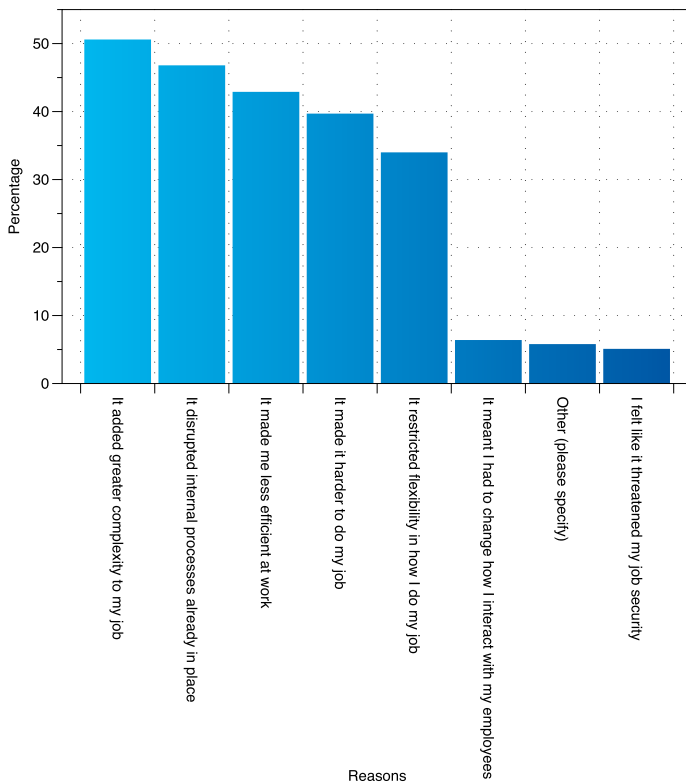
Figure 11: Reasons for a negative attitude

Organisations wishing to deploy digital technologies and communicate planned roll-outs should bear these findings in mind.

3. Organisational challenges and influence

We identified some key issues when exploring the influence of organisational challenges on the success of digital roll-outs. For example:

- The workforce has identified the extent of traditional practical barriers to digital solutions – from finances to structures – within their organisation
- Getting communications right is key to employees' perceptions of digital technologies. This is both in terms of the specifics of a new digital solution and also in terms of the overall approach and digital vision of the organisation
- Clear and effective leadership is key to ensuring that the workforce perceives digital roll-outs as successful

When looking at organisational challenges facing companies, such as legacy systems, access to the right hardware or internal resistance to digital, we found that company size in all cases was statistically significantly associated with the level of challenges being faced. Overall, larger SMEs (50 to 500 employees) appeared to face the greatest number of organisational challenges, as can be seen in Figure 12.

We also compared the level of organisational challenges to worker perceptions of roll-outs and found, rather unsurprisingly, that those who thought most or all solutions were successful worked in organisations with fewer organisational challenges.
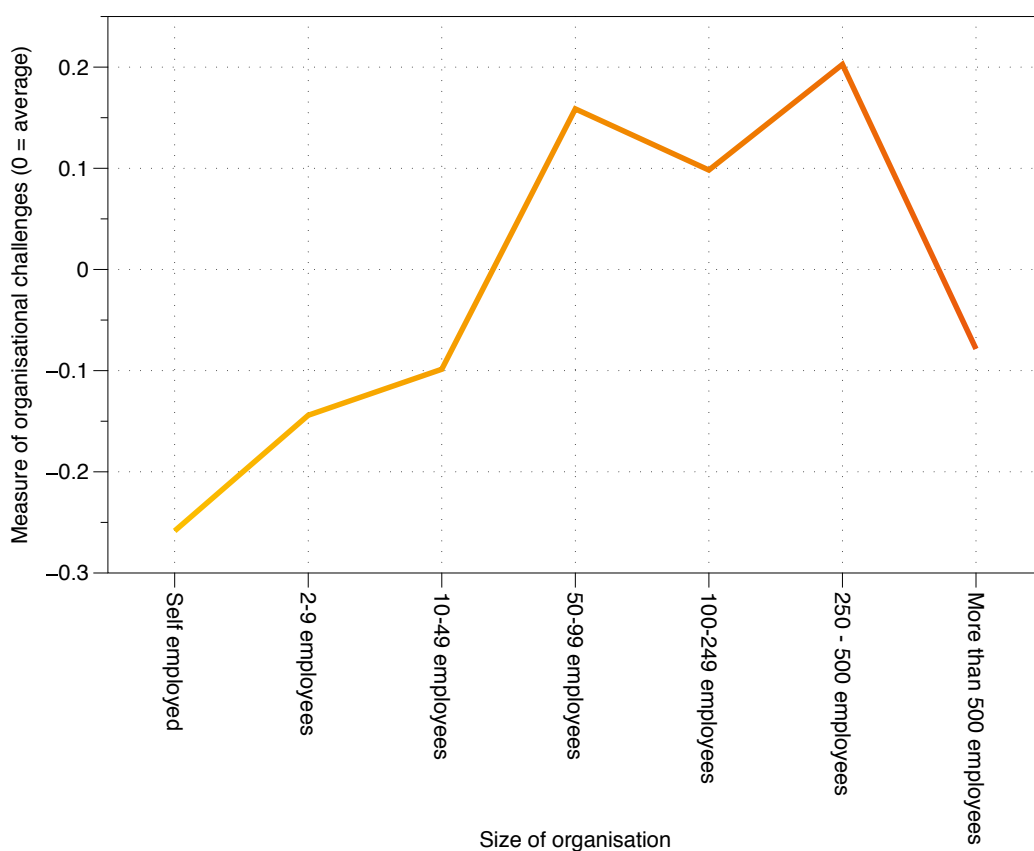

Figure 12: Organisation size and challenges to implementation of digital

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Communication and training

The UK workforce appears to want greater engagement and consultation on the implementation of digital solutions in the workplace. The survey found that:

· 64% were not all consulted prior to the provision of new digital technologies
· 57% would have liked more information on how to use new digital technologies
· 40% stated that the digital technology wasn't explained effectively to them

This would imply that getting the communications around digital roll-outs right is key to their success.

Communication channels

We have already learnt that the UK workforce wants greater dialogue on the digitalisation of their organisations, with 40% stating that the digital technology being rolled-out wasn't explained effectively to them and 57% stating they would have liked more information on how to use the new technologies implemented.

If we look at communications channels and perceptions of successful roll-outs there is a statistically significant result. With face-to-face, dedicated training and 'Other' being most strongly associated with a perception that all solutions were successful (see Figure 13). Looking at the detailed responses, 'other' predominantly came from those leading the roll-out, the organisation owner or other decision-maker – all of whom were very extensively informed and bought into the success of the project.
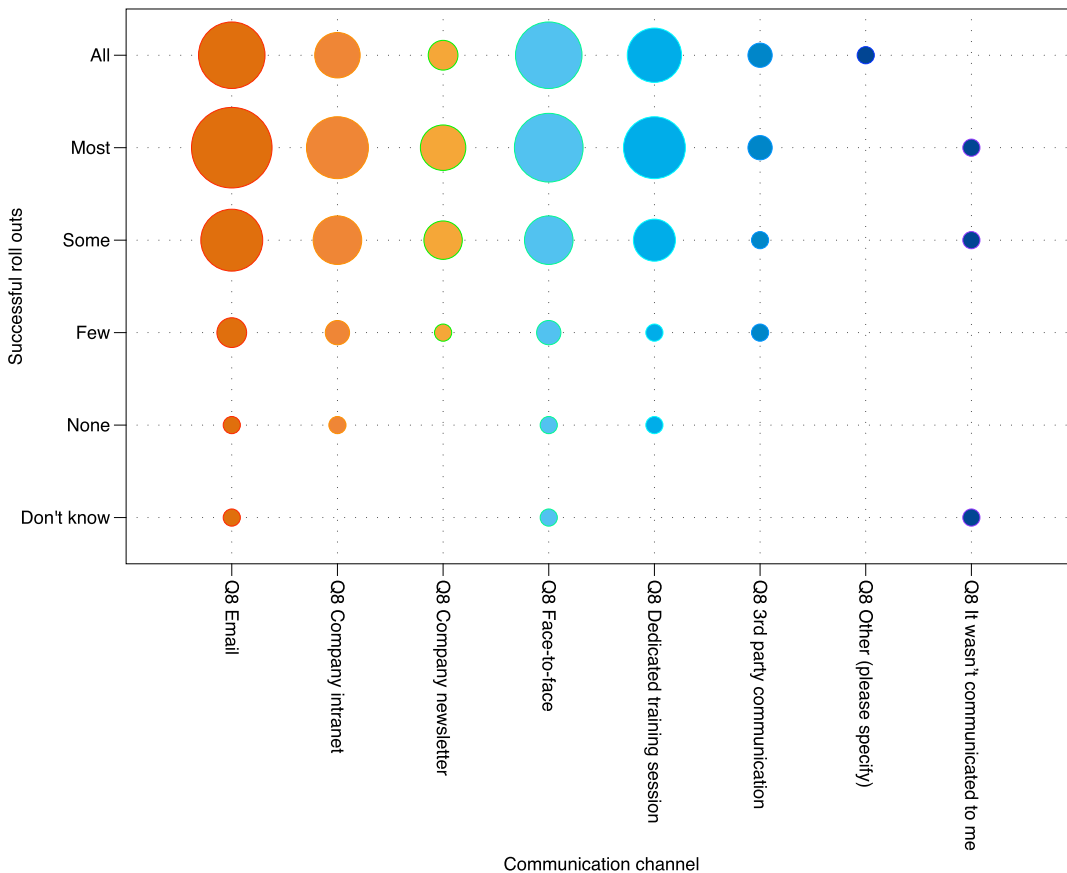

Figure 13: Communications channels and successful roll-outs

Understandably, third-party communication and a lack of communication by employers was associated with workers feeling communication was inadequate. This shows the responsibility for communicating roll-outs must and should fall to the organisation experiencing the change, and that there are benefits to investing in the right training to do it properly.
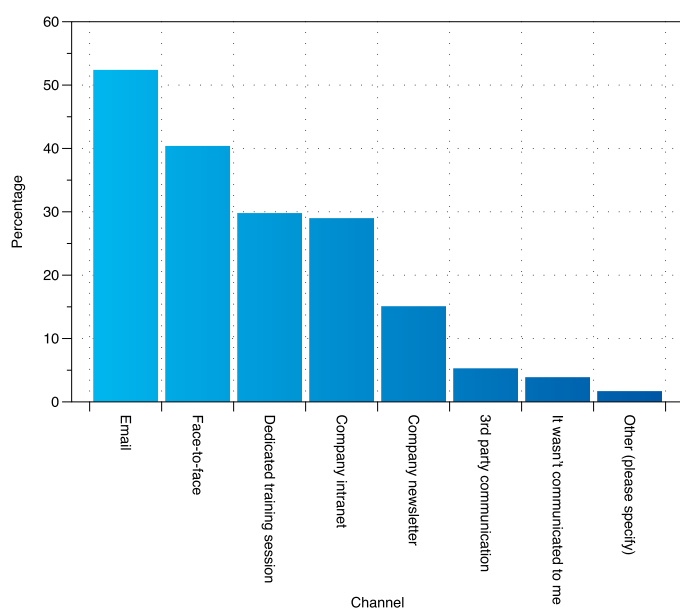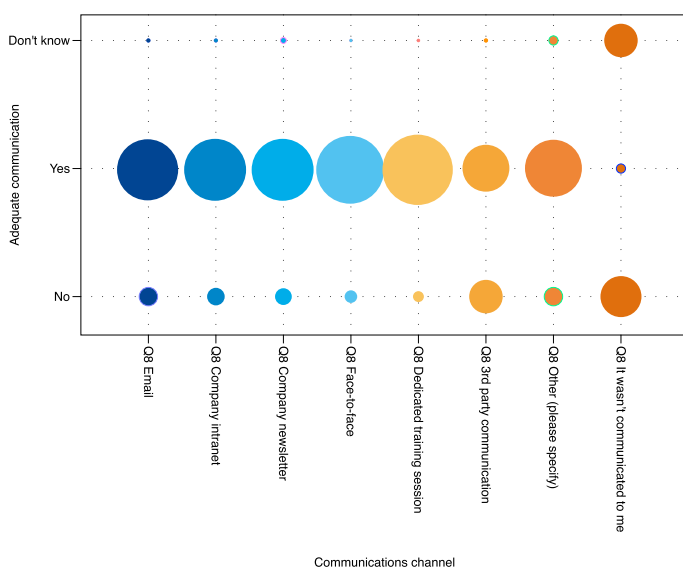

Figure 14: Communications channels used

Figure 15: Adequate communication and communications channel

Leadership

Given the strategic importance of getting digital roll-outs right not just for workers but for the organisation as a whole, we also decided it was essential to get a view on perceptions around the role of the leadership team in ensuring success.

We asked four questions about leadership around digital technology uptake in the organisation, two of which explored positive aspects of leadership such as vision and consultation, and a further two around the absence of leadership. When we combined these into an overall 'leadership score' we found that there is a strong statistical relationship between high leadership scores and workers viewing digital roll-outs as successful (see Figure 16).
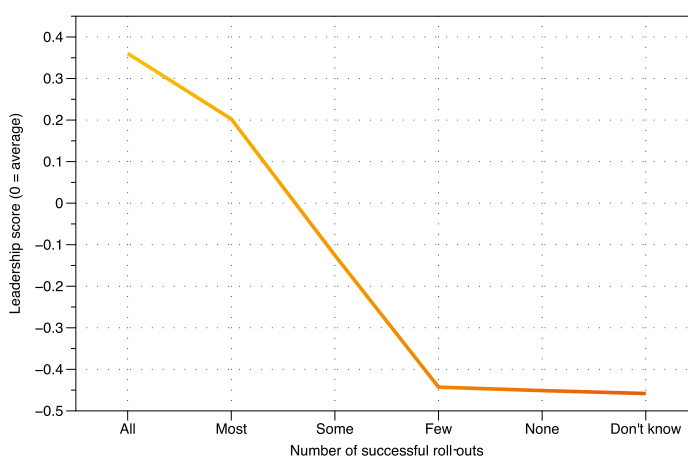

Figure 16: Leadership and successful roll-outs

We also looked at leadership by sector and found some sectors demonstrating much higher levels of leadership as perceived by the workforce (see Figure 17).

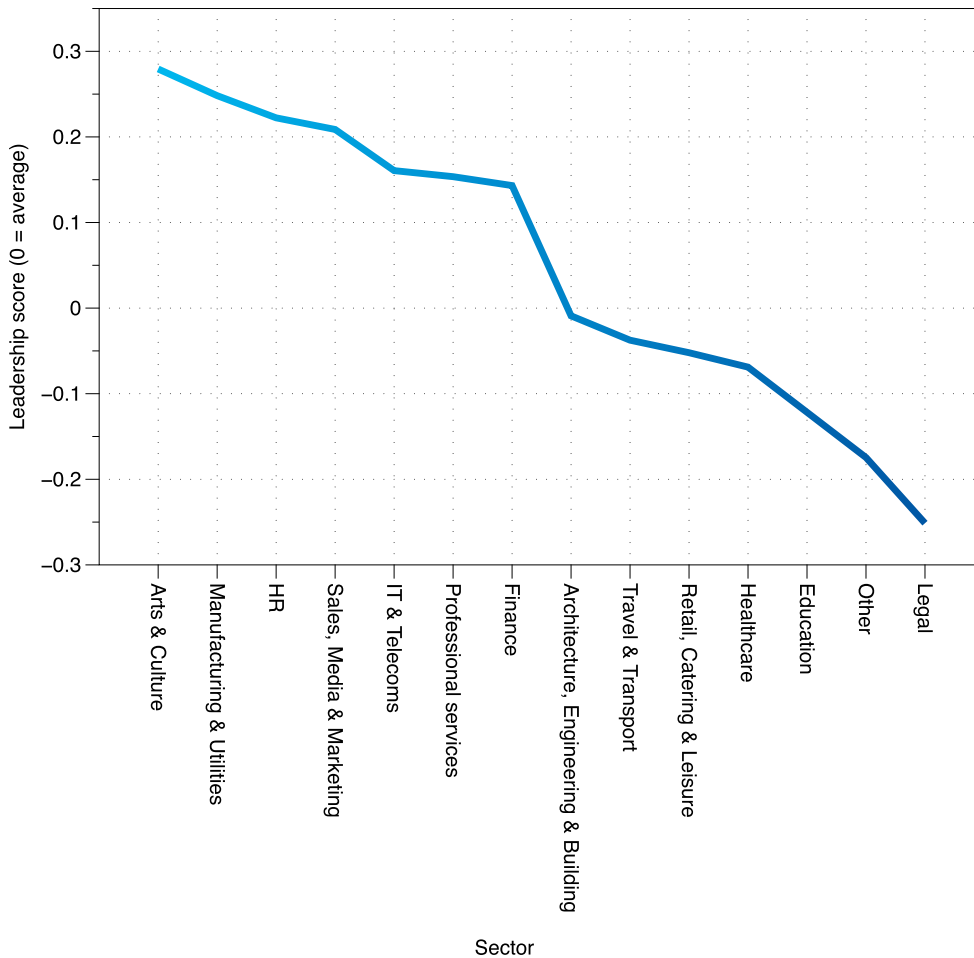instituteofculturalcapital   CISCO

Figure 17: Leadership by sector

Both of these points highlight the importance of demonstrating strong leadership in the success of digital roll-outs. If we look at the detail of the individual items in our measure of leadership we find some overall national results. Employee confidence in the board is mixed at best. A quarter (24%) are confident in the digital vision put forward by senior management, around a half (45%) are undecided and around a fifth (19%) stated that they are by implication concerned about their organisations' digital vision.

It is clear that the leadership team plays an essential role in ensuring digital roll-outs run smoothly, but we found that they, too, are at the mercy of their organisations' culture. Just short of a third (29%) of respondents stated that they thought the leadership team was struggling to push through new digital ways of working. The same proportion (29%) stated their organisation is not 'culturally ready' to embrace digital solutions.

As we have seen, clear and effective leadership is only one factor in predicting the success of digital roll-outs, which brings us on to the need for a model to explore all the factors that are at play.

4. Building a model of workplace digital culture

In this section we have developed a model that explains those factors that are most important in predicting the success of digital roll-outs by the UK workforce. To begin with we reduced the complexity of the questionnaire responses by developing measures of organisational culture and challenges.

Measures of organisational culture

As part of the questionnaire we asked 27 questions that addressed workplace culture, organisational issues, and personal confidence around the use of digital technologies both at home and at work. In order to make better sense of all this data and to identify underlying issues we put these items into an exploratory factor analysis, which groups questions that appear to be measuring the same underlying issue. The analysis robustly found four factors that we have labelled as:

· Organisational challenges
· Positive digital culture
· Personal confidence at home
· Negative digital culture

The analysis provided a 'score' for each respondent for each of these factors.

We then combined this with the insight we were looking to gather across the four key areas (personal confidence at home, personal confidence at work, organisational factors and organisational cultural factors) that we anticipated would influence workers' perceptions of digital

roll-outs, into a 'multiple regression' analysis to assess how much each factor affects the proportion of roll-outs peceived as successful. The analysis is designed to tell us:

· If each 'factor' improves or worsens such perceptions
· The importance of each factor
· If the factor is statistically significant
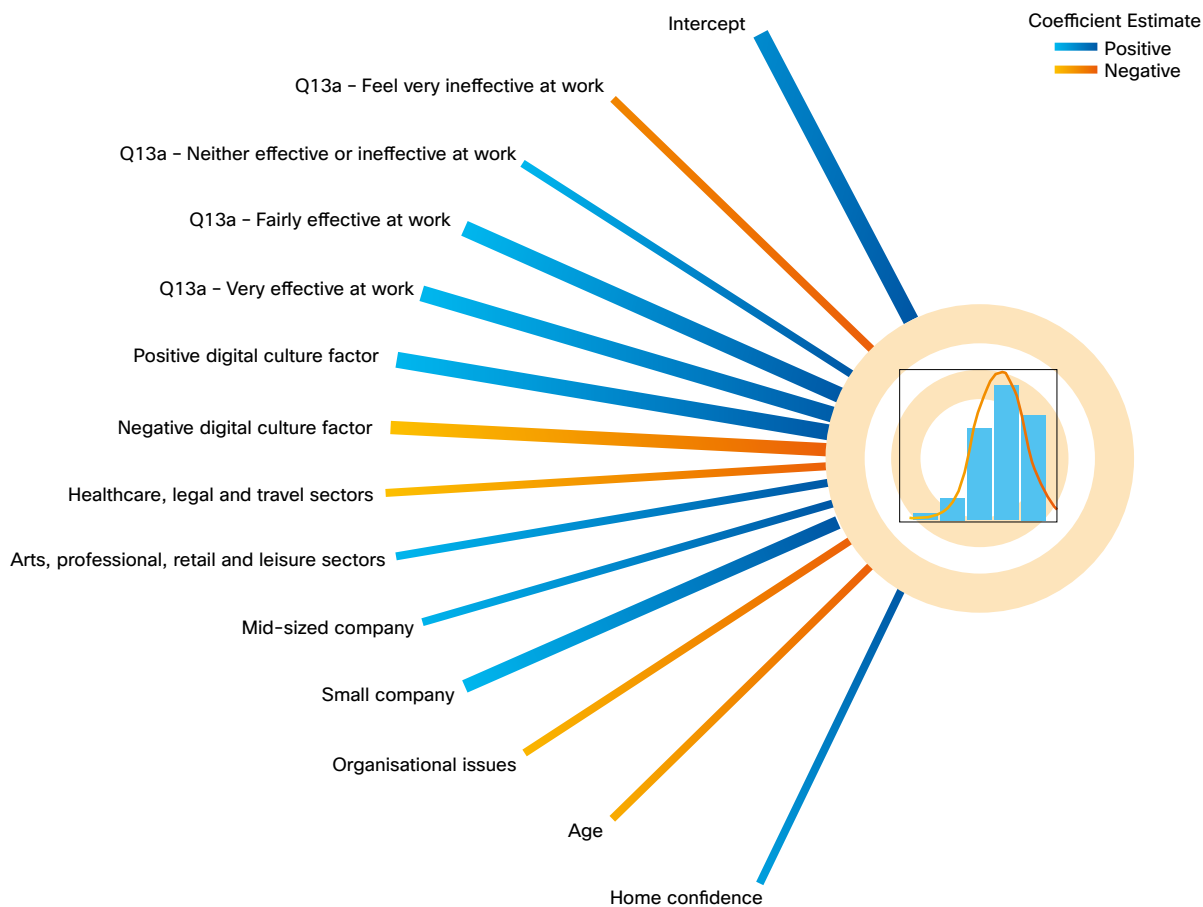
A model of successful digital roll-outs

The regression analysis produced a model that predicts 27% of attitudes to digital roll-outs. This is a good result given the complexity of the social and work context being studied. IT revealed the following factors to be most important in predicting attitudes to roll-outs:

· Confidence with ICT at work
· Positive digital culture at work
· Negative digital culture at work

What is notable is that confidence at work is the most important predictor here and home confidence the least. Though statistically significant, home confidence makes up barely 1% of the explanation provided, compared to 40% for work confidence. Positive cultural factors also outweigh the impact of negative ones (26% to 13%). Issues such as organisational sector, age and company size do impact outcomes, but only by a small amount (3% – 6%).

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Table 2: Key predictors of UK workforce perceptions of successful digital roll-outs

Positive factors	Type	Importance	Negative factors	Type	Importance
Personal confidence with digital at work	Personal	40%	Lack of workplace digital confidence and efficacy	Personal	40%
Positive digital culture including clear leadership	Workplace	26%	Negative digital culture, including lack of leadership	Workplace	13%
Being in the arts, professional service, retail, and catering/leisure sectors	Workplace	6%	Being in the health, legal and travel sectors	Workplace	6%
Small to medium company size (0-500 employees)	Workplace	6%	Organisational issues – finances, legacy systems	Workplace	3%
Personal home ICT confidence	Personal	1%	Age (35-45)	Personal	3%

Figure 18: Regression model of perceptions of successful digital roll-outs (all predictors significant at $P<0.05$ or better)

5. Conclusion

What this means for UK organisations

In embarking on this study, we have identified some valuable and at times surprising trends.

1. A large proportion of the UK workforce (29%) are still not experiencing digital tools at work and over half (52%) either do not have access to, or hold negative views of, digital technologies. This represents a substantive challenge to organisations and the UK as a whole – both of which are looking to address ongoing productivity challenges.
2. Being confident and able with digital tools at home does not necessarily transfer to confidence with digital tools in the workplace. This is important for both organisations and government as we can't assume that we can transfer skills from our everyday social use of technology to our workplaces. As was suggested earlier, we can't necessarily assume that 'digital natives' and 'millennials' entering the workforce represent a skills base or a resource to further digitise organisations.
3. Getting digital culture right comes above anything else in terms of influencing the success of digital roll-outs.
4. The challenges of creating a digital UK cannot be solved simply by ever shinier new tech. Nor does it seem it will be solved by millennials taking a lead.

From these results we are able to provide direction for organisations exploring digitalisation, and ways of ensuring they have the necessary digital culture in place.

Positive attitudes to digital in the workplace are driven by issues that organisations can themselves address.

· Ensuring workers feel confident in their use of digital tools
· Ensuring a positive organisational culture around the value of digital
· With management showing clear leadership and involving the workforce

And while there are practical problems to overcome with digital roll-outs, they are secondary in influence to workplace culture issues. This means that digital success lies in the hands of the businesses willing to look at the roll-out of digital technology a little differently.

Personal factors such as gender, level of employment, and home use are in fact not major factors in predicting attitudes to and therefore success of digital roll-outs. Rather significantly, confidence in the use of digital technologies at home does not seem to spill over to influence whether someone has a more positive attitude to digital technologies at work.

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For organisations, this means that they have every chance to shape the success of their digital roll-outs. Those looking to implement digital technologies should consider the following six success factors to ensure they have the right culture for that solution to thrive in:

· Training & confidence: Ensuring that workers feel confident in their use of digital technologies through good training and have confidence in the leadership team through clear communication
· Digital vision: Providing the organisation with a well-communicated and clear digital vision
· Organisational pride: Taking organisational pride in the adoption of digital technology
· Matching expectations: Taking time to match digital solutions to worker expectations
· Consultation and collaboration: Valuing the contributions of workers and consulting employees prior to the provision of new digital technologies
· Rewards: Ensuring that digital solution use is built into staff development and reward systems

So what are the barriers to UK industry taking up digital solutions? Our research would indicate that the UK workforce sees these as organisational culture and leadership – and not traditional factors such as legacy systems or costs. We have found evidence that organisations **cannot** rely on the workforce bringing their personal expertise to the workplace. Social media-savvy millennials may not be the solution to help them face digital disruption and transformation. Importantly UK workers are generally positive about taking on digital tools – where they have had experience of

it – but they are looking for support, leadership and engagement to make these changes successful. More broadly, if personal private experience with technology does not guarantee confidence at work, then we may need to ensure that the UK workforce has the skills needed in the digitally transformed workplace.

At the very heart of our findings is the need for organisations to understand that making digital solutions a success is a process of cultural change in their organisation. This change will not happen through plugging in new technology alone and by hoping the rest will follow. Our findings reveal the need for company leaders to bring workers along with them on their digital journey, to not assume their abilities based on how 'digitally native' they appear to be outside of work and to support them with dedicated face-to-face training, to ensure they are armed with all the skills they need to make the most of the digital technologies they are required to use in the workplace. If an organisation can get this right, then they are set-up for the best chance of success with their digital roll-outs.

If organisations fail to address the cultural context into which they are placing often expensive and strategic digital solutions, they risk condemning them to failure before they have even had a chance to succeed.

6. Methodology

Theoretical background and design of questionnaire

Whether at home or work technologies have to become accepted by those using them to deliver value. Prior research into models of 'technology acceptance'[6] have tended to focus on two main issues:

- Perceived usefulness – the extent to which a worker or home user believes that using a technology would enhance the task they are engaged in.
- Perceived ease-of-use – the extent to which a worker or home user believes that using a technology would be free from substantive effort

These two issues have been measured in a variety of ways.[7] But many of these studies have focused on individual's uptake and acceptance of technologies, especially in the home. They look at the motivations and rational behaviours of individual users. Understanding the personal motivations for technology uptake are important, but they don't necessarily help us understand what organisations need to do to smooth out the route for the workforce to engage with new digital solutions. More recent research[8] has xpanded the model to four factors that need to be explored in order to understand users' engagement with technology. These are:

- **Performance Expectancy:** Performance expectancy is a parallel to 'perceived usefulness' and is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance.
- **Effort Expectancy:** Effort expectancy is a parallel to 'perceived ease-of-use' and defined as the degree of ease associated with the use of the system.
- **Social Influence:** Social influence is defined as the degree to which an individual perceives that

important others believe he or she should use the new system.
- **Facilitating Conditions:** Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system

The organisational situation of users is therefore a 'context' in which they engage with the technology. In this research we wish to look at the role of this context as much as we do personal factors. This approach points out that how we feel about others attitudes to technology and the conditions provided by our home or work context may be key to our uptake and use of new digital technologies. In this research we have explored how personal attitudes, use and confidence mix with organisational 'culture' to influence attitudes to digital technologies at work.

This research has looked at the issue of digital solution acceptance across a national sample of the UK workforce. We believe that this is something that has not been published before, and certainly not in the last five years. Though technology acceptance models have been applied in academic research they have tended to be applied to specific case studies. These are mainly studies of the uptake of technologies by specific organisations from SME's to large corporate organisations. The majority of case studies are also focused on one single technology (e.g. social media) or sector (e.g. healthcare). A substantial proportion of the academic literature that focuses on technology acceptance in the private sector considers SMEs in developing or underdeveloped economies. This research therefore presents a unique UK national picture of the issues, challenges and best practice around digital technology uptake and acceptance by the UK workforce.

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Explaining perceptions of digital technology roll-outs

Taking our cue from the technology acceptance approach described above, we identified a set of personal and work factors that we could assess. Often ease of use, expected ease of use, performance and effort are measured in relation to specific technologies. The UK workforce is today exposed to as many if not more technologies at home as they are at work. It was important therefore to assess different aspects of home and work use. From confidence to the types and range of digital technology use. We therefore split the questions about the UK workforce's personal use across home and work, measuring:

- Personal experience and confidence at home:
  - Confidence
  - Acceptance of new technology in the home
  - Range of home use (using measures taken from the Ofcom media literacy survey)
- Personal experience and confidence at work:
  - Confidence
  - Being a knowledge worker

To understand the social and facilitating issues highlighted by technology acceptance models we split the questions across:

- Organisational challenges (predominantly facilitating issues):
  - Company/Organisational sector
  - Company/Organisation size
  - Internal organisational issues (e.g. finances and legacy systems)
- Organisational culture (predominantly social issues):
  - Attitudes to digital in the organisation
  - Digital leadership in the organisation

Defining digital solutions

What do we mean by the roll-outs of digital solutions? Often the focus is on 'high end', 'big ticket' or 'disruptive' digital technologies (cloud solutions, social media, mobile applications). Though the UK workforce is more likely to encounter both a wider range, and often more mundane but business critical systems – such as clocking on tools or regulatory compliance tools. To level the playing field for all respondents, the following was articulated at the start of the survey:

"In this survey we are interested in understanding your use of digital technologies at work and in your home. When we talk about digital technologies we specifically mean software, apps, devices, and any equipment that uses the internet to play a role in digitising documents, processes or tasks."

Table 3 was used to provide examples and a reference point for respondents.

Sample

The survey comprised 3040 online interviews with UK employees aged 16 and over. Interviews were conducted between 12th and 16th April 2016. The survey was a nationally representative random sample of UK employees. The analysis of the survey data presented in this report provides insights into the key organisational factors that can enhance, and impede, the acceptance of digital solutions in the workplace.

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Table 3: Defining digital solutions

Work activity	Examples
Systems to manage people in your workplace e.g.	• Online timesheet systems • Online expenses systems • Social recruitment tools • Online clocking on and off systems • Online task or work setting systems
Systems to manage the finances and official documents in your workplace e.g.	• eInvoicing tools (rather than paper invoices) • Online billing and payment solutions • Digital document archiving (rather than paper filing / records)
Sales and customer service systems e.g.	• Digital lead generation tools • Online customer on-boarding • Online customer journey mapping • Online customer relationship management • Online customer communications tools (chat systems, email, social media)
Marketing systems e.g.	• Using / integrating apps into the marketing processes • Web / email / social media marketing tools • Digital customer data or intelligence tools
Management systems e.g.	• Digital business intelligence tools (aggregating data from multiple digital sources to inform business decision-making) • Online business process management systems (e.g. for workflow management, resource planning, staffing allocation)
Information systems for work place, shop floor or remote working e.g.	• Remote diagnostics / maintenance tools • Systems to control or manage manufacturing processes • Computer assisted design tools • Mobile technology to support remote working
Communications tools e.g.	• Mobile devices (smart phones, tablets, laptops) • Workplace communications (Email, web-conferencing, skype, face time) • Workplace social media (Twitter, WhatsApp, Facebook, LinkedIn)

Analyses

The data were subjected to a range of statistical analyses using IBM SPSS Statistics:

- Categorical data where subjected to Chi^2 analyses and statistically significant variations between cells were identified by column proportion z-tests.
- Ordinal and ratio data relations were subjected to bi-variate correlation analyses using both Pearson and Spearman methods as appropriate.

- Comparison of ordinal and ratio data by category was undertaken using General Linear Modelling (ANOVA, MANOVA).
- Home use data was clustered using the K-means Cluster method.
- The overall regression model was developed using SPSS Automatic Linear Modelling.
- Significance levels were set at $p<0.05$ and for multiple tests significance levels were set using the Bonefferroni method.

Further details on the analysis methods and results are available on request.

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7. About the creators of this report

About Cisco

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About the ICC

The Institute of Cultural Capital is a strategic collaboration between the University of Liverpool and Liverpool John Moores University in the UK. The Institute of Cultural Capital conducts collaborative and interdisciplinary research that critically examines the role and value of cultural interventions in urban environments, from grassroots initiatives to large-scale cultural events and festivals.

Established in 2010, this leading centre of cultural policy research is a strategic collaboration between the University of Liverpool and Liverpool John Moores University. Our research is structured around five core themes: Cultural Policy; Cultural Leadership; Digital Culture; Cultural Assets and Social Value; and Culture and Collaborative Practice. The institute is led by a core team of internationally acclaimed researchers and draws upon the considerable expertise of partner institutions and a global community of cultural policy experts.

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8. Endnotes

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