

**HARVEY  
NASH**

The Power of Talent

HARVEY NASH TECH SURVEY 2019



# A DELICATE BALANCE

Ask any trapeze artist and they will tell you how important balance is in their job; take a step wrong and they will be tumbling.

But in other fields of work 'getting the balance right' isn't always a priority. Quite the opposite in fact. For instance, how important is balance when you are launching a new product that you hope to dominate the world with? Long hours might be important. Taking risks too. An outspoken and authoritative founder possibly. But balance?

However as the world, and technology, move on to become more diverse, more interactive and more changeable, we are beginning to

see just how important getting the right mix is. Whether it's in the make-up of the tech team, or the mix of technology itself, those organisations that are able to stitch together the right balance of people, technology and skills are proving much more resilient, more innovative and more responsive to change.

Welcome to this year's Harvey Nash Technology Survey. In it we look at everything from skills, to future technology to careers, shining a light on the topics that really matter to tech professionals. And amongst all these charts, diagrams and data lies a question: where does the balance lie for you?



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## About the survey



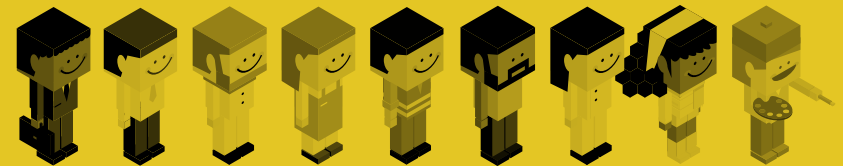
**2070**  
respondents

one of the largest tech surveys in the world



**73**  
countries

from Namibia to New Zealand



**242**  
different job titles

from software developer to CTO to robotics engineer

# What you need to know

## A leadership crisis

Technology leaders take note – less than one in five of your team feel you are 'very effective' at creating a vision and strategy for your organisation, and a worrying one in three feel you are 'ineffective'.

## Fractures in the tech team?

Regardless of seniority, the roles that are most likely to be positive about leadership are customer oriented, digital roles. It hints at an emerging 'dividing line' in the tech team between those outward-looking roles driving innovation and customer engagement, and the inward-looking roles focused on operations.

## Innovation fatigue

Only one in 100 good innovative ideas make it to commercial success, and four in ten organisations have 'zombie' innovation projects – poorly performing initiatives that haven't been stopped and are sucking in time and effort away from the ones that could work.

## The coming of age of AI

Four in ten organisations are now using AI in a commercial way (i.e. moved beyond an experiment). This is occurring across all sectors. Has AI's time now come?

## No trust, but no action

Four in ten do not trust third parties with their personal data. Despite this distrust, half don't modify their behaviour or change their privacy settings to any great degree to minimise data issues.

## Gender balance

The sector remains hugely skewed towards men. A sizeable minority of respondents (20%+) do not feel it matters, and do not feel greater gender balance would improve the effectiveness of tech.

## The sector is driven by purpose

When asked to pick the single most important factor in their career, technologists overwhelmingly selected 'purpose' over 'money' or 'status'. This is irrespective of job role or salary.

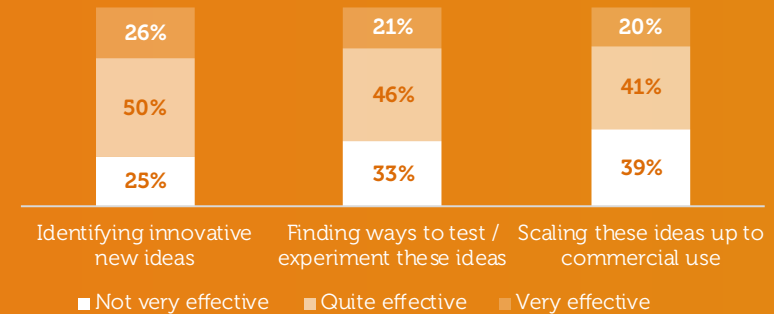
a delicate balance

# Innovation, zombies and growth



## Innovation fatigue?

How effective is your organisation at the following activities relating to innovation?



Making a success of 'Innovation' is tough. But that shouldn't surprise anyone; if it were easy everyone would be doing it.

This year's Survey shines a light on quite how tough it is, and looks at the 'life span' of an innovation.

Innovation begins with an idea. And the positive news is that there are lots of organisations with good ones. 26% feel they are 'very effective' at identifying innovative ideas, and a pleasing 50% believe they are at least 'quite effective' – so around 76% in total.

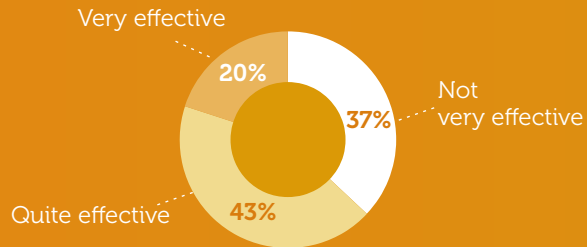
Next comes testing and proving the value of the idea. Here success rates are slightly less, 67% in total ('quite' + 'very' effective).

Finally comes the scaling up of proven ideas and here the success rates drop further – 61%.

The challenge comes when you link all of these together into a single chain of activity: 76% x 67% x 61% = 31%. In other words, very roughly speaking there is a 31% chance a great idea will be identified, tested and scaled up to at least a 'quite effective' degree. And if you prefer your organisation to be 'very effective' at these three things (and in the world of innovation, you really should), the chances of a great idea making it all the way through shrinks to 1%.

## Beware of the zombies

How effective is your organisation at stopping failing innovation projects?



What is also worrying is that 37% of organisations are 'not very' effective at stopping innovation projects when they are not working. It means for many there is a legacy of poorly performing projects – innovation zombies – that are sucking in time and effort away from the ones that could work.

A lot of people raise a cynical shrug when someone in the team enthusiastically talks about 'innovation'. With only a one in 100 chance of a good idea becoming successful and four in ten chance that they will be surrounded by zombie innovation projects, it's no surprise.

As we said, innovation is tough.

## Size matters

How effective is your organisation at the following activities relating to innovation? Quite effective + Very effective, by company size.

	Identifying innovative new ideas	Finding ways to test / experiment with these ideas	Scaling these ideas up to commercial use	Stopping innovation projects when they don't produce results
0-100 employees	81%	76%	66%	70%
101-1000 employees	71%	65%	59%	63%
1001+ employees	74%	63%	59%	59%

It probably comes as little surprise that small organisations are better at identifying new ideas than larger ones.

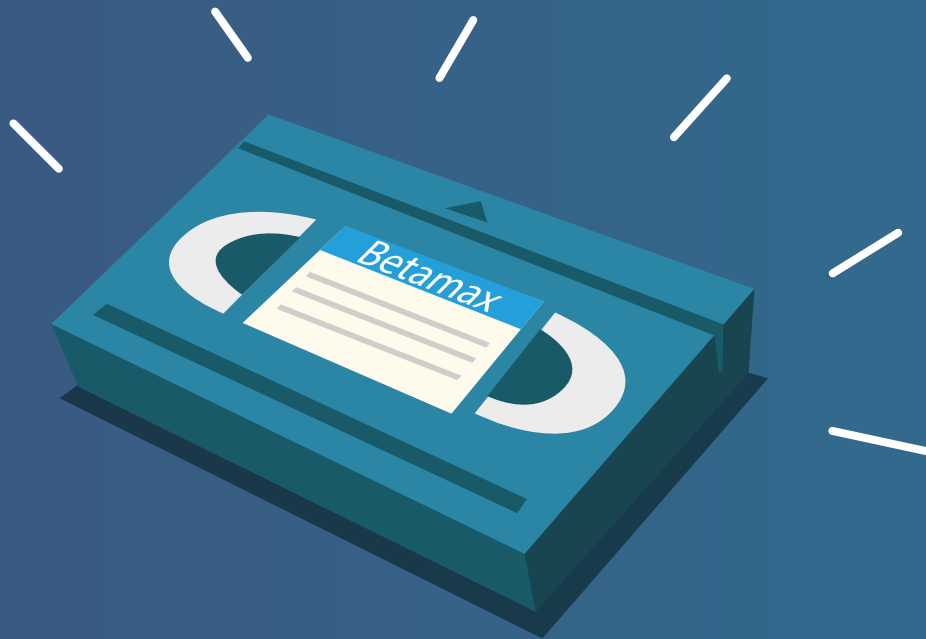
Not only that, but smaller companies are better at testing their ideas, scaling them up and, crucially, stopping projects when they don't appear to be working out.

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**A lot of people raise a cynical shrug when someone enthusiastically talks about 'innovation'.**

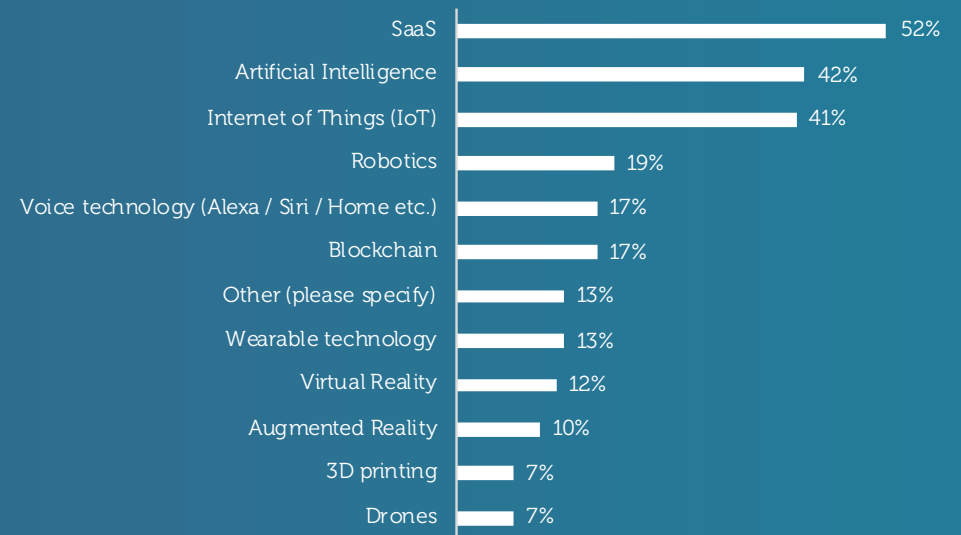
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# The next big thing?



## New tech that's making an impact

Which of the following technologies are having a commercial impact on your organisation?



The Harvey Nash Technology Survey always asks a question about future technology, but this year we wanted to get very specific: putting aside all the hype, which technologies are actually having an effect on your bottom line right now?

The fact that SaaS is right up the top is expected; few organisations now operate without cloud services. In fact the Tech Survey team were expecting its adoption to be a little higher.

More interestingly is just how high AI is – more than four in ten organisations are either making or saving money with it. Some of this might be down to different people's definition of AI. It is often the case that when a new technology begins to grow in usage, other existing technology is 'rebadged' with that new technology's name. Whilst that probably is happening in the case of AI, our sense is that there is a genuine surge happening here. It will be interesting to see what this figure looks like next year.

# AI – it's everywhere

Which of the following technologies are having a commercial impact on your organisation?

	Business / Professional Services	Construction / Engineering	Education	Financial Services	Government	Healthcare	Manufacturing	Retail / Leisure	Technology / Telecoms
SaaS	60%	26%	62%	62%	57%	44%	35%	66%	55%
Artificial Intelligence	40%	21%	35%	55%	27%	38%	33%	46%	45%
Internet of Things (IoT)	39%	45%	22%	27%	36%	33%	50%	38%	54%
Robotics	17%	32%	8%	22%	10%	10%	39%	16%	19%
Blockchain	17%	9%	3%	30%	13%	8%	7%	2%	19%
Voice technology (Alexa / Siri / Home etc.)	18%	6%	16%	20%	13%	26%	7%	18%	22%
Wearable technology	12%	19%	11%	9%	5%	28%	13%	12%	17%
Other (please specify)	16%	11%	16%	9%	17%	8%	9%	8%	13%
Virtual Reality	10%	32%	14%	7%	8%	8%	11%	2%	15%

■ sector with highest usage

■ sector with lowest usage

AI usage is particularly prevalent in Financial Services – an area where it has particular use in fraud prevention and automating customer service functions.

What is also surprising is that, unlike most of the other emerging technologies we cover here, AI is being used quite widely across all sectors. Regardless of the positives or negatives that are associated with this technology, the discussion is increasingly becoming 'how do we work alongside AI?' and those of you who have an eye on what is the 'next big thing' for your career, take note – AI could well be that thing.

Not far behind is IoT. Whilst there are clear applications in sectors where real-time embedded devices are widely used (Technology / Telecoms and Manufacturing lead

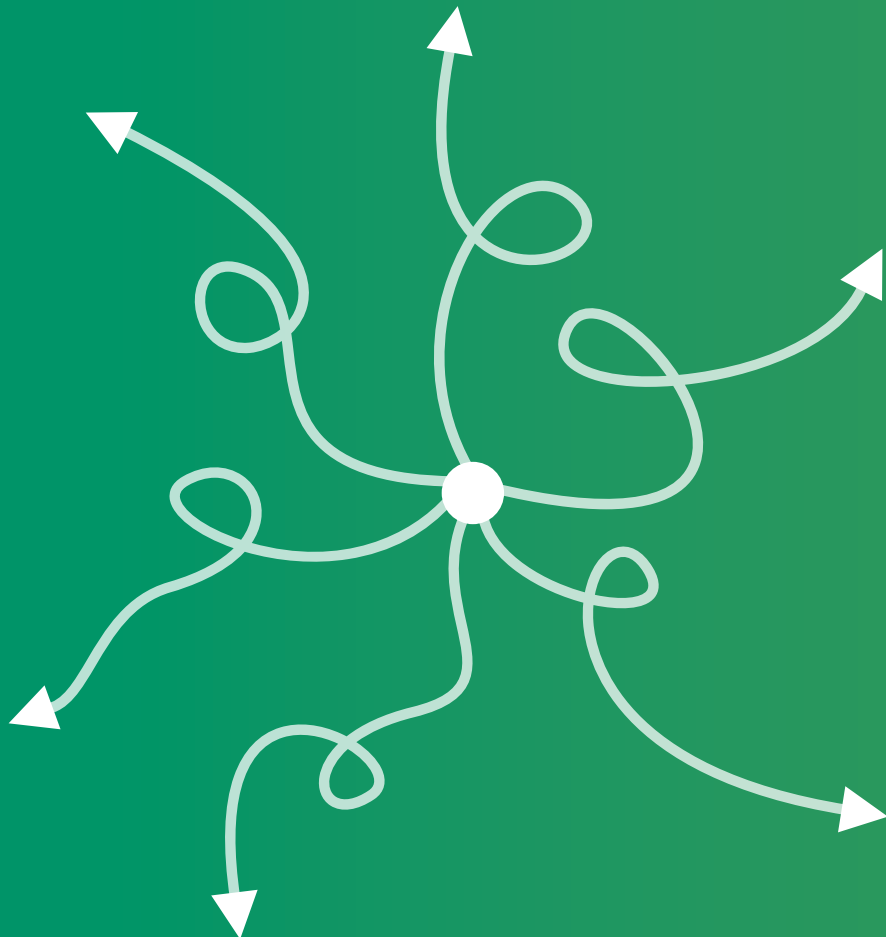
the way here), it's also quite prolific in the Construction and Business Services sectors.

It's worth noting that Healthcare organisations are the greatest users of wearable tech. Interestingly with Apple's new Watch boasting 'medical grade' heart monitoring features, technology is increasingly being used to prevent or predict health problems, rather than solve them.

Unsurprisingly Blockchain is most prolific in Financial Services, where over one third of organisations are putting it to commercial use. Given its potential for much wider application though, we were expecting greater usage elsewhere. Maybe we will see this change next year.

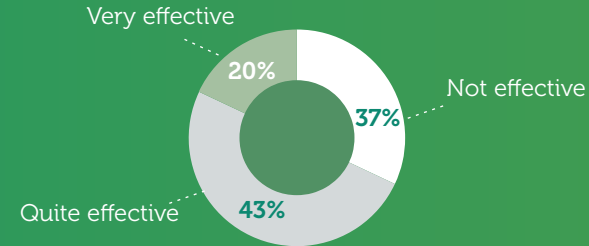
**The discussion is increasingly becoming 'how do we work alongside AI?'**

# A leadership crisis?



## Only one fifth of leaders are creating effective visions

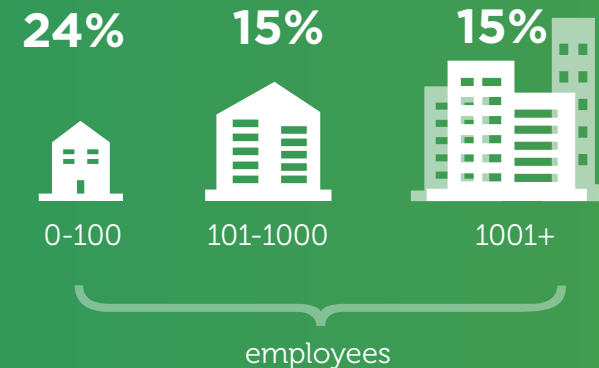
How effective is the technology leadership team in creating an effective vision and strategy for your organisation?



Technology leaders take note: less than one in five of your team feel you are 'very effective' at creating a vision and strategy for your organisation, and a worrying one in three feel you are 'ineffective'.

Given how important it is for the team to feel aligned to the strategy (all of our research tells us it's one of the key motivating factors, alongside interesting work and money), this is clearly bad news for many tech leaders.

### Very effective at communicating vision

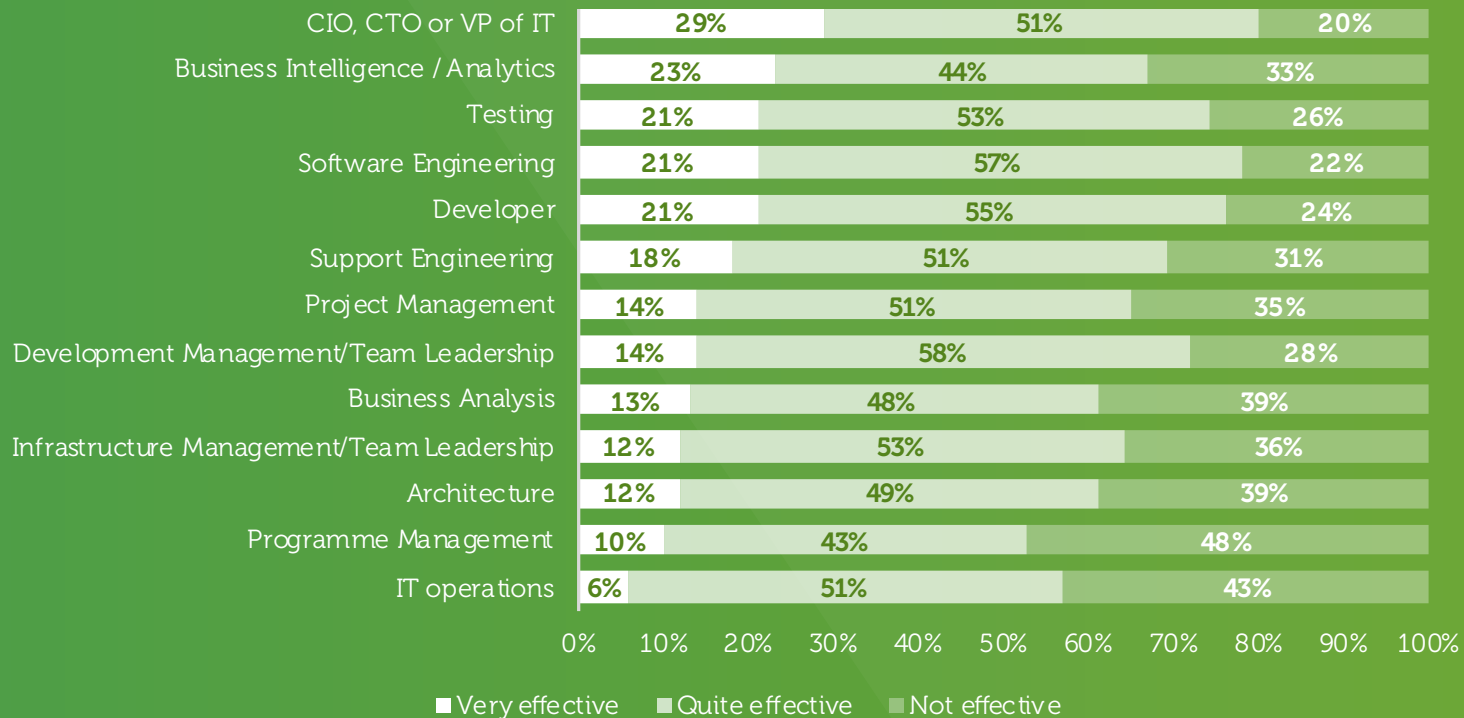


Very large organisations have a tougher time of communicating their vision. Just 15% agree that the leadership team is very effective at communicating vision in organisations with over 1000 employees.



## Belief depends on job role

How effective is the technology leadership team in creating an effective vision and strategy for your organisation? By job role.



The belief in the vision varies depending on job role. We were expecting the more senior the role, the more belief there would be. Well, that's certainly the case for IT managers and VPs – who are the biggest 'believers'. But it is certainly not the case for Architects or Managers / Team Leaders in Development or Support. Interestingly Business Analytics and Software Developers – that is non-management roles – are actually quite strong 'believers'. Possibly because of the key role these people play in achieving the digital vision of the organisation. It suggests that if you are an important part of the vision and strategy – you'll believe in it... if you're not, maybe you won't.

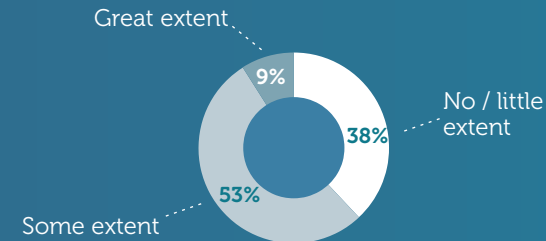
It hints at an emerging 'dividing line' in the tech team between those outward-looking roles driving innovation and customer engagement, and the inward-looking roles focused on operations.

# In data we trust?



## Who would you trust with your data?

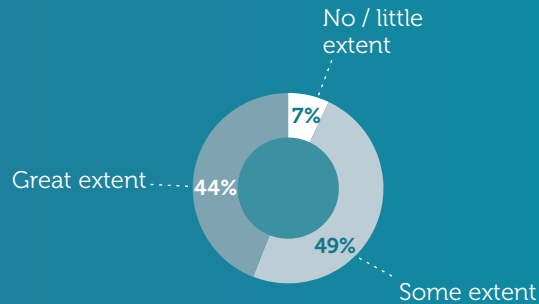
To what extent do you trust third parties to use your data in an appropriate way?



The world is increasingly being influenced by the tech giants, and the data they possess. There was a time, not long ago, when people freely shared personal information without giving much thought to the consequences. Things have changed, and it seems reports of cyber-crime and data misuse are occurring at an increasing rate and this has been reflected in our research: only one in ten respondents fully trusted third parties to use their data appropriately, and almost four in ten didn't trust them at all.

## Are consumers doing enough?

To what extent do you modify your online behaviour to ensure your privacy is protected (e.g. reviewing how data is used, changing privacy settings etc.)?

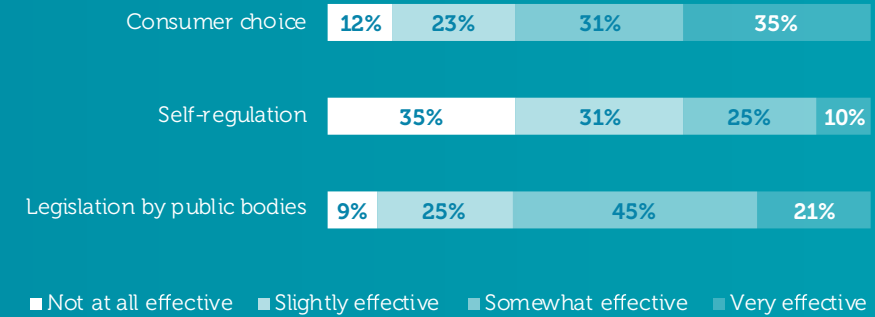


Only four in ten have modified their online behaviour to a great extent to protect themselves. If you look at the 38% of respondents who have 'no/little' trust in third parties, the proportion prepared to modify their behaviour only increases to 49%.

This data suggests that whilst there are clearly concerns about data usage, a sizeable number of tech professionals aren't acting on it. And if tech professionals aren't acting, what hope is there for everyone else?!

## It's all about 'Power to the people'

How effective do you think the following methods are at ensuring data-centric organisations use personal data in an acceptable way?



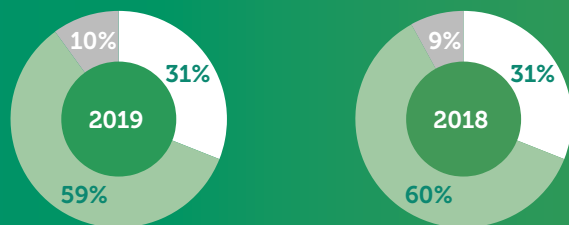
How do you keep in check global data-centric companies that have more cash than the entire GDP of Ireland or Portugal (in the case of Apple), have over one third of the world's population as registered users (in the case of Alphabet / Google) and operate in every country on Earth (pretty much all of them!)?

Well, according to tech professionals you can forget about self-regulation; a mere one in ten thought this was 'very effective'. Formal regulation (such as GDPR in Europe) was seen as fairly effective, but the most powerful method of keeping things in check was consumer choice; in other words people simply 'voting with their feet' and moving to new online resources if they are unhappy with their current ones. But are people really doing this? Given, as this survey shows, many aren't even changing their privacy settings we doubt it – for now.

# AI and the future of tech jobs

## Are the robots coming?

Agree or disagree? Within ten years, a significant part of the job that I currently perform will be automated.



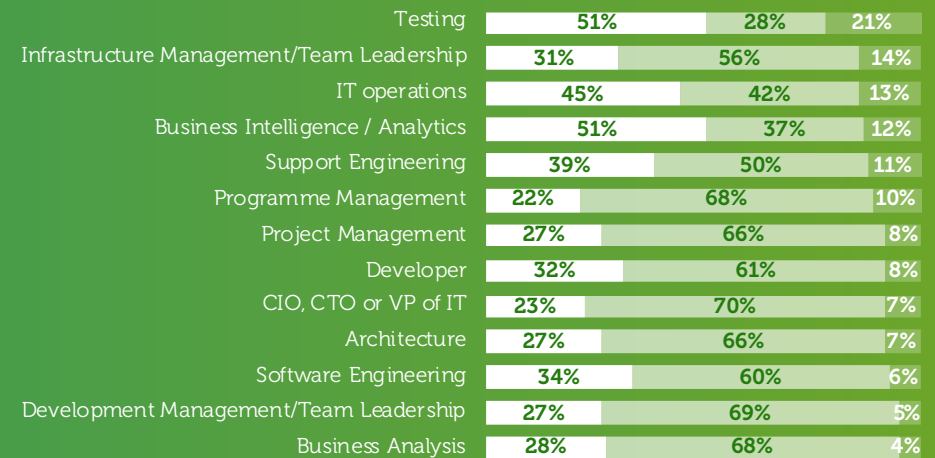
● Agree ● Disagree ● My job is already being affected by automation

31% of respondents believe a significant part of their job will be automated in the next ten years, and 10% are seeing automation affecting them right now.

Interestingly, the proportion being affected by automation right now is similar to last year. We would expect this year's figure to be higher, given that within ten years respondents are predicting this figure will grow to over 40%. It suggests that respondents are expecting a lot of the future, but actually the speed of change may not be as quick as expected.

## Testing and ops are being eaten by software

Agree or disagree? Within ten years, a significant part of the job that I currently perform will be automated. By job role.



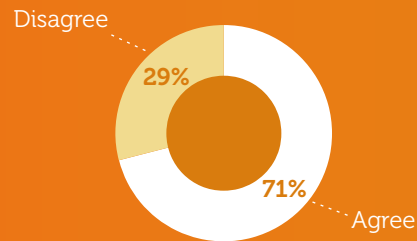
■ Agree ■ Disagree ■ My job is already being affected by automation

Automation affects different jobs in different ways. Right at the top of jobs being 'eaten by software' are Testers, an area that has long been the target of automation. Also high up the list are Operations and Support, roles that have an element of 'process' in them that many feel can be turned into software. Perhaps surprisingly Business Intelligence is also high up the list; BI and Big Data specialists are actually quite creative roles which typically would insulate them from the effects of automation, but clearly the practitioners themselves don't think so.

# Immigration

## Immigration is key

Agree or disagree? Immigration of skilled tech talent is critical to the competitiveness of my country's technology sector.






Over seven in ten respondents feel that immigration is critical to their country's competitiveness, similar to the last two years. There is no doubt immigration has been a driving factor to the sector; just ask Elon Musk, CEO of Tesla (born in South Africa), or Satyam Satya Nadella, CEO of Microsoft (born in India), both of whom are now living in the US.

Over seven in ten respondents feel that immigration is critical to their country's competitiveness

## Different countries view immigration differently

Agree or disagree? Immigration of skilled tech talent is critical to the competitiveness of my country's technology sector.

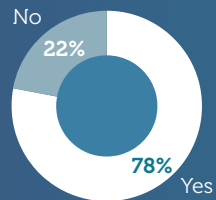
	2017	2018	2019
 Germany	54%	61%	62%
 UK	73%	70%	69%
 US	49%	60%	62%

For most countries opinions on immigration have stayed fairly stable over the last three years we've been tracking it, however there is a notable exception in the UK, where respondents are slightly less positive about it now. Brexit may be a factor, although it must be noted that the US, where there has been major political change in the last two years, did not have a corresponding decline in support for immigration.

# Gender diversity

## Gender balance (it's bad news, again)

Do you believe women are under-represented in the technology sector?



For such a simple question there is quite a lot that sits behind it. Unsurprisingly almost eight in ten feel that the overall balance of the tech team should be more representative of the balance of men and women in the world at large (which is 50/50). But that still leaves 22% – much more than just a small minority – who feel getting better balance in the tech team is not important.

Intrigued by these stats, we approached a handful of those 22% to find out more.

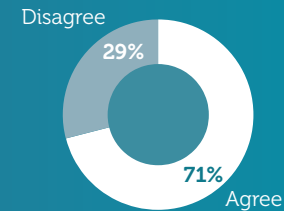
Some said that in their part of tech (for instance user interface design), the balance was actually quite close to 50/50. Fair enough.

Others argued that although most people in tech were men, there was nothing stopping women entering the sector and really it's just a case of demand and supply. If women want to pursue careers elsewhere, we shouldn't stop them – goes their argument.

Our view is that this argument only stacks up if there is a level playing field for men and women: where women have the same access to opportunities, and those opportunities are shaped and presented in a way that is just as appealing to women as it is to men. We are quite far away from that level playing field right now.

## Not all people think better balance = better productivity

Agree or disagree? Getting more women into tech will improve the effectiveness of the technology team.



The vast majority of respondents felt a better gender balance would improve the effectiveness of the tech team, but – rather like the previous question – a significant minority did not. In fact, 17% of female respondents do not believe their presence in a tech team improves productivity.

What the data for this and the previous question shows is that whilst most people will declare support for better balance in gender, there is a significant minority of people who do not.



**The vast majority of respondents felt a better gender balance would improve the effectiveness of the tech team**



# We did this on purpose

## What's motivating you?

What is the key motivating factor in your career?

60%  
Purpose

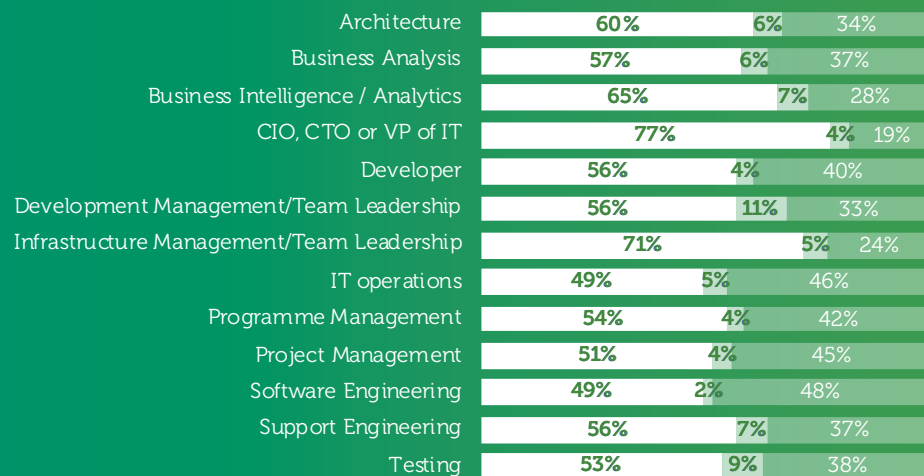
35%  
Financial reward

5%  
Status

When asked to pick the single most important factor in their career, technologists overwhelmingly selected 'purpose' over 'money' or 'status'.

## Motivation and job role

What is the key motivating factor in your career?



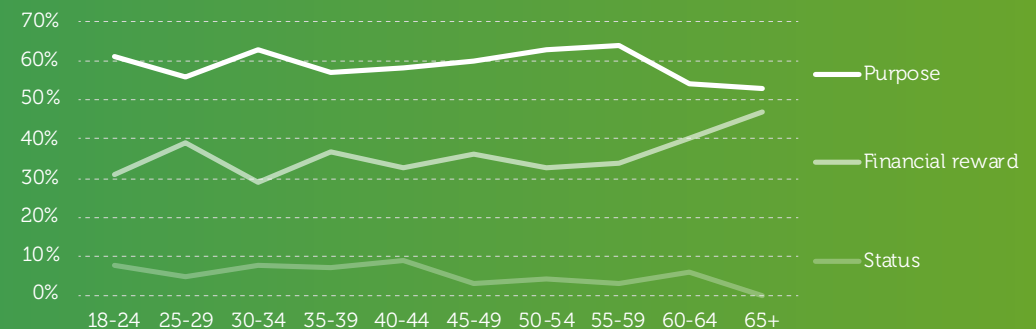
■ Purpose ■ Status ■ Financial reward

Filtering the data by job role it's clear there is no role where 'purpose' fails to be the most prominent driver, but in Software Engineering and IT Operations 'financial reward' comes a very close second.

Perhaps unsurprisingly 'purpose' becomes more popular when the job is already being rewarded well financially. When you are paid well – like CIOs, CTOs are – you can afford to not value money so much. That said, six in ten people earning under Euro 60,000 still consider 'purpose' their main career focus.

## Motivation and age

What is the key motivating factor in your career?



We wondered whether motivation changes with age; for instance would millennials value 'purpose' more highly than older tech professionals? The data doesn't suggest this. In fact 25-29 year olds are the most likely age group to value 'financial reward' of any age group below 60. This period is a key point in many people's lives (perhaps they are settling down with a partner, or buying a property), and money is clearly important. There is a similar peak in desire for 'financial reward' in the 60+ age group. At this age, many will be considering retirement, so it is possible that those working are doing so to supplement their retirement income.

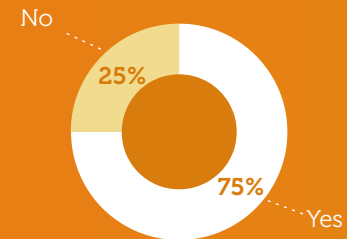
But, just like when we filtered the data by job role, there is no age group where 'purpose' is not the most prominent career driver.

# Love is all you need



## Tech people love their jobs

Do you love your job?



Do you love your job? Well, if you do, you are not alone – three quarters of tech professionals do. It was a 'binary' question, with no other options in between Yes or No so we think this is a pretty good result.

## Job satisfaction and organisation size?

Do you love your job?

	Yes	No
0-100 employees	81%	19%
101-1000 employees	79%	21%
1001+ employees	71%	29%

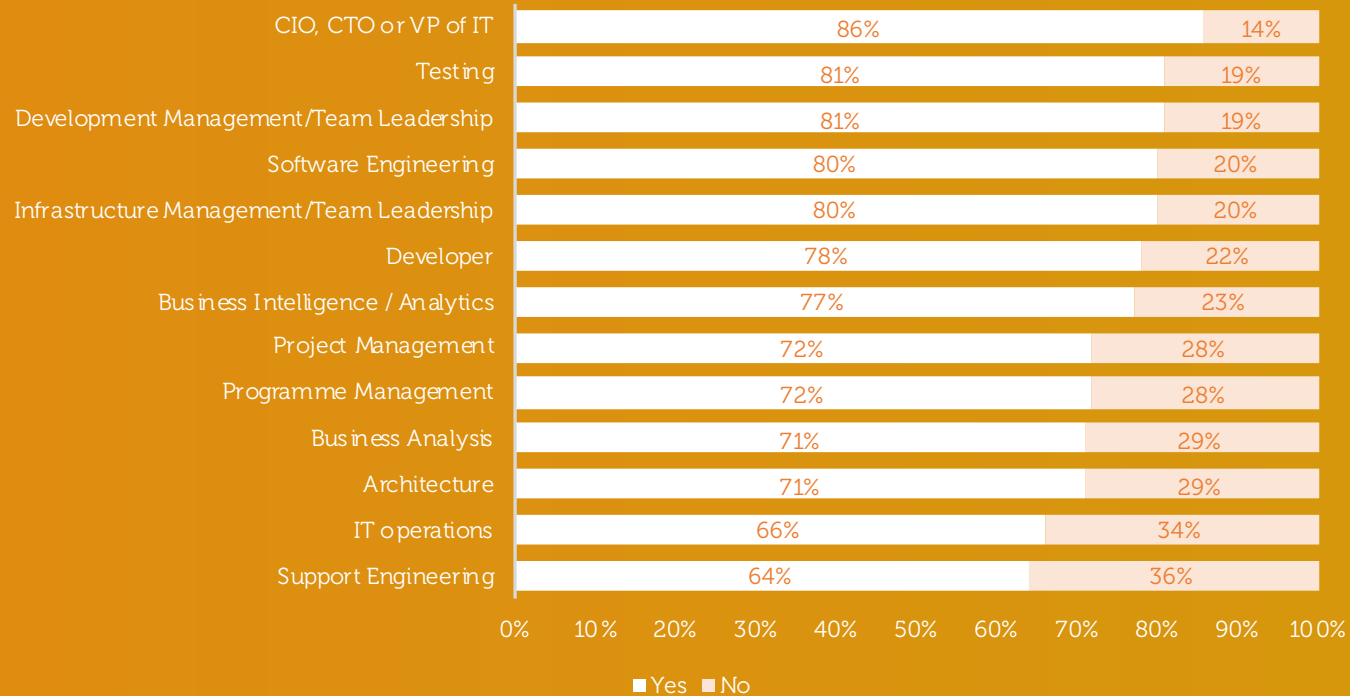
It would appear that the smaller the organisation, the more likely you are to love your job.

Importantly women are likely to love their job almost exactly the same as men.



## Job satisfaction and job role

Do you love your job?



CIOs and tech leaders come out top, and IT operations comes out bottom. Interestingly IT operations scores quite low on other questions (they are least protected from automation, and one of the least likely to be driven by sense of 'purpose').

But even with that filtering there is no job role that doesn't have the majority of people loving it, which we think is a strong endorsement that to be in tech is a very good place to be.

# What are you worth?

## Permanent Salary (global average)

	Count	Average £	Lower Quartile £	Median £	Higher Quartile £	Average \$	Lower Quartile \$	Median \$	Higher Quartile \$	Average €	Lower Quartile €	Median €	Higher Quartile €
Architect	53	87,977	66,000	85,000	111,000	116,034	87,000	112,200	146,400	100,102	75,000	96,900	126,300
Business Analysis	38	52,105	25,000	35,000	72,250	68,674	33,000	46,200	95,200	59,189	28,500	39,900	82,025
Business Intelligence / Analytics	22	66,673	45,000	64,700	84,650	87,900	59,400	85,200	111,700	75,791	51,300	73,350	96,425
CIO, CTO or VP of IT	96	124,367	75,000	110,000	151,000	163,946	99,000	145,200	199,250	141,342	85,500	125,400	172,000
Database Administrating	10	40,700	25,400	39,600	52,500	53,680	33,500	52,200	69,300	46,310	28,900	45,000	59,850
Design/UX/UI	10	65,880	51,350	65,000	96,350	86,820	67,600	85,800	127,050	74,820	58,175	74,100	109,575
Developer	36	51,300	22,000	45,000	75,050	67,617	29,000	59,400	98,750	58,283	25,000	51,300	84,925
Development Management / Team Leadership	51	81,557	60,000	74,800	65,000	107,525	79,200	98,600	85,800	92,716	68,400	85,000	74,100
Helpdesk	14	40,443	22,750	35,000	42,500	53,357	30,000	46,200	56,100	46,050	25,875	39,900	48,450
Infrastructure Management / Team Leadership	34	68,088	40,950	55,000	96,350	89,759	54,000	72,600	127,050	77,385	46,575	62,700	109,575
IT Operations	42	55,176	34,400	55,000	74,950	72,771	45,300	72,600	98,900	62,779	39,000	62,700	85,375
Programme Management	40	98,085	63,050	95,000	118,300	129,320	83,200	125,400	156,000	111,513	71,825	108,300	134,550
Project Management	46	56,183	36,150	55,000	74,800	74,083	47,700	72,600	98,600	63,891	41,175	62,700	85,000
Quality Assurance	16	75,538	38,450	46,700	90,200	99,575	50,700	61,600	118,950	85,844	43,725	53,150	102,600
Security Specialist	9	77,711	39,600	75,000	83,600	102,422	52,200	99,000	110,200	88,278	45,000	85,500	95,000
Software Engineering	36	68,222	40,100	65,500	96,800	89,861	52,800	86,400	127,600	77,389	45,450	74,550	110,000
Support Engineering	29	60,221	30,800	45,000	74,800	79,359	40,600	59,400	98,600	68,386	35,000	51,300	85,000
Testing	19	46,126	26,600	35,000	61,600	60,768	35,000	46,200	81,200	52,347	30,100	39,900	70,000
Web Developing	9	28,311	20,000	22,000	34,200	37,289	26,400	29,000	45,000	32,111	22,800	22,800	38,700

## Contract Day Rate (global average)

	Count	Average £	Lower Quartile £	Median £	Higher Quartile £	Average \$	Lower Quartile \$	Median \$	Higher Quartile \$	Average €	Lower Quartile €	Median €	Higher Quartile €
Architect	22	551	484	550	650	727	638	726	858	627	550	627	741
Business Analysis	40	416	334	450	550	549	439	594	726	474	378	513	627
Business Intelligence / Analytics	17	502	350	450	650	662	462	594	858	571	399	513	741
CIO, CTO or VP of IT	32	905	650	750	1,250	1194	858	990	1,650	1030	741	855	1,425
Design/UX/UI	9	528	342	418	484	696	450	550	638	600	387	473	550
Developer	29	386	250	396	484	509	330	522	638	439	285	450	550
Development Management / Team Leadership	14	535	410	500	630	706	540	660	831	609	466	570	717
Infrastructure Management / Team Leadership	17	504	266	450	650	664	350	594	858	573	301	513	741
IT Operations	21	327	132	308	450	431	174	406	594	372	150	350	513
Programme Management	59	797	550	750	950	1,051	726	990	1,252	907	627	855	1,079
Project Management	73	503	450	550	572	664	594	726	754	573	413	627	650
Software Engineering	23	470	329	450	572	619	434	594	754	534	375	513	650
Testing	16	394	279	450	550	520	367	594	726	448	316	513	627

## Harvey Nash is a world leader in providing talent for the digital economy.

For over three decades we've been helping organisations across the world recruit the technology talent they need to succeed; from software developers to CTOs and CIOs.

Our solutions division helps organisations solve their complex technology and resourcing needs through our offshore development facility in Vietnam and managed workforce programmes.

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