Nimbus Ninety

The independent community for business and technology leaders

DIGITAL TRENDS REPORT 2020



CONTACT

Address

Nimbus Ninety
15 Bishopsgate
London EC2N 3AR

Phone

General: +44 (0) 203 598 2237
Editorial: +44 (0) 203 598 7982
Membership: +44 (0) 203 598 7981
Partnerships: +44 (0) 203 598 7983

Online

Website: www.nimbusninety.com
General: info@nimbusninety.com
Editorial: editorial@nimbusninety.com
Membership: membership@nimbusninety.com
Partnerships: partnerships@nimbusninety.com

NOTE FROM THE FOUNDER

As a society, we have a remarkable tendency to build up expectations for a new decade. Indeed, predictions for 2020 have set hopes high: it is said to be the year of quantum computing, breakthroughs in artificial intelligence and robotic moon bases. Cynics among us say that 2020 is just another year, but this decade will be pivotal: for technology, for the climate emergency and for business models globally.

With another year of technology proliferation, machine learning and platform technologies are continuing to top the list of disruptive technologies. Organisations will need greater discernment to judge what technology will drive their businesses forward, and what will be merely a distraction.

As platforms like TikTok and technologies like augmented reality take the global stage, 2020 is seeing the rise of a new era in customer engagement. With it comes new challenges for businesses to create better experiences than ever before, and the trends show that our members are rising to this challenge.

The key driver this decade will be data: organisations will need to develop a clear strategy aligned with business objectives to harness it for their success. The growing open data movement also encourages businesses to think about how to collaborate in this space for good. With progress in AI creating new data paradigms, the potential is huge.



EMMA TAYLOR
Founder & Managing Director,
Nimbus Ninety

I'd like to thank everyone involved in producing this year's report, including the industry experts who have provided invaluable commentary, the interviewees for the case studies and the Nimbus Ninety team.

We wish you a prosperous and exciting 2020.

CONTENTS

NOTE FROM THE FOUNDER 3

TABLE OF CONTENTS 4

2020's TOP TEN TRENDS 5

WHO ARE THE RESPONDENTS? 8

FORESIGHT 10
2020's biggest trends and disruptions

COMPETITION 18
The competitive threats and the state of disruption in 2020
Case Study: When Competition is Good for Business

INVESTMENT 25
The investment strategies for organisations in 2020
Case Study: Location Data in the Age of Self-Driving Cars

PRODUCTIVITY 35
A look at workers and artificial intelligence in the organisation of 2020

CUSTOMERS 42
Insight into how organisations are interacting with their users
Case Study: A New Reality: Learning Through Virtual

EXPERIMENTATION 53
A profile of digital failure and how organisations can learn from it
Case Study: Sustainability as a Cause, Not a Buzzword
Top Tips from the Masters: Experimenting in your Organisation

COMMENTATORS & CREDITS 64

This year, we're seeing organisations build up their infrastructure, grow more confident in experimenting and learning from failures, and invest more than ever in their customers.

We have tracked these trends for the last four years; I hope that they provide you with the insight to navigate your course for 2020 and beyond.

SHAMMAH BANERJEE
Editor,
Nimbus Ninety

2020's TOP TEN TRENDS

2 MACHINE LEARNING IS MAKING WAVES.
Machine learning is the most disruptive technology at 48%, and yet investment levels are low: organisations are investing in infrastructure before building their ML applications.

1 INFRASTRUCTURE IS BEING INVESTED IN MORE THAN EVER.
The biggest investment of 2020, infrastructure has leapt from 20% last year to 31% this year as organisations lay the foundations to deal with more data and high performance applications.

3 SMALLER ORGANISATIONS CONTINUE TO BE LESS AFRAID OF FAILURE THAN LARGE ONES...
Large organisations cite their risk-averse nature and fear of public failure as a hindrance to success, while smaller organisations are more inclined to take risks and learn from them.

2020's TOP TEN TRENDS

4

... BUT STRUGGLE WITH HAVING THE RIGHT SKILLS TO ACHIEVE THEIR PROJECTS.

"Lack of technical or legal expertise" as a hindrance to success was cited five times more by smaller organisations than larger ones.

5

ORGANISATIONS ARE BETTER AT LEARNING FROM DIGITAL FAILURE.

Just over a third of digital projects continue to fail, but organisations' propensity to learn from them has increased from 43% to 49%.

6

GETTING DATA STRATEGY RIGHT IS OF INCREASING IMPORTANCE.

Time-consuming data preparation is hindering 34% of respondents, but "improving data management and strategy" remains a top priority across all organisations.

7

SHORT-TERMISM IS HINDERING SUCCESS.

30% of organisations cite short-term objectives or incentives as the biggest hindrance to digital success.

8

CUSTOMERS ARE THE NUMBER ONE PRIORITY.

"Improving customer experience or engagement" is unanimously the highest priority across organisation size and industry, with the exception of the public sector.

9

AUGMENTED REALITY IS THE (UNREALISTIC) 3-YEAR GOAL.

85% of respondents claim that augmented reality will be an important route for customer access in 2023; and yet investment is extremely low at 2%.

10

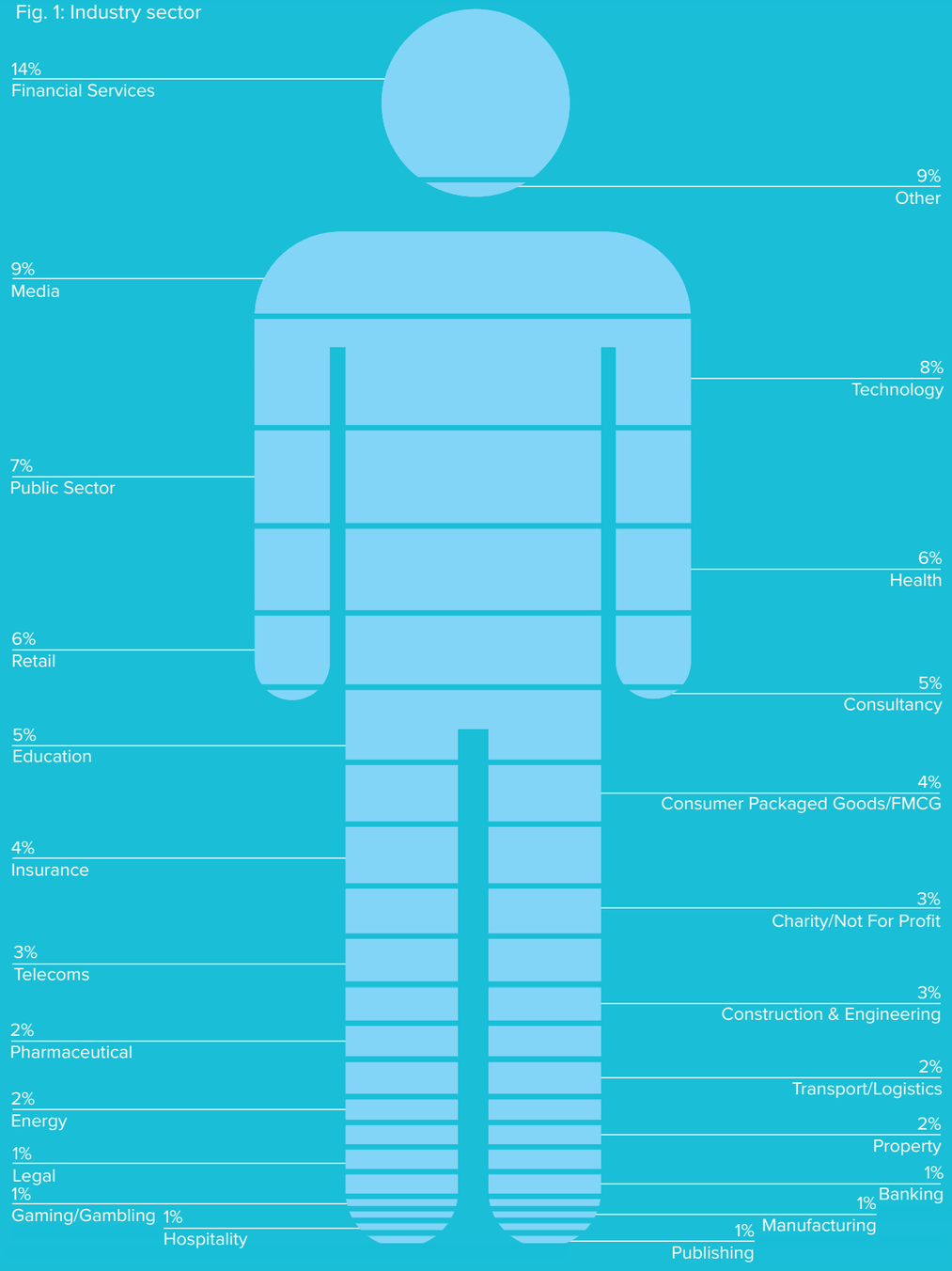
TRADITIONAL COMPETITORS ARE DOMINATING MARKETS BOTH NOW AND IN THE FUTURE.

55% of organisations cite a traditional competitor as their biggest competition, with disruptive start-ups getting only 12% of the vote.

WHO ARE THE RESPONDENTS?

215 digital leaders, from a wide range of roles, organisations, and industries, contributed to this year's survey.

Fig. 1: Industry sector



Respondents came from across multiple sectors, with the highest number from the financial services, media, technology and the public sector. (Fig. 1)

Organisation size varied from start-up to extremely large organisations. (Fig. 2)

Remits most commonly included Strategy & Planning, Management and Digital. (Fig. 3)

When asked about their organisation's attitude to change, the respondents were fairly evenly distributed across disruptors, proactive defenders and reactive defenders. (Fig. 4)

Fig. 2: Organisation size

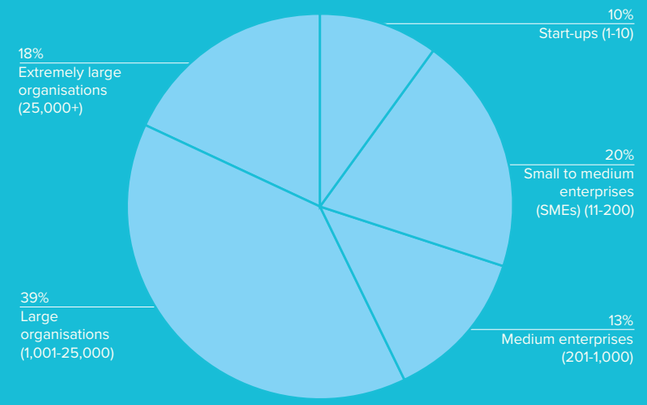


Fig. 3: Remit

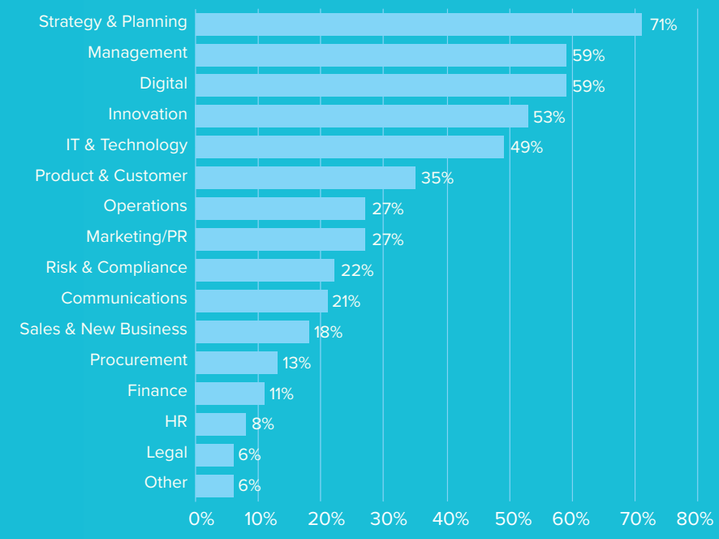
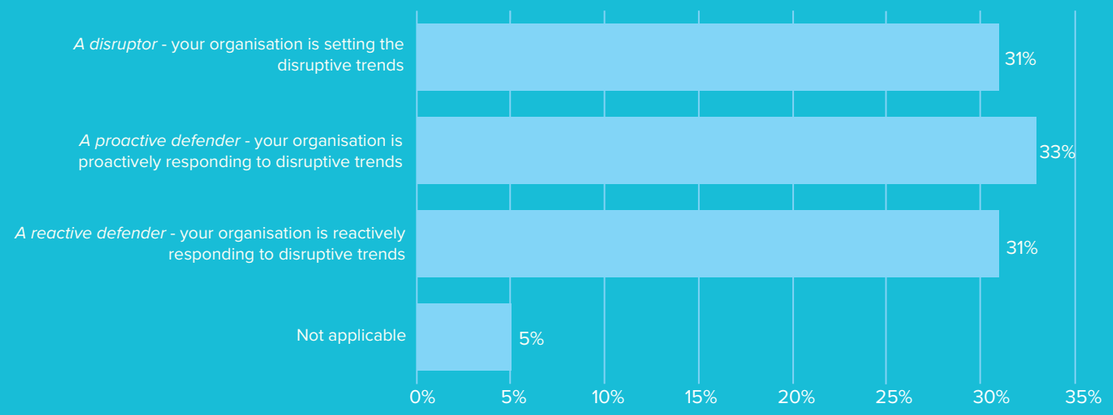


Fig. 4: Thinking about your organisation's approach to change, would you class your organisation as...



FORESIGHT



The pace of change shows no signs of slowing as we enter the 2020s, with quantum computing, AI and data strategy expected to enable bold leaps. More than ever, organisations must be attuned to current disruptions, while keeping an eye on long-term value creation.

With short-term thinking a major hindrance to digital success (30%), the start of a new decade presents a critical opportunity to reflect on and establish a long-term vision, essential to weathering disruptive storms ahead.

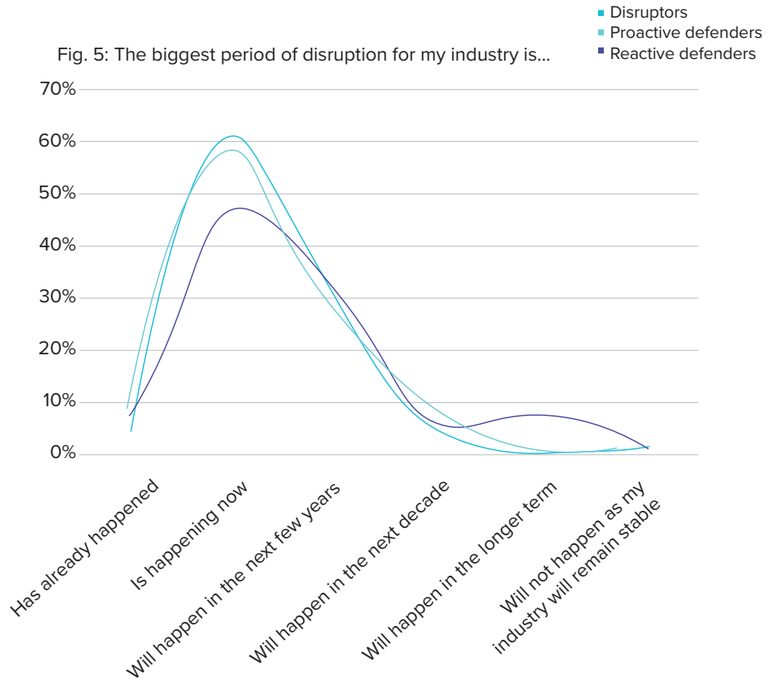
In this section, we examine the key trends of this year and beyond.

2020 IN FOCUS

Results confirm that we live in disruptive times. 55% of respondents say disruption is happening now and 27% expect it in the next few years. In 2019, 59% said it is happening now, suggesting that plans to deal with disruption are bearing fruit for many respondents. (Fig. 5)

Machine learning (48%), automation (33%) and platform technologies (32%) are viewed as the three most disruptive technologies for this year, echoing 2019. (Fig. 6) Machine learning is most disruptive for technology (67%) and financial services (58%), whereas automation is the gamechanger for retail & leisure (42%). (Fig. 8)

Fig. 5: The biggest period of disruption for my industry is...



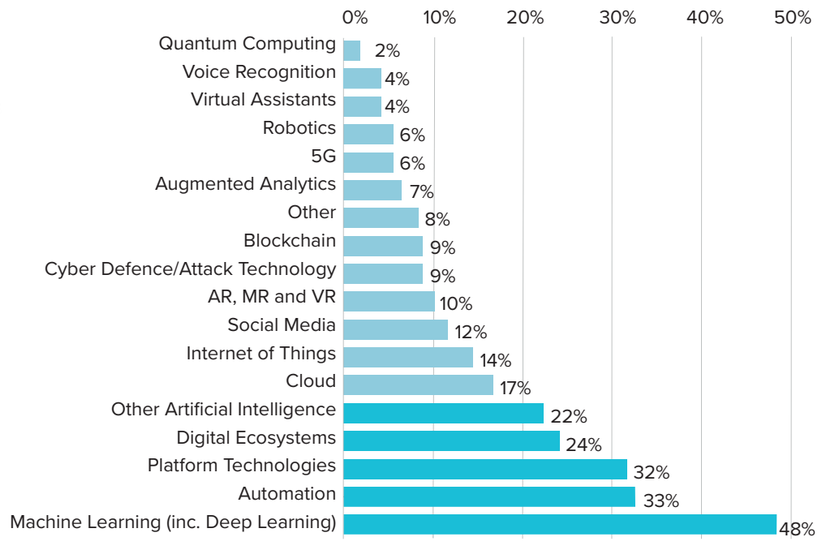
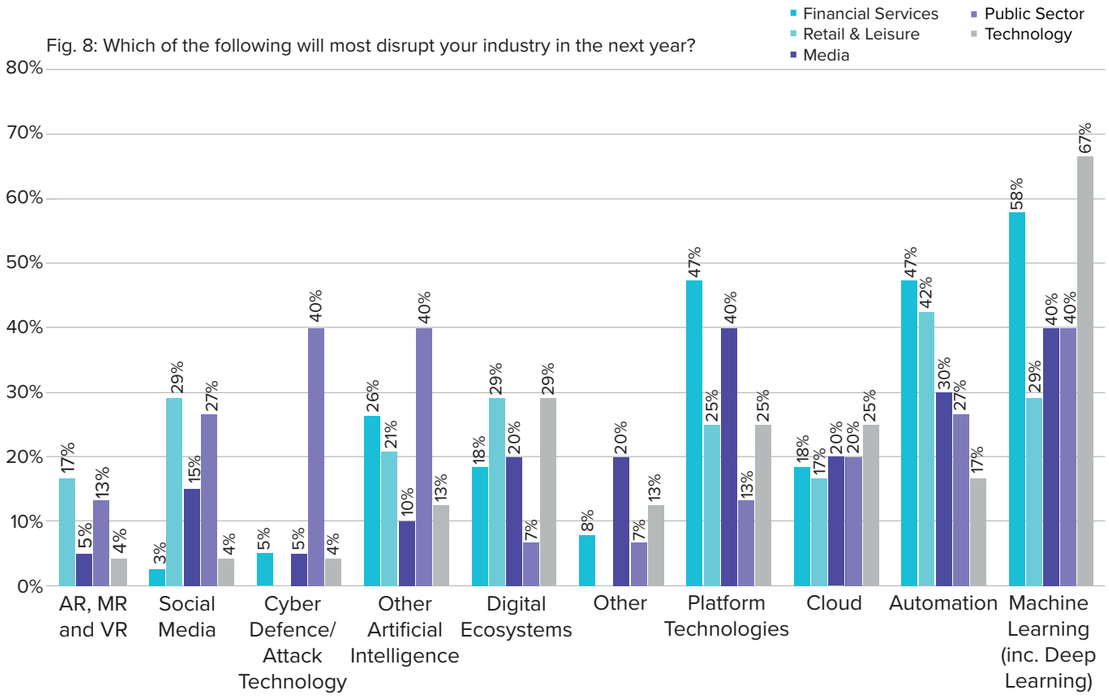


Fig. 6: Which of the following will most disrupt your industry in the next year?

Fig. 8: Which of the following will most disrupt your industry in the next year?



Platform technologies (32%) have seen a steady increase in disruptive potential over the last three years, up from 23% in 2018 and 30% in 2019. (Fig. 7) With high investment levels in infrastructure (31%) and cloud (28%) this year, platform strategy is gaining traction across sectors as a result of this combination. (p. 26, Fig. 21)

This year, deploying new technology is the biggest challenge facing organisations as a whole (38%) closely followed by generating and using insight from data (37%) and legacy technology (34%). (Fig. 9)

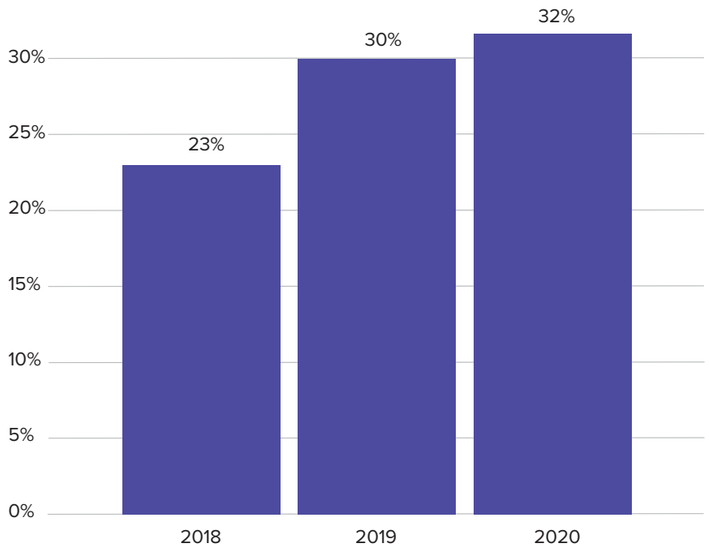


Fig. 7: Which of the following will most disrupt your industry in the next year? (Platform technologies)

Despite growing urgency about climate change, just 9% cite environmental and sustainability objectives as a challenge for 2020. In the energy industry, this wasn't cited as a challenge by a single respondent. With technology-driven energy consumption rapidly increasing, how much longer can this remain a low priority? (Fig. 10)

Fig. 9: What will be the biggest challenge(s) facing your organisation as a whole in 2020?

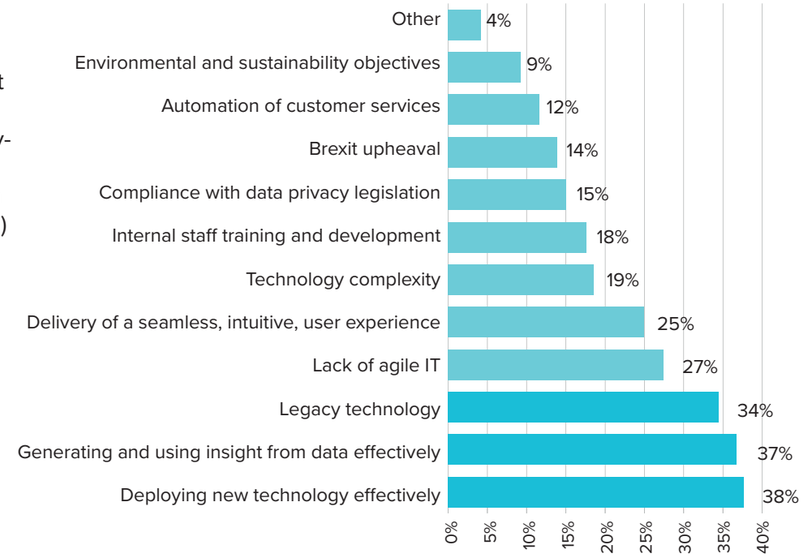
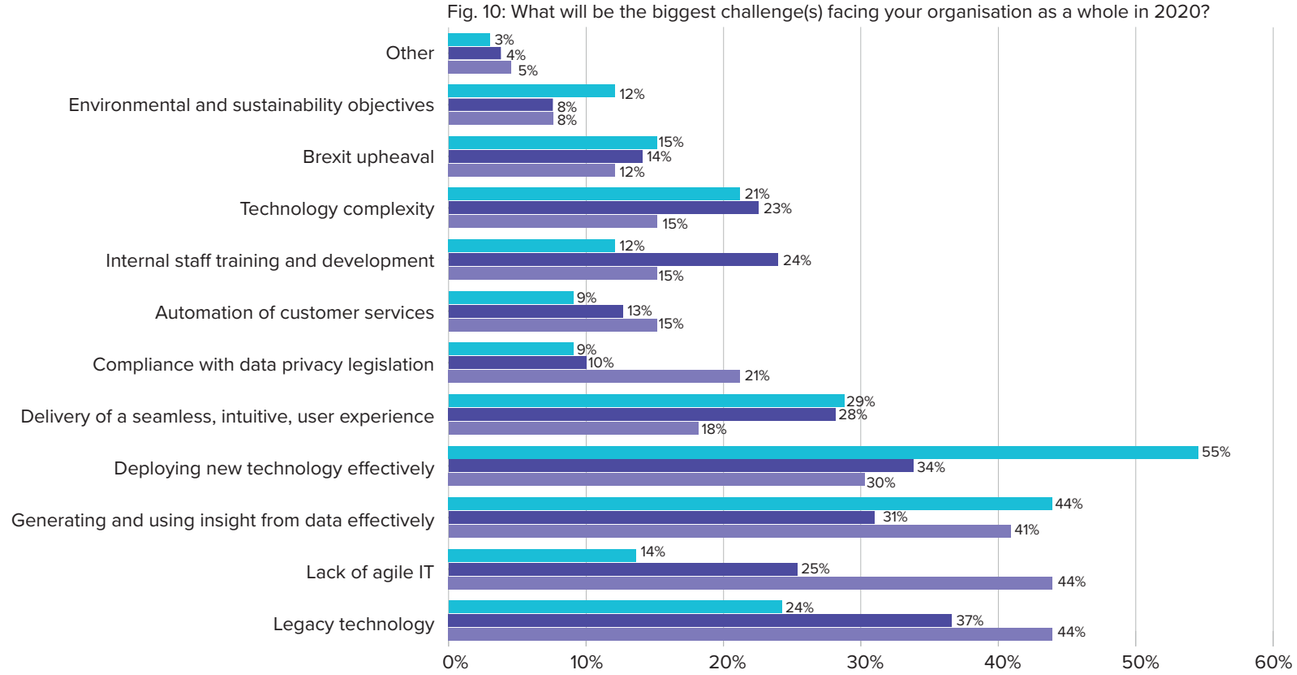


Fig. 10: What will be the biggest challenge(s) facing your organisation as a whole in 2020?



Disruptors and defenders alike rate improving customer experience or engagement as their top priority for 2020, with improving data management and strategy a close second. For a second year running, customer experience and data strategy remain critical no matter what your attitude to disruption. (Fig. 11)

The low priorities reveal more about digital strategy and position in the marketplace. For disruptors, the overall lowest priority is replacing legacy technology; for defenders, they are creating new products or services and improving personalisation. Thus, the disruptors of 2020 are focused on enhancing their customer proposition in a data-driven way, while defenders are more focused on internal operations.

THE DECADE OF DATA: DEVELOPING STRATEGY & INSIGHT

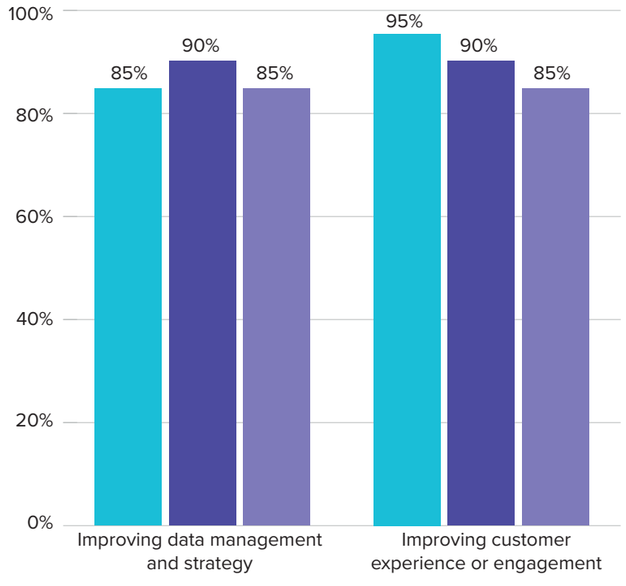
For organisations across every industry, extracting valuable insights from data will be crucial to success in 2020.

Improving data management and strategy remains a high priority for all organisations, with 87% of respondents ranking it high or very high. (Fig. 11) Technology (96%) and financial services (92%) particularly rank this initiative highly, likely focusing on dealing with the vast amounts of data in these organisations, as well as compliance with data legislation. (Fig. 12)

Disruptive trends should be established via blueprints in the business strategy each year. To carry it out, organisations need to ensure that there is at least one person in the business who understands transformation from a corporate perspective as well as from an implementation perspective. And the said individual or department must be allowed to do their thing!

BRANDIE DEIGNAN
Managing Director,
Marco Pierre White Restaurants

Fig. 11: Rank these digital initatives according to priority.



Meanwhile, generating and using insight from data effectively is a prevalent challenge, particularly acute in retail & leisure (46% of respondents), media (45%) and the public sector (47%). (Fig. 13) In contrast to financial services and technology, this strategy is likely more driven by customer experience, as this is the biggest priority for these sectors.

Where data is concerned, the biggest barriers are time-consuming data preparation (34%) and lack of analysis skills (19%), as growing quantities of dark data remain a problem for organisations across the board. (Fig. 14)

Fig. 12: "Improving data management and strategy" as a priority, by industry.

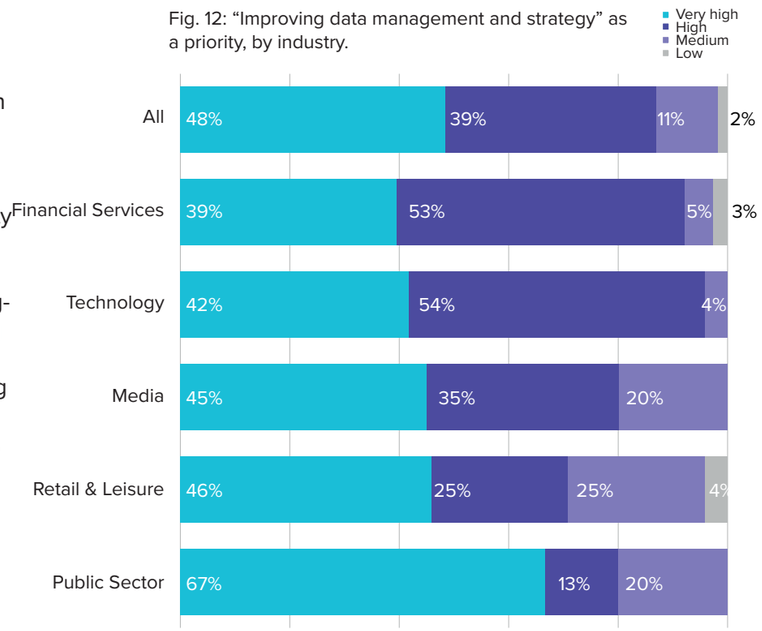


Fig. 13: "Generating and using insight from data effectively" as a challenge for 2020.

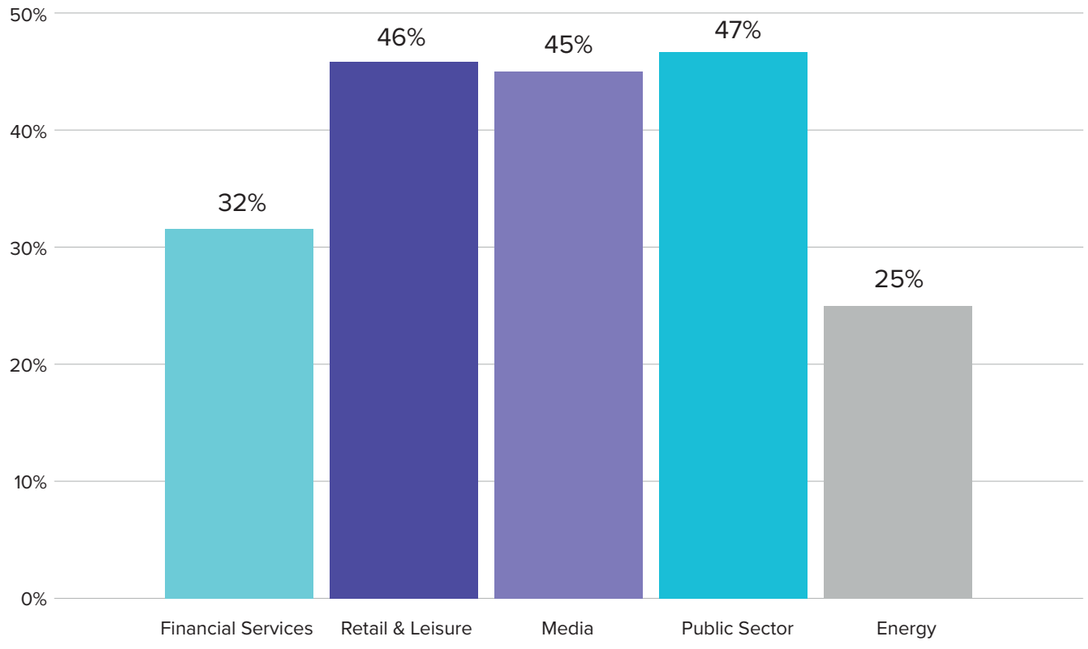
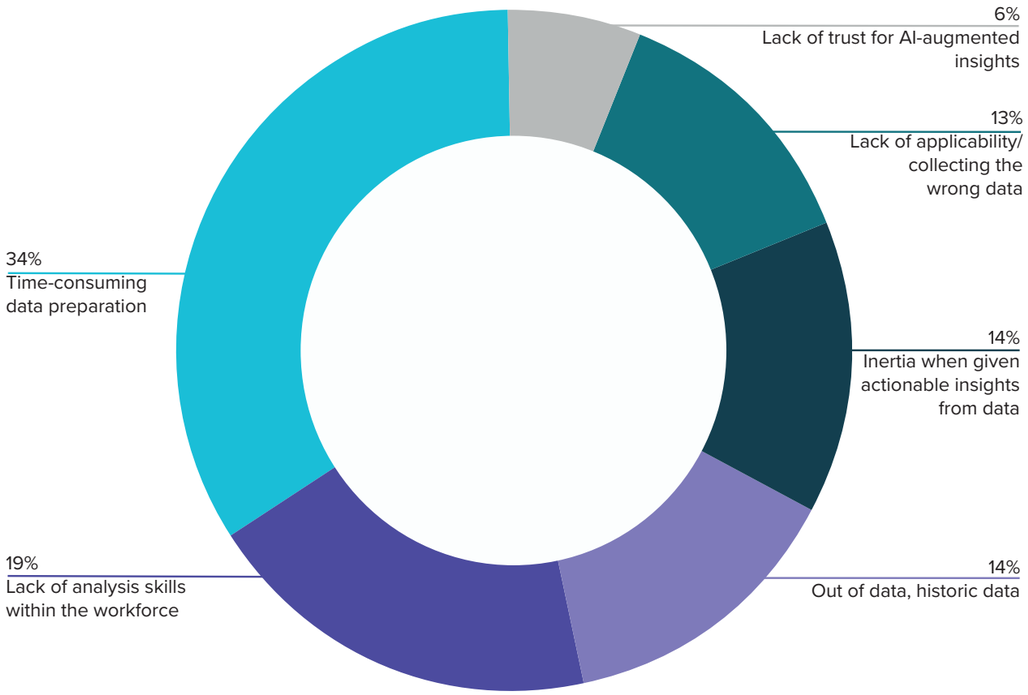


Fig. 14: What most hinders effective use of data within your industry?



My observation is that 90 to 95% of people that work at big companies are focused on optimising the current business, with only 5 to 10% focused on reinventing the business. Many organisations are focused on moving all data into the cloud because that's optimising the current business. It's not remotely disruptive in my mind, but it will save you money, give you better resilience and likely better response times around the world. Those are all great things from the cloud but ultimately, your customers won't even notice.

BEN LEGG
Former Managing Director,
Ola Cabs UK

Despite this, the proportion of respondents directing investment into big data analytics (30%) has fallen from 36% in 2018 and 45% in 2019. (p. 26, Fig. 21) This change in trend for 2020 shows digital budgets are split more widely across technologies, perhaps due to competing priorities, the maturation of certain projects or indeed technology proliferation.

With machine learning disrupting all industries, businesses will need to think long-term in order to respond to technological disruption in a lasting way. As data becomes more important to business growth, this development will be central to how organisations strategise in 2020.

Technology itself isn't disruptive; it's just a tool. But it's the use of technology that informs or creates new business models, that will in turn compete with or threaten the old model – that's where the disruption comes from.

If you have a business model that is sufficiently agile to adapt in order to embed new technologies then AI, data, automation etc. could just be added to your value chain. They could also help you re-engineer your process across the business or help you refine your operating model.

You have a problem if your operating model is rigid because it's based on things that can't be changed, where re-engineering that model would be detrimental to the business or create huge operational risk. That's when new innovations or companies can be classified as disruptions or threats. I think it comes down to the rigidity or conversely the agility of both the business model and the underlying operating model of that business.

Organisations need to think about how they can use disruptive technology to make their business better; what ultimately drives this is the agility of the business model.

But whatever you do, you have to have strategic clarity.

ALEXANDRA ALTINGER
CEO,
J O Hambro

COMPETITION



The beginning of this year saw the closing down of stores for 59-year-old British retailer, Mothercare, after it could no longer continue business due to competition from online retail giants. In today's arena, organisations that cannot keep up with the rate of digital transformation lose their competitive edge, and ultimately die.

In this section, we examine the changing competitive landscape, attitudes towards it and who is competing with whom.

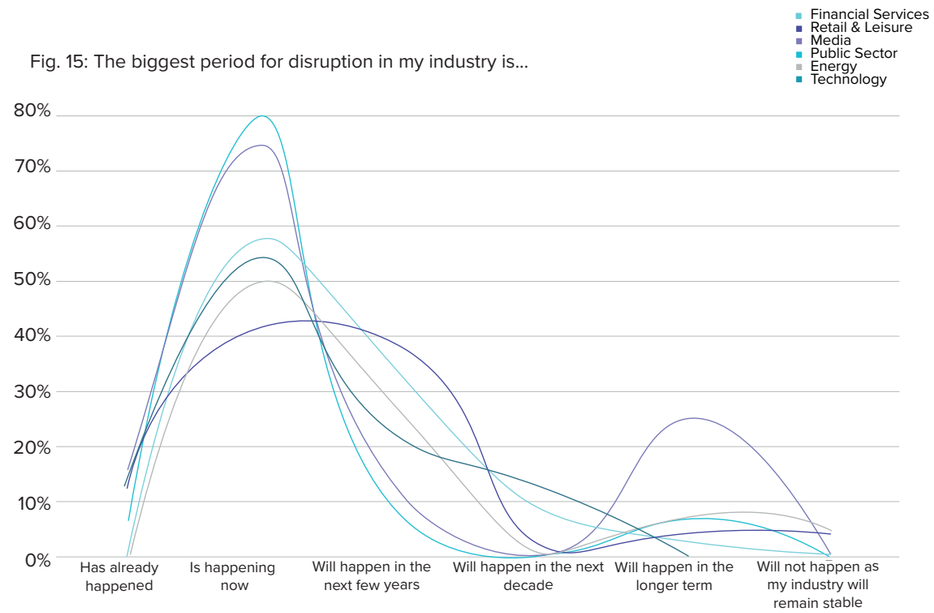
THE DISRUPTION CURVE

For 55% of respondents, disruption is happening now and for 27% in the next few years. (p. 11, Fig. 5) As new technologies continue to roll-out to enterprises and SMEs alike over the next few years, we will see customer propositions digitally transform as well as internal operations. (Fig. 15)

Disruption now is most acute for media and the public sector, of which 75% and 80% of respondents respectively said it's happening now. For the media, this is more obvious: competitive organisations are challenging the incumbent model with subscription-based streaming models. However, for the public sector, disruption is more likely due to new technological advancement in machine learning and automation.

Energy is the only industry that has significant long-term disruption, with 25% saying disruption will happen in the long term. As 50% cite now as the period of disruption, it is clear that disruption is not delayed but simply ongoing, as this industry faces increasing calls for sustainable energy alternatives.

Fig. 15: The biggest period for disruption in my industry is...



ARENAS OF COMPETITION: DIGITAL AND BEYOND

When asked what best describes their organisation's digital strategy, 34% of respondents say that they are "developing a digital strategy". Meanwhile, 24% of respondents say they have "a clear digital strategy communicated across departments" and only 16% say that "digital is in our DNA". (Fig. 16)

We know that digital strategy is linked to how competitive an organisation is within their industry, with 39% of disruptors claiming that "digital is in our DNA", compared to only 6% of defenders. Most defenders (41%) are "developing a digital strategy". (Fig. 16)

For 55% of respondents, their main competitor right now is a traditional competitor that we're aware of. When asked about the long term, threats are more evenly dispersed.

Fig. 17: Who is your main competitor right now and in the long term? (All respondents)

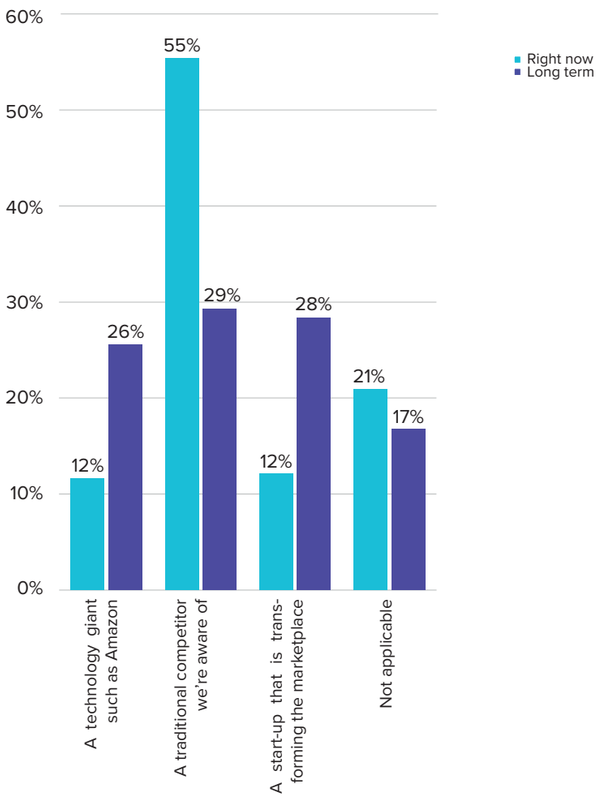
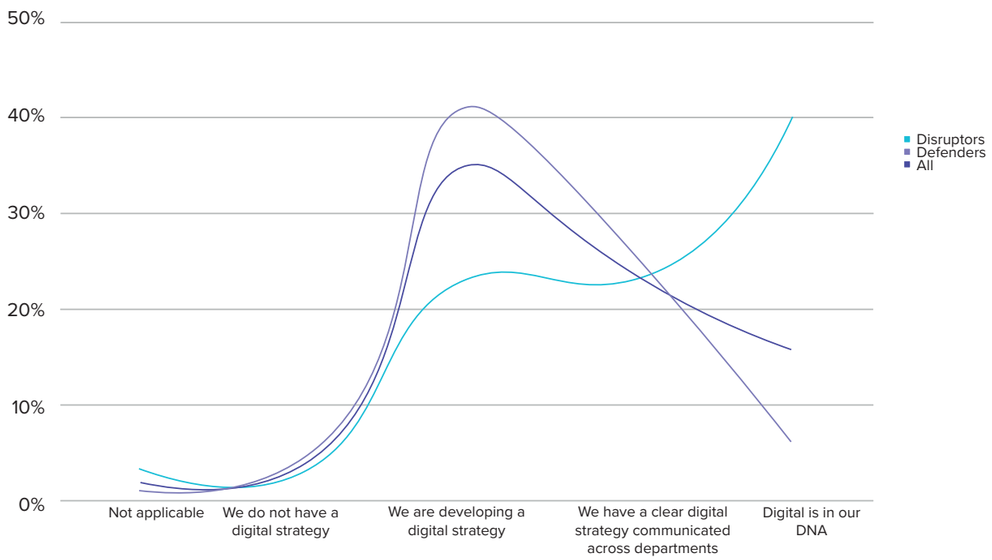


Fig. 16: What best describes your digital strategy?



Start-ups (28%) and tech giants (26%) move firmly onto the radar with traditional competitors at 29%. (Fig. 17)

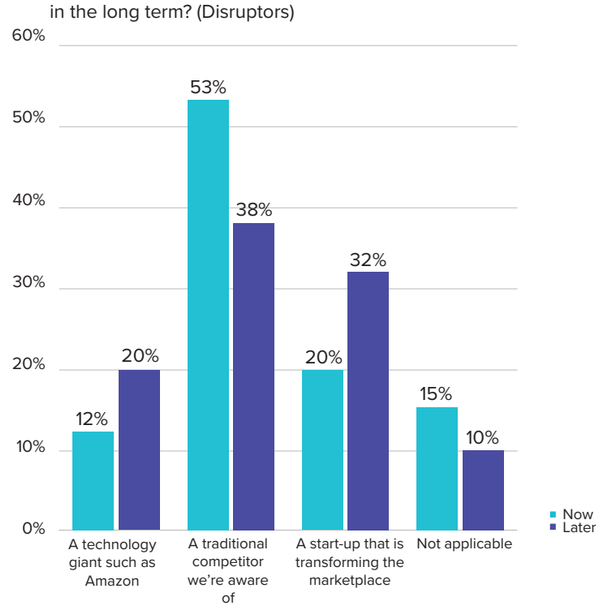
Just 12% cite start-ups as the biggest threat now, compared with 28% in the long term, highlighting that the disruptive threat of nimble start-ups is expected to grow. (Fig. 17) In financial services, start-ups are predicted to grow in competitive threat in the long term at 37%, highlighting the success of challenger banks and developments in open banking.

Disruptors diverge when it comes to appraising market threats, viewing a traditional competitor as the biggest threat now (53%) and in the long term (38%). As disruptors are transforming the marketplace themselves, their biggest competition lies with the traditional organisations that have historically won the customers. (Fig. 18)

When I started my career 18 years ago, competition was very tangible so it was easy to measure. The world has changed so much since then. The fundamental change is this: business is now considered a global economy. This means your biggest competition could come from anywhere. Any business big or small that has customers, that adapts to any sensitive changes in society, that measures its market demand, that seeks to understand consumer behaviour, that focuses on product or branding strategy, that increases customer value, that uses cutting-edge tech and that scans the environment – that is the biggest competition.

BRANDIE DEIGNAN
Managing Director,
Marco Pierre White Restaurants

Fig. 18: Who is your main competitor right now and in the long term? (Disruptors)



While the traditional competitor remains the biggest threat across industries now, the technology giant has more of a foothold in the long term. For media respondents, the technology giant is the biggest competitor both now (45%) and in the long term (60%). (Fig. 19)

Surprisingly, retail & leisure respondents rank a traditional competitor (71%) higher than a tech giant (17%) now, as well as in the long term (38% and 33% respectively). While this confirms that incumbent retailers are moving online rather than dying out altogether, the closing of the gap predicts more success for tech giants in the future. (Fig. 19 & 20)

The competitive threat of the traditional competitor should not be understated. Strategic responses to disruption and technology investment have consolidated the position of many incumbents. Despite fears that the disruptive start-up is the biggest threat, it seems that size and a legacy still gives organisations an edge in the competitive arena.

Fig. 19: Who is your main competitor right now and in the long term? (Technology giant)

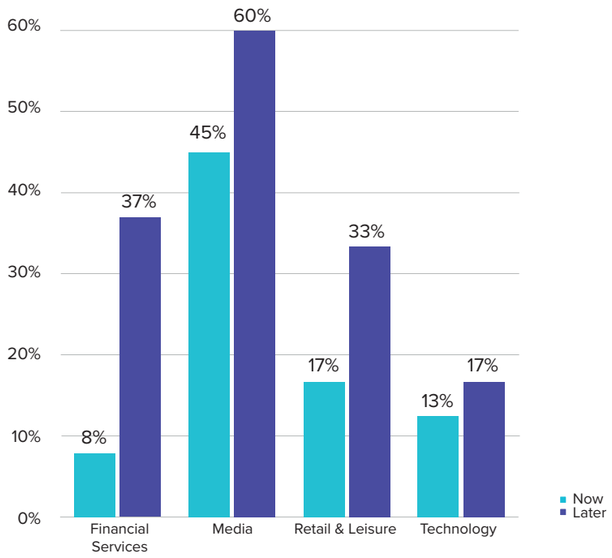
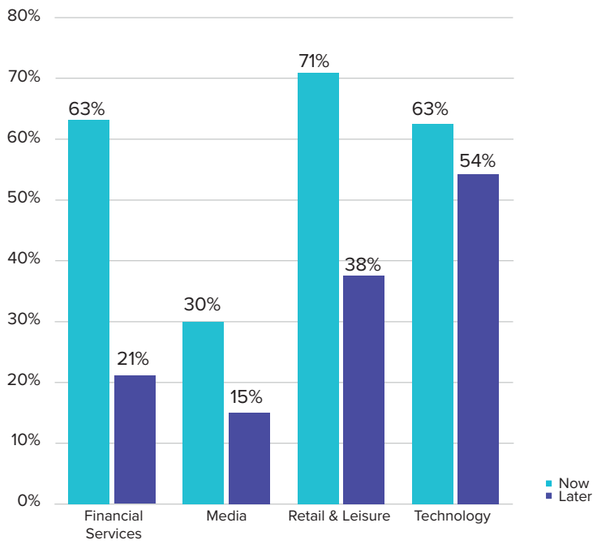


Fig. 20: Who is your main competitor right now and in the long term? (Traditional competitor)





WHEN COMPETITION IS GOOD FOR BUSINESS

A case study on Pikl, a start-up competing in the insurance world

Start-ups have a reputation for being market disruptors. Unencumbered by legacy thinking and systems they are nimbler, closer to customers, shinier and all-round more appealing than their older peers.

Yet competition from start-ups can also be good for business, sparking sector-wide evolution. Pikl is a four-year-old start-up/scale-up that's leading change in the insurance sector with its specialist products tailored for the sharing economy.

A GROWTH INDUSTRY

Pikl was founded in 2016 when the idea of renting an under-used asset such as a house, car, or parking space, was growing rapidly. But, due to changing attitudes towards ownership and facilitated by advances in internet technologies and devices, the sharing economy has boomed.

Across the US, China, the UK, Germany and France almost 1.2 billion people have used a sharing economy product or service.[1] By 2025 the sharing economy could increase global revenues from $15 billion to around $335 billion. By 2025, the UK sharing economy alone is expected to be worth £140 billion: 20 times what it was worth in 2015.[2]

Short-term property letting in particular has been transformed by the sharing economy. Airbnb for instance now operates in 191 countries and has 4 million listings worldwide. By 2025, accommodation sharing is predicted to account for half of all UK rentals and be worth £30 billion.[3]

THE INSURANCE GAP

Despite its rapid growth, insurance provision for the short-term letting of rooms, whole properties and driveways has fallen through the cracks. According to Louise Birritteri, Pikl CEO and founder, this is due to a combination of factors.

"There is a false expectation amongst hosts that their standard home insurance policies will cover them when in fact it's unlikely that they will and they'll actually need specialist cover," said Louise.

There's a lack of suitable products available from insurers, and consumers have incorrect perceptions about the marketing guarantees offered by platforms like Airbnb.

Pikl surveyed 90% of the UK insurance market to uncover the extent of the problem. They discovered that 100% of these insurers did not cover short letting as standard.[4] Insurers also expected customers to disclose if they are short letting. However, the industry as a whole does not have a specific question included on quote forms asking customers if they use their property for short-term letting.

It's a similar story for other sharing schemes such as shared parking. "The thing that Airbnb and other sharing platforms have done is enabled people to easily access the short-term property sharing market," said Louise. "The gap in the insurance market is that anything short-term of that nature, where you are lending peer-to-peer, isn't covered by an insurance policy."

Louise believes part of the problem is that insurance companies are playing catch up. "I think insurers have been quite distracted with things like data enrichment strategies. With the rise of comparison sites in the early noughties, which led to natural price pressure on insurance companies, I think a lot of energy has gone into pricing and probably less so into product development."



CHANGING LEGACY THINKING

To fill this gap, Pikl has launched a range of insurance products to meet the specific needs of the sharing economy's short-term letting activities. They also collaborate with a panel of insurers to provide all-inclusive plans.

In four years, this Norwich-based business has grown from a start-up team of 5 to 22 and has recruited an in-house technical insurance team in addition to building a strong partnerships and direct operation. It's also won two of the top insurance industry awards: Insurance Times 'Start-up of the Year' and Insurance Age 'Digital Broker of the Year'. Pikl is also backed financially by Sir Peter Wood, founder of Esure and Direct Line Group.

In addition to launching specialist products, Pikl is campaigning for a question to be added into quote journeys with insurers, brokers and on comparison sites that ask people whether they participate in short letting.

"There's too much assumed knowledge and consumers really don't understand that they're not covered by their home insurance policy. Equally, insurance providers are not adequately assessing customer needs and offering appropriate cover," Louise said.

But changing policy questions isn't straightforward. Louise added. "It requires changes with question sets: that means technology changes, and changes in standards with the ABI and Polaris. It's not something that one insurer can solve. It requires industry collaboration."

Louise is confident that change is coming and that insurance companies are taking the issue seriously, acknowledging the shortfalls in both cover and communications.

CUSTOMERS ARE THE NEW DISRUPTIVE FORCE

The sharing economy is complex and that requires the insurance sector to work together. But it's also indicative of the challenges the big insurance companies, and other long-established enterprises, face in 2020 and beyond.

Like many businesses, insurers have had a challenging decade reinventing legacy thinking and systems for a modern digital era. But technology is no longer the primary disruptive force for this sector. To stay relevant and competitive providers must anticipate and then meet changing customer needs.



REFERENCES

1. Deloitte, 2018. "Squaring risk in the sharing age: How the collaborative economy is reshaping insurance products". https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/financial-services/deloitte-uk-squaring-risk-in-the-sharing-age.pdf

2. PwC, 2015. "The Sharing Economy". https://www.pwc.fr/fr/assets/files/pdf/2015/05/pwc_etude_sharing_economy.pdf

3. Pikl, 2019. "Insurance in the sharing economy 2019: Property Focus". https://www.pikl.com/sharing-economy-insurance-report

4. Ibid.



"Ultimately, purpose is the engine of long-term profitability," writes Blackrock chief, Larry Fink, in his annual letter to CEOs this year. He is referring to an organisation's purposeful commitment to all stakeholders, both customer and employee, which sets a long-term lens for approaching investment in 2020.

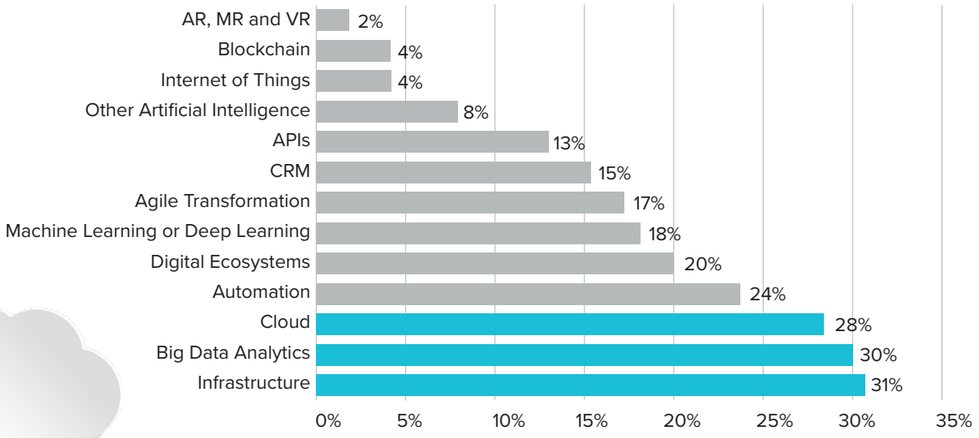
Keeping Fink's mantra of "purpose" in mind is vital for organisations investing strategically for the long-term, rather than just for the now. In this section, we examine where organisations are investing and the purpose behind it.

THE DISRUPTIVE INVESTMENT GAP

Digital spend is largely in line with last year, with 30% of respondents investing in big data analytics and 28% in cloud. Infrastructure has leapt to 31%, up from 20% last year, demonstrating that a top priority is laying the right foundations to deal with large quantities of data and high performance applications. (Fig. 21)

More disruptive technologies are generally lower on the investment agenda. Machine learning, the most disruptive technology of 2020 (48%), is only cited by 18% of respondents when it comes to spend, highlighting a gap between what organisations perceive as disruptive and where

Fig. 21: Where will your main digital spend or technology spend be focused in 2020?



Cloud is a stepping stone to AI. For machine learning and AI at scale, you need infrastructure that is able to respond to the demands of your experiments, rather than being bogged down in lengthy procurement cycles. In these situations, elastic compute and infrastructure-as-a-service will become key differentiators in time-to-market, particularly when it comes to speculative development or innovation. Specific industries or functions within a company may also have cyclical processes (for example, month-end or quarter-end financial processes). Here, elastic compute and infrastructure will radically impact cost as companies move to a consumption-based charging model, rather than procuring infrastructure to handle peak loads, that then sits idle for 80% of the year.

CIO,
A Global Financial Institution

investment is directed. This gap is highest for machine learning (30%) but significant for other technologies as well, including cloud (11%) and other artificial intelligence (14%). (Fig. 22)

Automation is a key area of spend for media (30%) and retail & leisure (29%). In other areas, the digital spend of these two highly competitive sectors diverges from the overall trend, with 25% of media investing in CRM and 29% of retail & leisure investing in social media. This aligns with the digital priorities for these industries, as both rate improving customer experience or engagement extremely high. (Fig. 23) See more in "Customers" on p. 42.

The large incumbents fall into two camps: those that are fighting for survival and those that are fighting to grow. For the former it's not about taking a quantum leap into the future, it's more about taking a quantum leap into the present. It's about pulling themselves out of the past into just the present; not even looking that far into the future.

CIO,
A Global Financial Institution

DIGITAL SPEND AND RESOURCES

Digital and technology budgets are increasing year on year, showing a constant drive to prioritise digital initiatives. However, this year only 50% of respondents are seeing an increase in budget, down from 70% last year and 67% in 2018. In contrast, 70% of disruptors see an increase versus 43% of defenders. Digital spend is still healthy, but this cooling of investment could reflect economic uncertainty, project maturity or an increased focus on optimising current IT investment. (Fig. 24)

Fig. 22: A comparison between disruptive potential and investment.

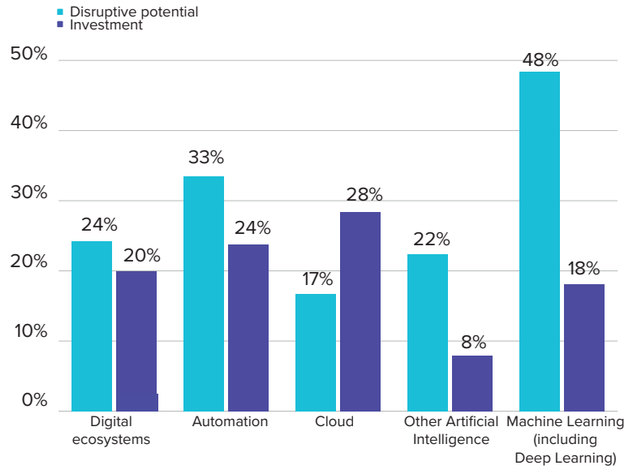
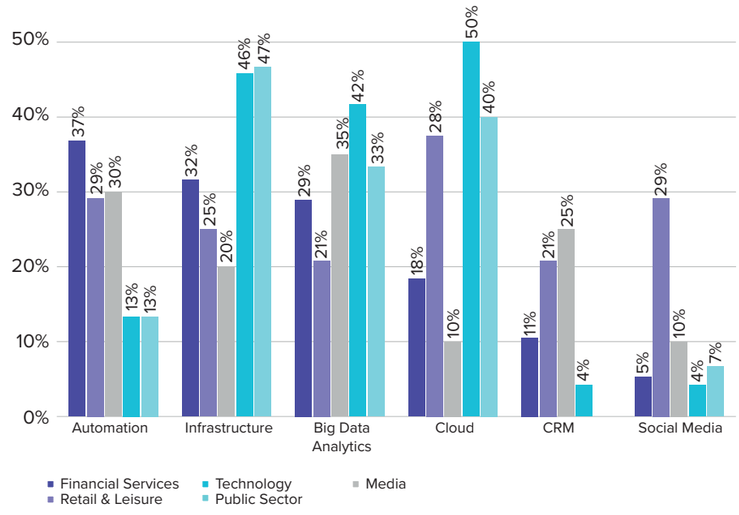
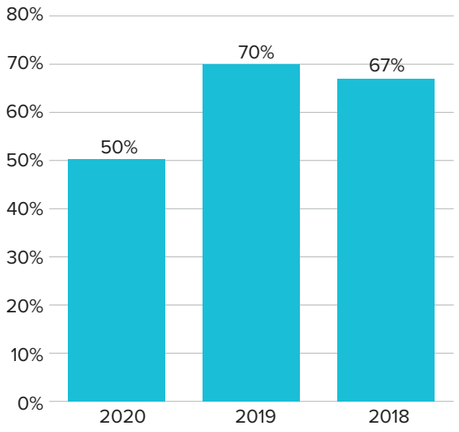


Fig. 23: Where will your main digital spend or technology spend be focused in 2020?



The top budget holder is unanimously the CEO (37%), with the CIO (12%) following behind. (Fig. 25)

Fig. 24: A year-on-year comparison of budget increase.

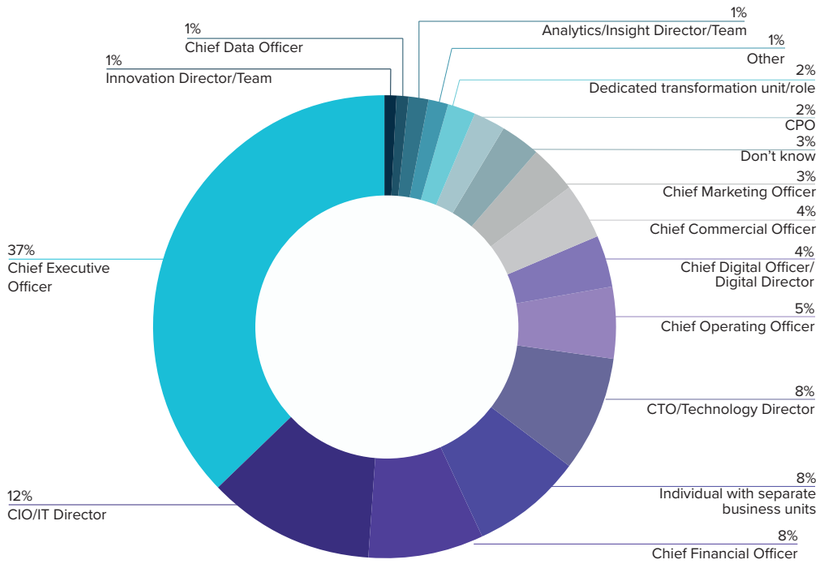


Encouragingly, most organisations (80%) agree that they can make effective business cases for investment in digital initiatives. Only 2% of organisations disagree and not a single disruptor disagrees with the statement. (Fig. 26)

Yet, 64% of all organisations agree that "culture is a bigger barrier to achieving our digital ambitions than investment", revealing that people and processes are a bigger hindrance to digital success than budgets and business cases. Surprisingly almost half (47%) of disruptors agree, although it is the defenders who feel this most acutely. See Experimentation p. 53 for further analysis. (Fig. 27)

> **I like the 70-20-10 rule. 70% of your money should be spent on stuff you know works with a known ROI. 20% should be spent on stuff that is emerging and you're pretty sure it's going to have a good ROI so you don't miss the boat. 10% should be spent on innovations like trying out TikTok or Snapchat because you haven't done it before, or playing with new data sources that might do an amazing thing, or doing some cool, creative campaign that might be the best one ever or it might fail.**
>
> **BEN LEGG**
> Former Managing Director,
> Ola Cabs UK

Fig. 25: Who is your main budget holder?



As technology permeates through a whole organisation, 77% cite in-house resources as a substantial contributor to digital strategy, a marked increase from previous years. (Fig. 28) As respondents were able to tick all relevant answers for this question, this is particularly high. Meanwhile, reliance on solution vendors decreases to 19% this year, as digital agencies see a rise to 30%, suggesting higher demand for more specialised digital knowledge. (Fig. 29)

Fig. 26: "We can make an efffective business case for investment for digital initatives."

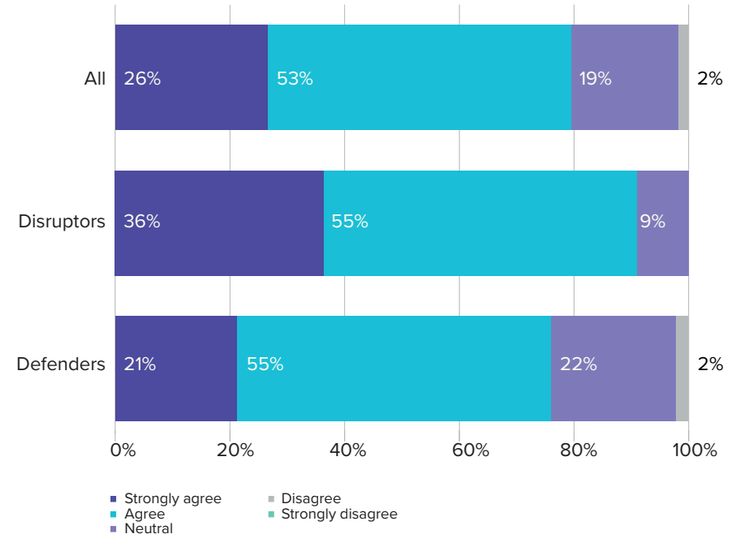
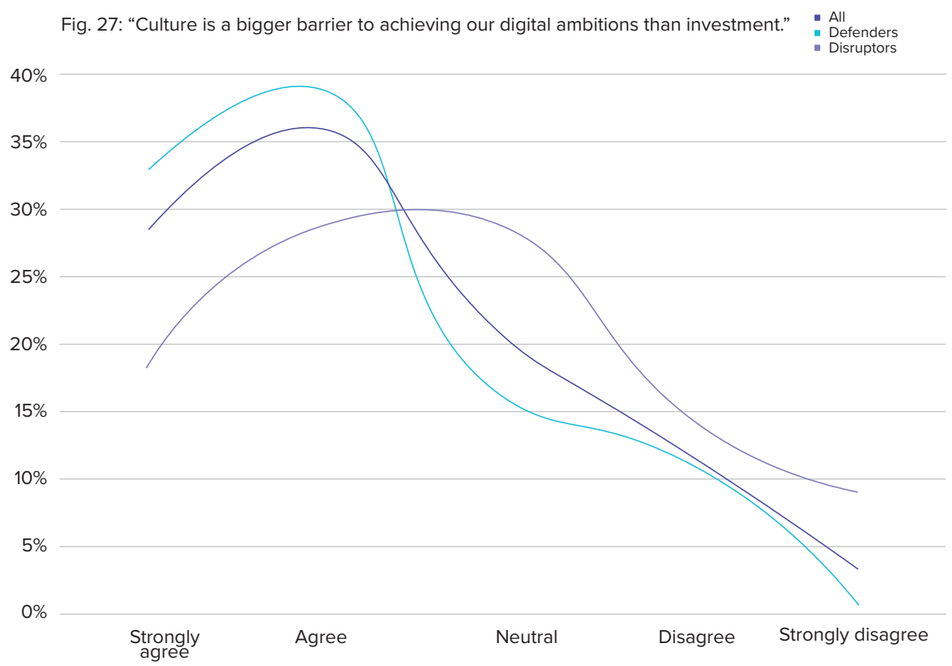


Fig. 27: "Culture is a bigger barrier to achieving our digital ambitions than investment."





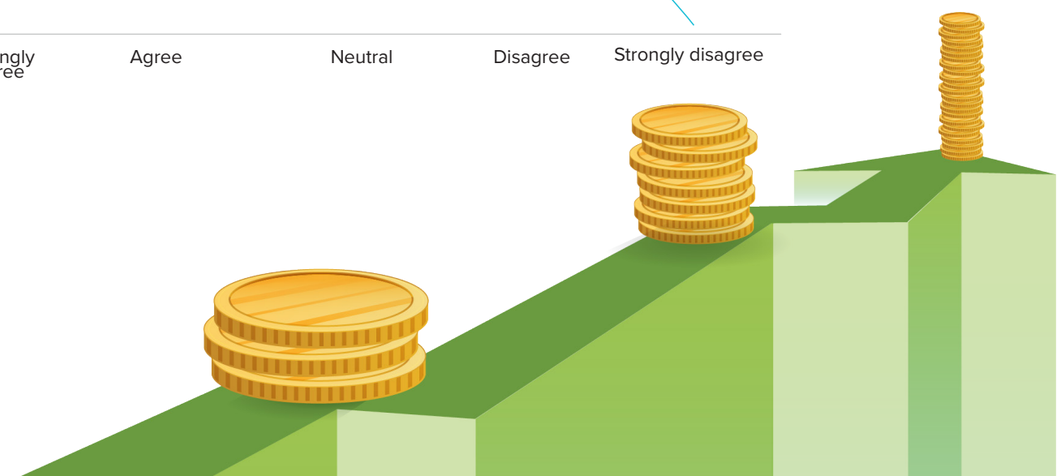
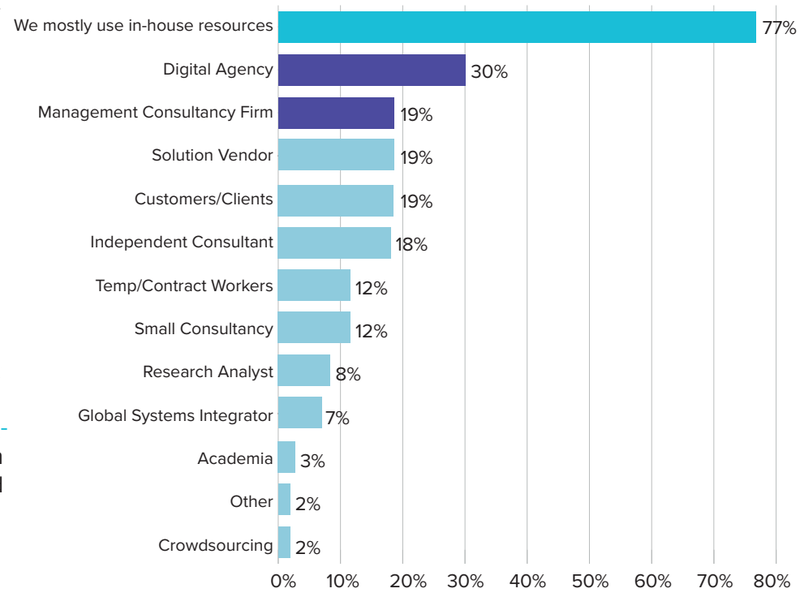


Fig. 28: Who contributes to your digital strategy?



With respect to software development, more organisations agree (46%) than disagree that they "increasingly buy software off-the-shelf rather than develop it in-house". (Fig. 30)

LEGACY TECHNOLOGY: MOVING ON?

Legacy technology continues to be a substantial hindrance to success for many organisations. It ranks as the third biggest challenge (34%), and yet replacing legacy technology is near the bottom of digital priorities (only 26% rated it very high). (Fig. 31)

Fig. 29: Who contributes to your digital startegy? (a year-on-year comparison)

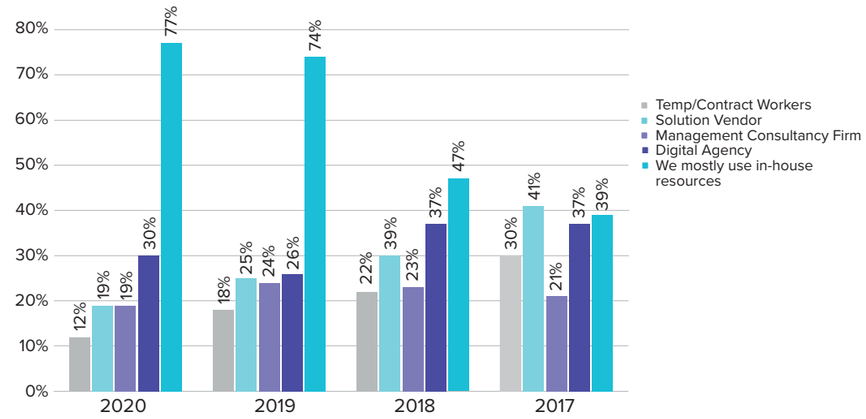
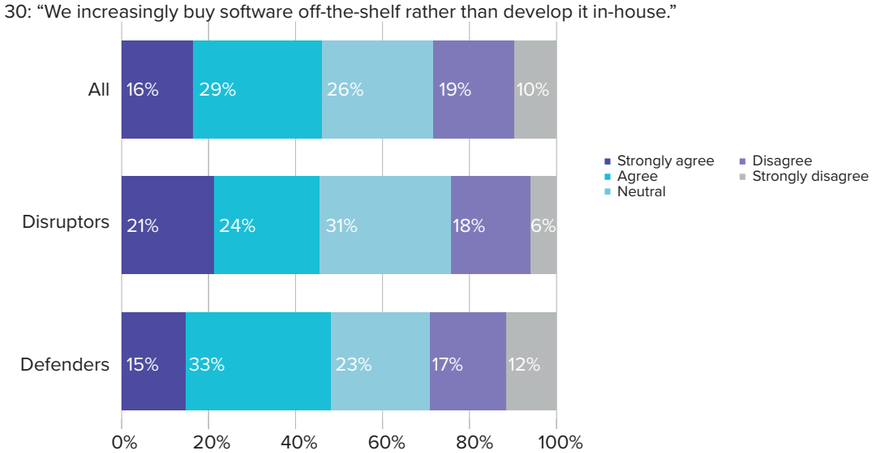


Fig. 30: "We increasingly buy software off-the-shelf rather than develop it in-house."



The nature of legacy technology varies across different sectors and sizes: medium and large organisations consider replacing legacy technology a very high priority (34% and 31% respectively). (Fig. 32) Meanwhile, financial services and the public sector struggle with it the most at 45% and 60% respectively. (Fig. 31)

Disruptors struggle with legacy technology the least, at 24%. However, this proportion is still relatively high for a group known for its agility. With the accelerating pace of technology, mature disruptors may be starting to come up against legacy technology as a hindrance as well as their defender counterparts. (Fig. 33)

As we will explore later in "Customers", improving customer experience or engagement is the highest priority across all sectors. Legacy technology is the second biggest barrier to this however, with 18% citing it as the biggest internal challenge to customer loyalty. (p. 42, Fig. 34)

Fig. 31: What will be the biggest challenge(s) facing your organisation as a whole in 2020?

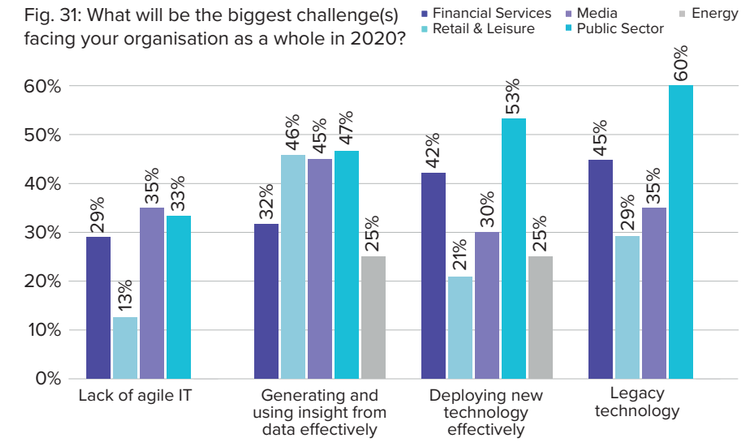


Fig. 32: "Replacing legacy technology" as a priority, across organisation size.

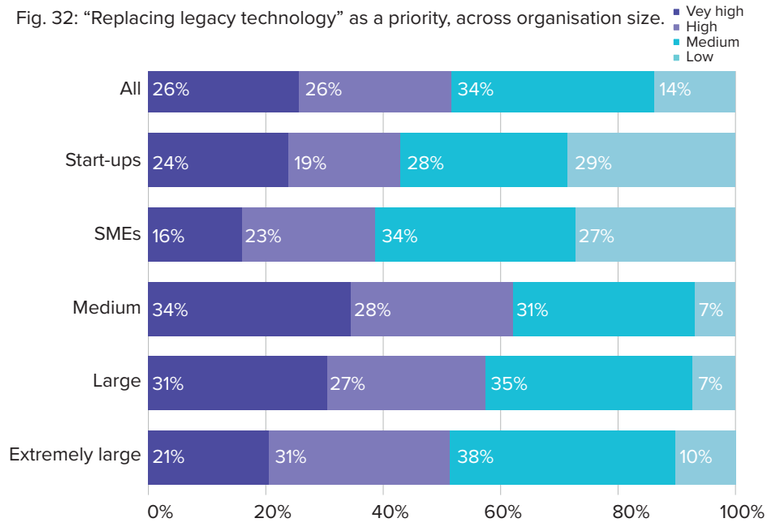
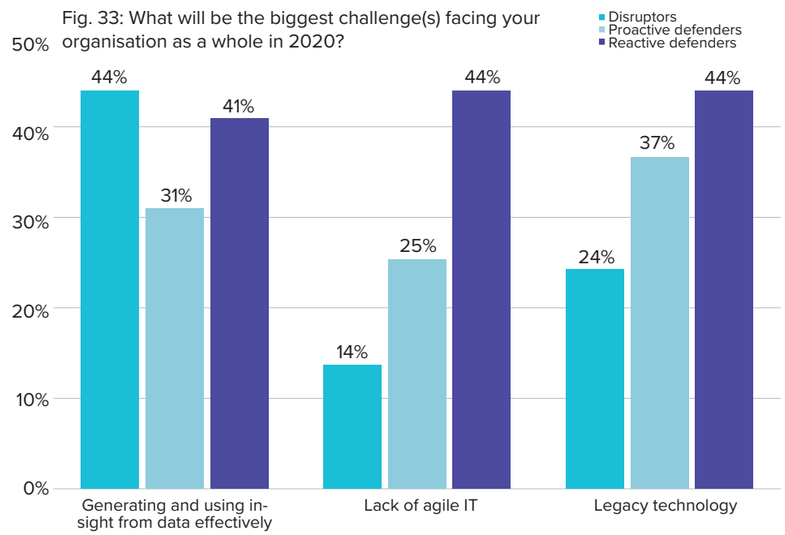


Fig. 33: What will be the biggest challenge(s) facing your organisation as a whole in 2020?



55% of organisations "find it difficult to... make changes because of existing IT infrastructure". Lack of prioritisation suggests organisations are failing to think more long-term, but instead prioritising digital initiatives with more immediate ROI. (Fig. 35)

Let us return to Fink's statement: "ultimately, purpose is the engine of long-term profitability." With the scourge that legacy technology continues to be, it is clear that organisations that must be more long-term and strategic about technology investment. Simply reacting to current trends is not enough to put clear purpose behind a spend. It is these organisations that will thrive in 2020 and beyond.

Fig. 34: What poses the biggest internal challenge to customer loyalty?

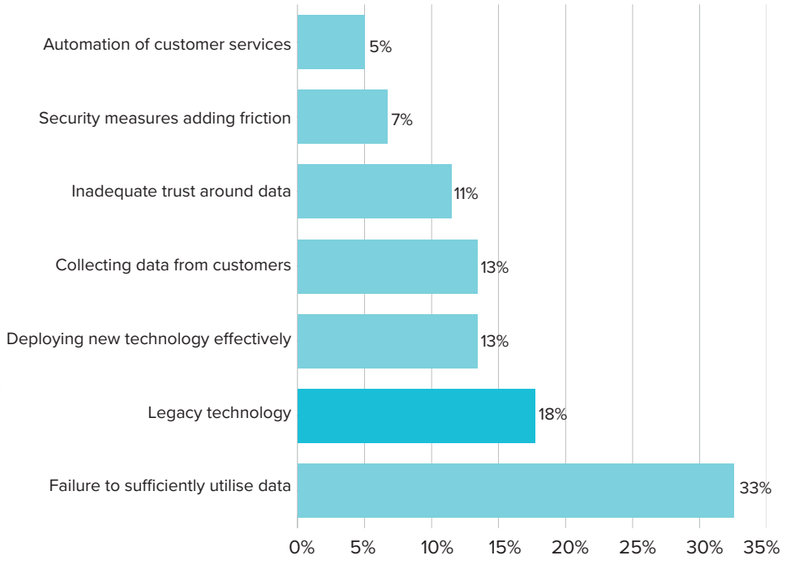
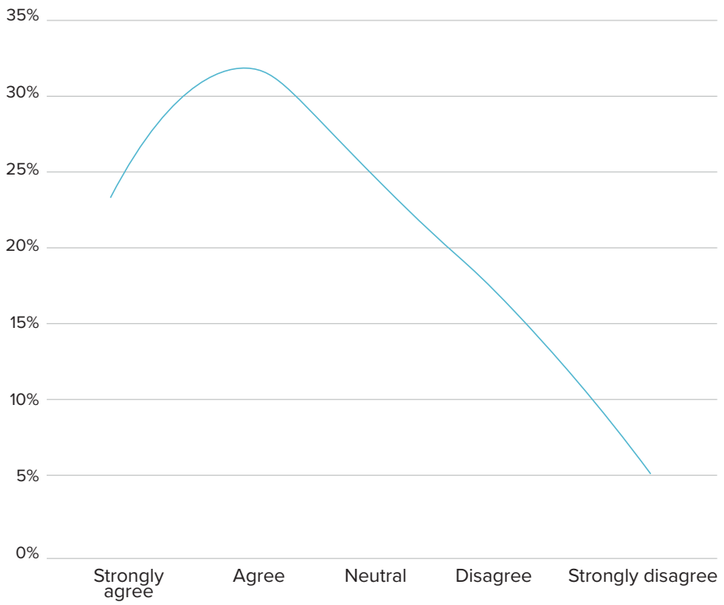


Fig. 35: "We find it difficult to introduce new applications or technologies or make changes because of existing IT infrastructure."



LOCATION DATA IN THE AGE OF SELF-DRIVING CARS

A case study with Ordnance Survey

There was a time when getting lost resulted in a frantic hunt for a map, or the help of a passing Samaritan. Today, we take it for granted that every corner of the mapped world is accessible via a smartphone.

Services delivered through our phones rely on various different datasets, but underneath it all is generally information about where and when things happen. Over 10% of the British economy is reliant on the use of geographic data, and it's regularly claimed that 80% of data records contains some kind of location component, such as an address, a postcode or a grid reference.[1]

Location data enables emergency vehicles to respond to incidents faster, towns to design flooding protection, businesses to increase efficiencies, and delivery firms to arrive at the correct address. It's also what is guiding autonomous vehicles such as delivery drones, on-demand buses and self-driving cars.

At the forefront of geospatial technology in the UK is a centuries-old business that's been mapping Great Britain since the time of the French Revolution.

Ordnance Survey (OS) maintains the authoritative mapping framework for all 234,380 square kilometres of the country, making around 20,000 changes to its database every day.

LOCATION DATA AND SELF-DRIVING CARS



OS has become a data powerhouse and is using its geospatial expertise and data to advance the development of Connected Autonomous Vehicles (CAV) in the UK. Autonomous vehicles are already driving on the roads of the UK. In March 2019, an autonomous coach was tested in Manchester, while in Oxford an on-demand bus is already in service. Large scale roll-out of CAVs however is still many years away.

Enabling what is called 'level 5' roll-out of CAVs involves overcoming complex technological and organisational challenges, such as how different makes of cars communicate with one another.

One of the major complexities is the use of geospatial data to aid the routing, navigation, and safe operation of vehicles.

HIGH-DEFINITION MAPPING

One of the fundamental requirements of any self-driving vehicle is situational awareness. This awareness is dependent on highly accurate geospatial data of what's fixed and what's moving.

The fixed part involves capturing and maintaining a model of the environment in high definition (HD), which includes using cameras and sensors attached to a specialist vehicle. "This becomes the basis for navigation," explained Simon Smith, Product Manager at OS. "We then enhance the HD map with what the vehicle's sensors are seeing in real-time – what we call the perception layer."

But for a vehicle to operate safely in the real-world it must also be able to "see" the unexpected. In

the world of CAVs this is called the “fridge from the bridge”.

“There are cases when a vehicle needs to know about things that are dynamic. What they can’t see around the corner, such as school children playing,” Simon added. “The work we do is turning up the dial on various forms of mapping to see how quickly we can send that information to the vehicle and other systems, so they can consume them. We’re also trying to understand in which geographies that data is most relevant.”

LOCATION DATA IN REAL-TIME

It’s fundamental to the success of CAVs that location data is communicated in real-time. This will require the kind of low-latency performance promised by 5G. OS is also working with academia, research organisations, government and industry to deliver a reliable 5G network.

One of the characteristics of high frequency 5G is that it can’t travel very far, and the signal can be disrupted by buildings, foliage and even raindrops. “To deploy high performance 5G, particularly in urban areas, you need a detailed map to plan how to get the coverage and capacity in a reliable and cost-effective way,” said Jim O’Reilly, OS Strategic Product and Innovation Manager.

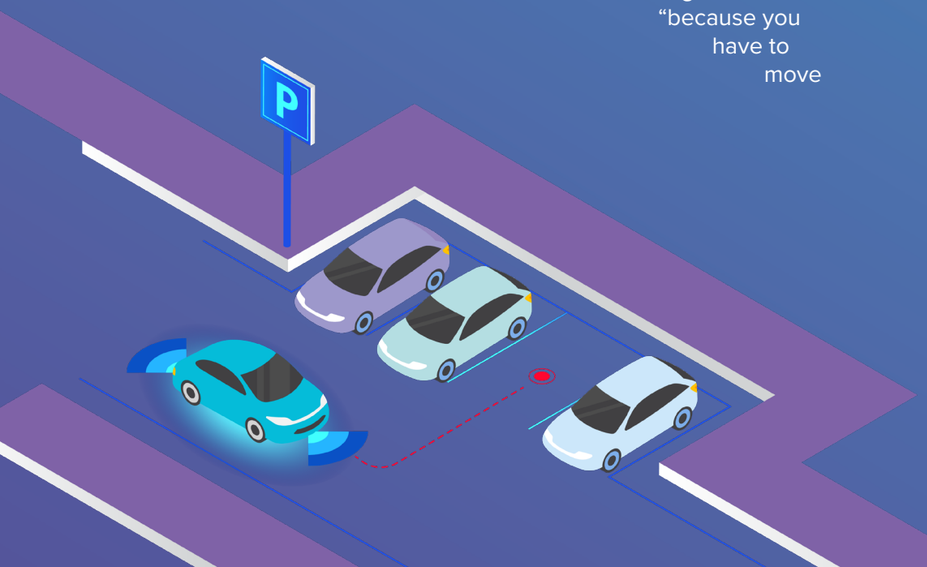
This approach has already been tested in a government-sponsored research project in Bournemouth. Jim explained: “We used an HD model of the centre of Bournemouth to determine the kind of geospatial data needed to plan the 5G infrastructure effectively.”

The 3D model included features such as signposts, traffic lights, bus shelters, park benches and even the types of tree. This was overlaid with Met Office weather data to determine how challenging conditions – notably hailstorms – would affect 5G signals. In one area of Bournemouth where operational planning was subsequently undertaken, OS’s planning tool reduced the number of antennae needed by a fifth.

CAVS ARE NOT REALLY ABOUT CARS

In the geospatial world, CAVs is one of the most highly demanding use cases “because you have to move ospatial data around in real-time,” Simon explained. “The very nature of this business is that it’s a whole aggregation of different technologies and different environmental factors. We see our job, in simple terms, as a stepping up to provide this highly specified geography for CAVs.”

“With emerging technology there isn’t a one-size fits all,” Simon concluded, adding, “it’s always going to be a hybrid of different things coming together. What’s important is that you match the right technologies with the right geography, including the people. This means bringing in the geospatial know-how to do it right.”



REFERENCES

1. Ordnance Survey, 2019. “2020: the year of geospatial data”. https://www.ordnancesurvey.co.uk/business-government/innovation/happens/infographics/2020-the-year-of-geospatial-data

PRODUCTIVITY & SKILLS

At the beginning of 2020, LinkedIn published its top skills that workers will need to thrive in 2020 with emotional intelligence, critical thinking and creativity topping the list. With artificial intelligence and automation transforming our work, these essentially human skills are crucial for productivity in the next decade.

In this section, we explore organisations' approaches to the challenging issue of skills, and how this plays out when technology can make us more productive.

WORKERS AND VITAL SKILLS

Staff training and development is ranked as a very high priority by only 17% of respondents. When broken down by size, larger organisations prioritise staff training and development higher than smaller organisations. Medium organisations are the most dedicated to this initiative, with 76% ranking it very high or high. (Fig. 36) Surprisingly, there isn't a substantial difference between disruptors and defenders in this area.

However, staff need to be better skilled to address the big challenges and priorities of today. Improving data strategy is a very high priority across industries, but lack of analysis skills within the workforce (19%) is the second biggest hindrance to effective data use. (Fig. 37) Staff development and training in this area will have to become a higher priority to achieve these digital goals.

> The workers of 2020 want soft-skilled and emotionally tuned-in leaders.
>
> **BRANDIE DEIGNAN**
> Managing Director,
> Marco Pierre White Restaurants

Fig. 36: "Staff training and development" as a priority, across organisation size.

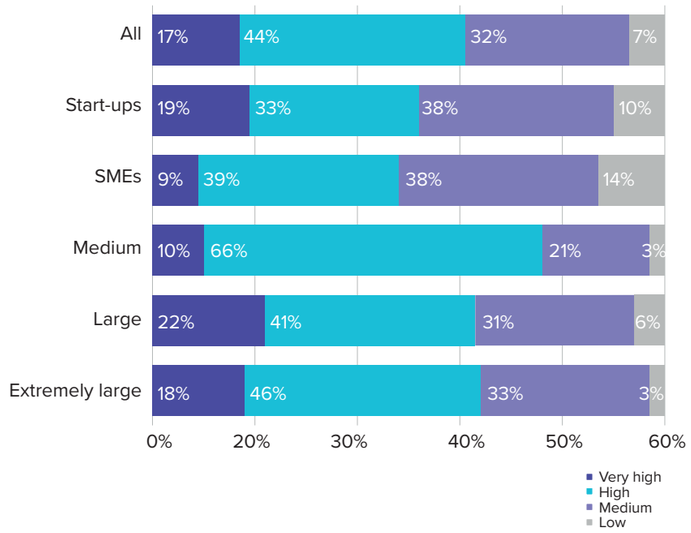
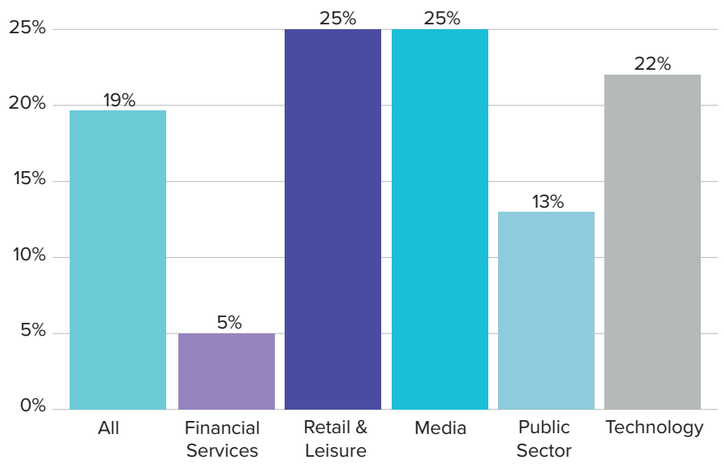


Fig. 37: "Lack of analysis skills within the workforce" as a hindrance to effective use of data, by industry.



Meanwhile, 51% of organisations strongly agree or agree that they "struggle to attract the right digital skills". Disruptors are substantially lower than this average, with only 38% agreeing with the statement, but this still reveals a universal difficulty in getting the right staff for the digital initiatives. (Fig. 38)

At the same time, 47% of organisations overall agree "human error is a bigger risk to our data than intentional external threats". Surprisingly, disruptors agree most with this statement (52%). This could be attributed to disruptors being more data-driven and therefore, workers in disruptive organisations having more interaction with data. (Fig. 39)

As we saw in "Investment", 46% of organisations agree that they "increasingly buy software off-the-shelf rather than develop it in-house". Better, greater and more customisable software options that are now available allow organisations to allocate more digital spend externally, rather than on skills in-house. (p.30, Fig. 30)

Fig. 38: "We struggle to attract the right digital skills."

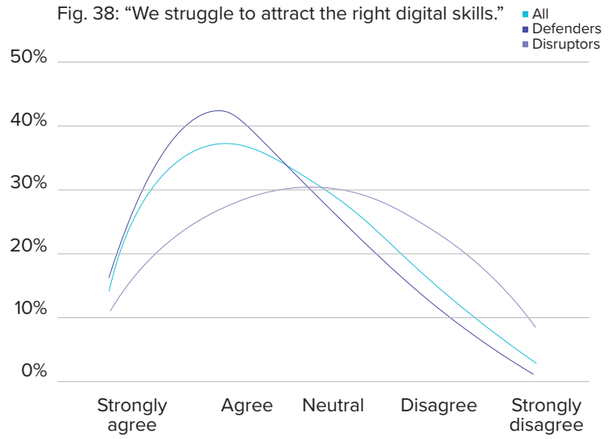
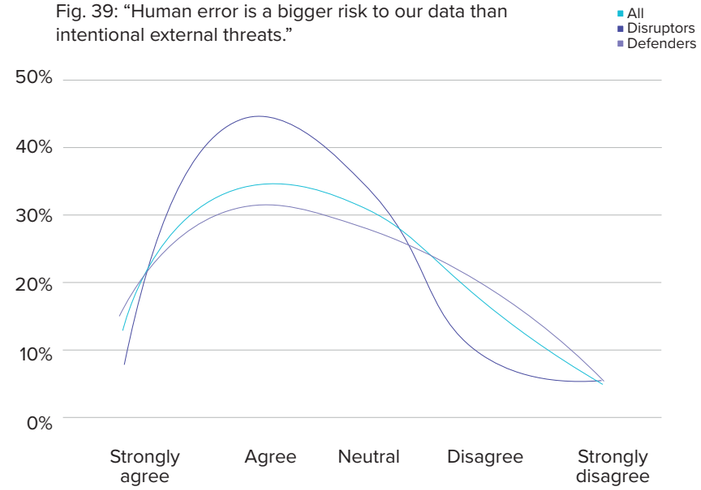


Fig. 39: "Human error is a bigger risk to our data than intentional external threats."



> The concept of "workers" is clearly becoming an old term; "resources" has become a non-descript too. They feel faceless and don't offer personalisation of skills as a resource. Organisations that look to "teams" and "colleagues" and "partnerships" are winning in this area more and more.
>
> **RICH CORBRIDGE**
> Director of Innovation,
> Boots

AI & PRODUCTIVITY: THE INTELLIGENT ORGANISATION

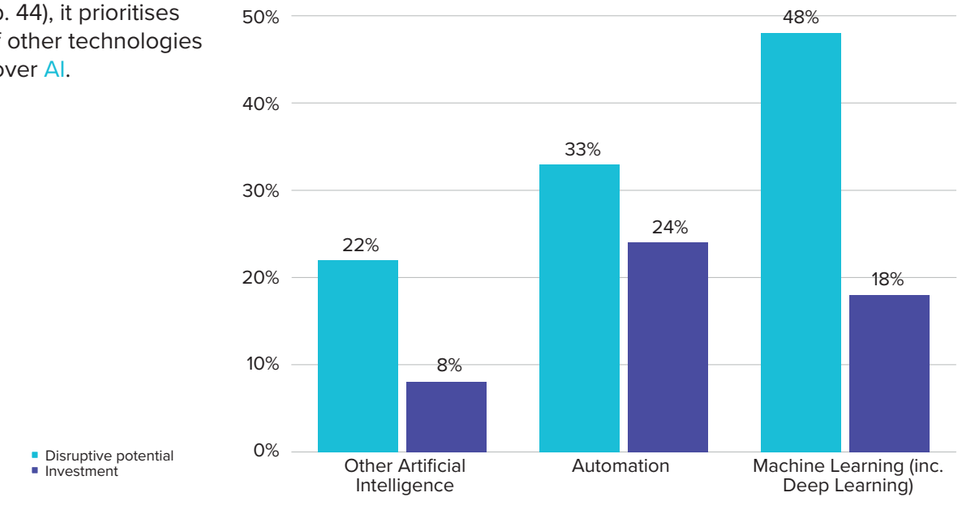
Machine learning, automation and other artificial intelligence are ranked as some of the most disruptive technologies this year. However, investment levels are higher in infrastructure and cloud technologies demonstrating a need for organisations to build strong architectural foundations before investing in and implementing AI. (Fig. 40)

However, the skills deficit remains a critical barrier to AI deployment. Cost (45%) and lack of skills to enable the change (42%) are the two biggest challenges when deploying AI. (Fig. 41) While ambitions for AI deployment are high, it is a process fraught with difficulty for under-resourced organisations. However, targeted implementation of AI is vital to ensure effective ROI.

For media respondents, limitations of the technology (35%) and lack of applicability (35%) are also ranked highly as challenges. (Fig. 42) With this industry being more customer-facing in its priorities and spending patterns (see “Customers”, p. 44), it prioritises deployment of other technologies such as CRM over AI.

> **I’m still not sure that 100% of businesses who are trying to incorporate AI and machine learning into their strategies actually understand them. There’s a very broad spectrum of people interested in the magic and fairy dust versus those who are actually able to recognise the different types of ML and AI available. At its heart, I think what seems to be emerging are ML and NLP and a way to make processes more streamlined by removing the human element from them and then being able to potentially drive costs down. Central to most business strategies that I’ve seen is using ML to make processes more efficient and cheaper to run rather than necessarily using them in a cutting-edge way.**
>
> **CIO,**
> **A Global Financial Institution**

Fig. 40: A comparison between disruptive potential and investment.



When asked what aspects of the business AI deployment is most likely to affect, the responses were unanimous across all industries: speed and efficiency of processes (40%) and interaction with the customer (32%). Speed and efficiency of processes is most impactful in financial services (45%) and public sector (67%), while interaction with the customer is a bigger win for retail & leisure (50%), media (45%) and technology (46%). (Fig. 44)

Across the board, skills required by employees (8%) and number of employees (3%) were not considered areas that AI deployment would impact much. However, skills are a clear barrier to AI at scale, and it will fail to reach its true potential if organisations only see AI as a route to improvements to customer experience and process efficiency. (Fig. 43)

Fig. 41: What limits effective deployment of AI within your industry?

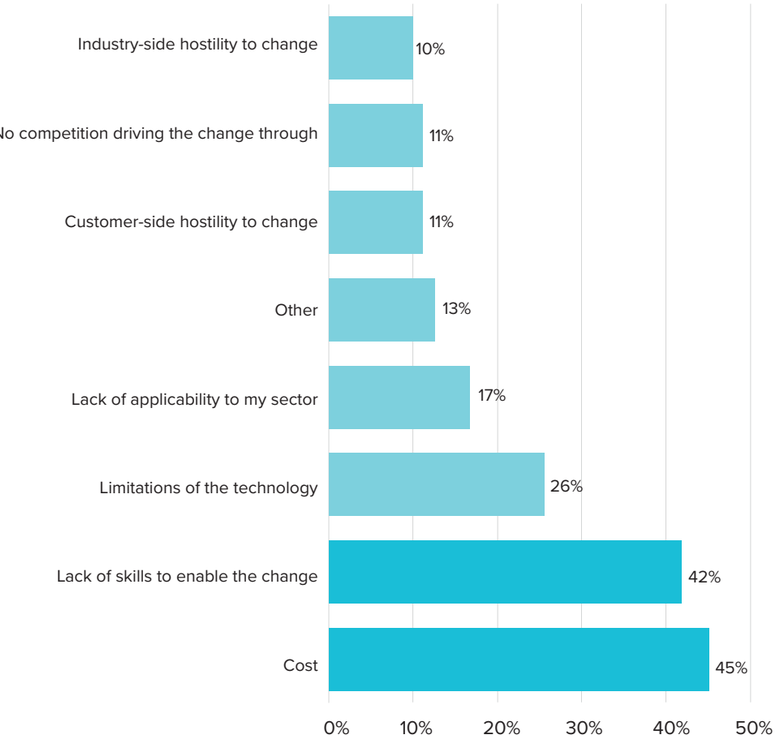
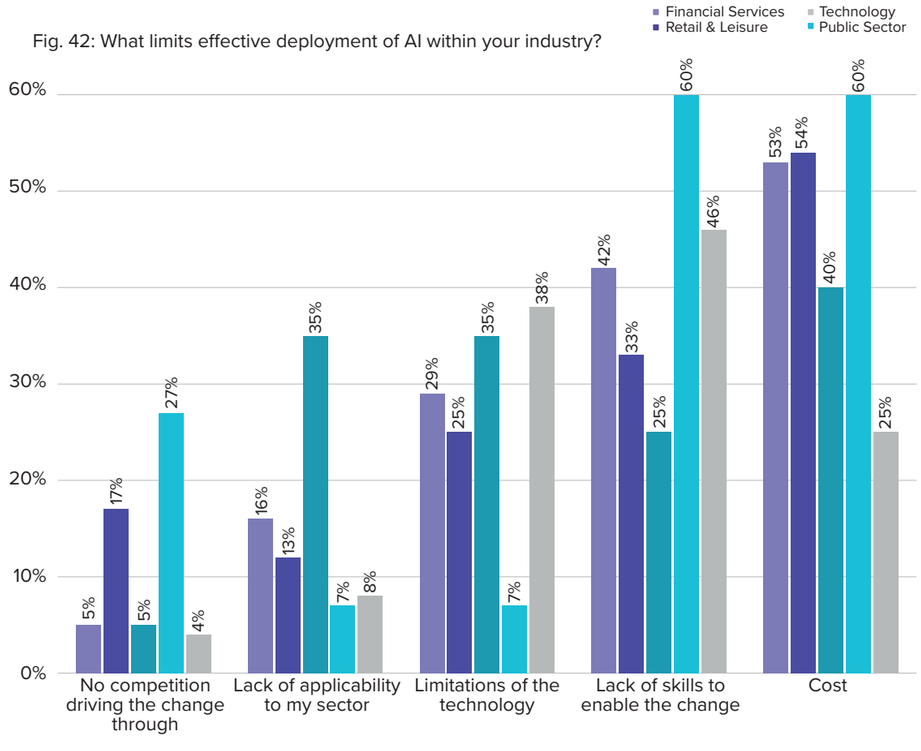


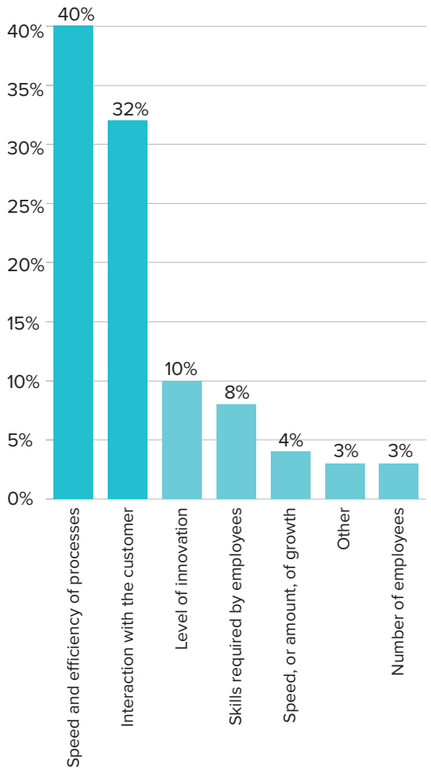
Fig. 42: What limits effective deployment of AI within your industry?



Indeed, across all industries and sizes of organisation, improving operational efficiency is a high priority with 83% ranking it high or very high. When we look at implementing automation as a priority, it falls more in the middle at 63%. This shows that automation is an important component of operational efficiency, but by no means the only one. (Fig. 45)

To succeed in this area, businesses will need to place more value on staff development. This will ensure they can keep up with the rapid pace of AI, maximise its potential within their organisation, and in turn, maximise productivity.

Fig. 43: What is AI deployment most likely to affect in your organisation?



Multigenerational workforces have always been prevalent in trailblazing organisations. It's now becoming even more valuable as a more global dynamic takes shape. Taking a blended approach with social leadership, collaboration and emotional intelligence are all techniques organisations need to employ to cater for the needs of different generations.

I don't think demands for skills are changing at all. On the contrary, I believe that skills are on demand. New technology has meant that, although training itself has remained broadly the same in most circumstances, skill points and skill sets can actually now be accrued over time. Through the power of tech and innovation, they can be fed and interlinked into other specific skills which has helped improve specialisation and thus removing the need to develop a skill set over a number of years.

Along with new technology, organisations are in a much better place than yesteryear to improve productivity. An abundance of project management tools and collaboration software means team collaboration is within closer reach and staying organised across workflows is more efficient. The shift towards an education of mindfulness means organisations can help manage chaos better as work environment directly impacts team and personal productivity. Decluttering digital workspaces (and minds) will result in a calmer, more streamlined workforce and a productivity boost.

BRANDIE DEIGNAN
Managing Director,
Marco Pierre White Restaurants

Fig. 44: What is AI deployment most likely to affect in your organisation?

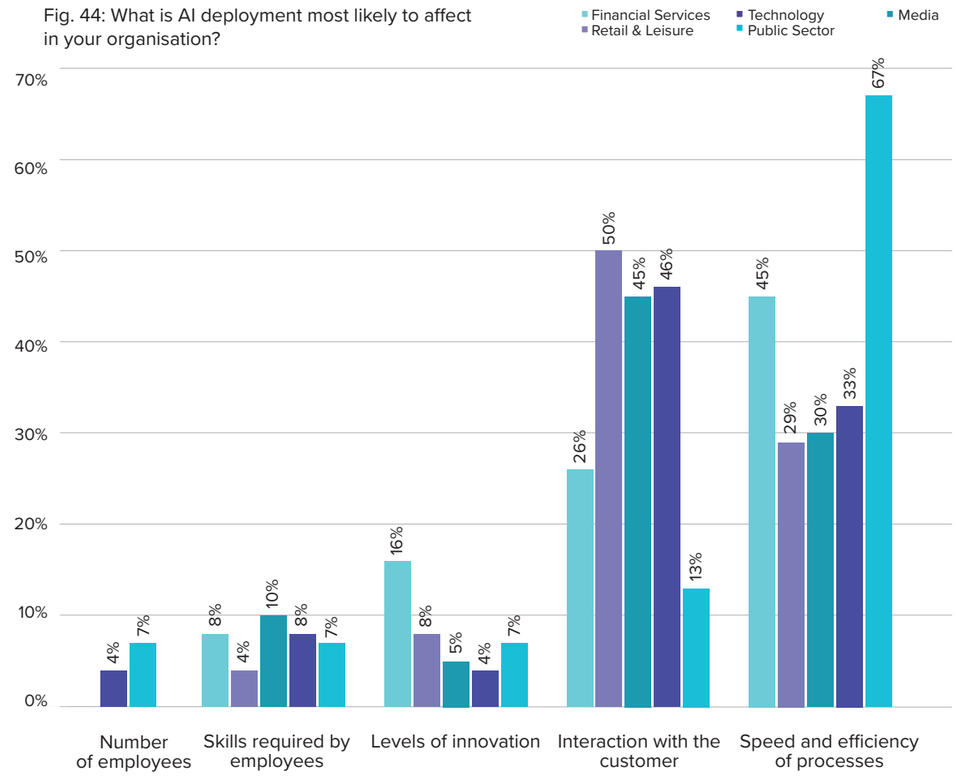
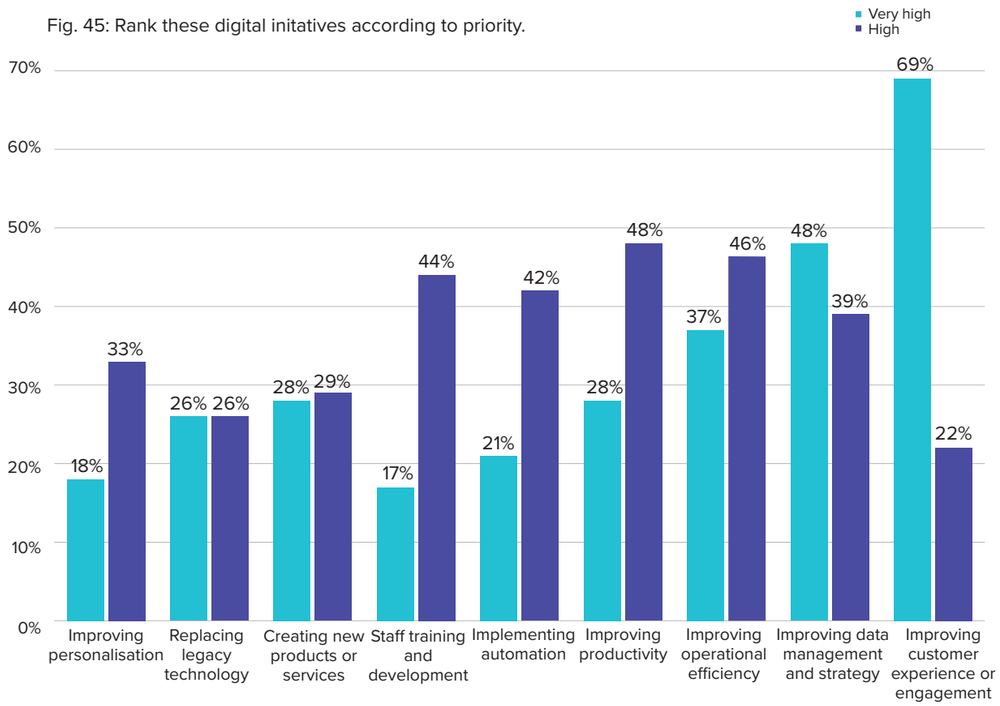


Fig. 45: Rank these digital initatives according to priority.



CUSTOMERS



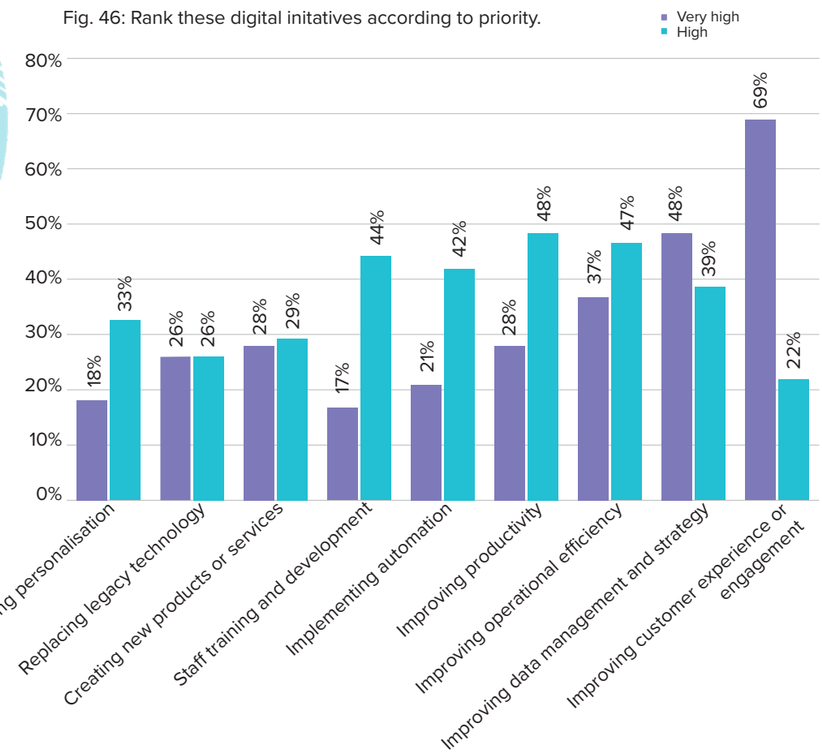
Today's consumers have incredibly short attention spans: they want products and services quickly and painlessly. The result? A laser focus on the customer experience and the right technology to support it. Delighting the customer of the 2020s is of the utmost importance to survival.

In this section, we look at how relationships with customers are developing due to technology and other disruptions in the market-place.

CUSTOMER EXPERIENCE, LOYALTY AND CHALLENGES

Across all industries, improving customer experience or engage-ment is ranked a very high priority by 69% of respondents. (Fig. 46) It remains in the top two priorities for all sizes of organisation and industries, apart from the public sector which prioritises improving data management and strategy (67%) and improving operational efficiency (60%) above customer experience.

Fig. 46: Rank these digital initatives according to priority.



83% of retail & leisure rank it very high, alongside 80% of media. As both of these industries are experiencing acute disruption right now (42% of retail & leisure and 75% of media), prioritising customer propositions is essential to ward off the competitive threat from digitally native players. (Fig. 47)

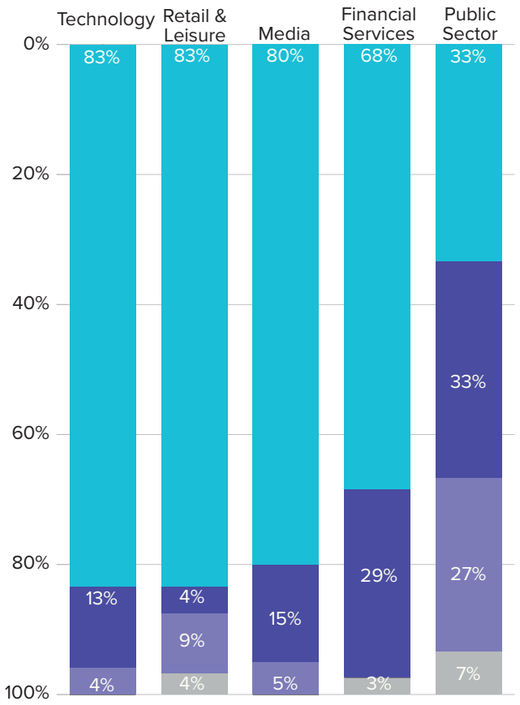


Fig. 47: “Improving customer experience or engagement”, as a priority, across industry.

When we drill into customer experience implementation further, intuitive user experience (32%) and highly personalised products/services (27%) are the top two critical areas for customers. Meanwhile, focus on seamless multi-channel communication (8%) is almost half of what it was last year (13%). (Fig. 48)

Delivering for customers has always been the challenge; knowing what customers want or persuading them of a need has always been the solution. Avoiding the delivery of just commodities is the focus for so many retailers now: the race to subscription models and products-as-services rely on hyper-personalisation. The results show though that hyper-personalisation is seen as a data challenge, and often the data challenge comes from technical debt and integration issues.

With fewer humans on the end of customer service lines, the ones that remain will take on a different tone in successful organisations. A more localised and personal feel is becoming expected, as customers want to feel like they’re part of an experience more than simply a financial transaction.

In the meantime, the omnichannel experience in retail in particular will be the area that benefits most from personalisation-enabling data. The 2020s will be the decade for retail to consider themselves “customer keepers” rather than store keepers, as the new technology enhancing the experience becomes more and more commonplace.

Placing a customer value proposition (CVP) at the centre of all innovation decisions creates an ability to place the right bets on the right elements of “new”. When the organisation then links this to its own societal value proposition (SVP), then there is a winning combination to appeal to the marketplace from both sides, to do good with new and to make profit from new. The SVP and CVP approach allows both the immediate need and long-term goals to be considered by the same project teams, somewhat uniquely solving the problem of short-term focus.

RICH CORBRIDGE
Director of Innovation, Boots

Retail & leisure places most importance on intuitive user experience (54%), while highly personalised products/services is the most important aspect for financial services (30%) – highlighting the different aspects of customer experience needed to compete with specific industry disruptors (see “Competition” p.22 for in-depth analysis). (Fig. 49)

Fig. 48: Which of the following is important to your customers? (year-on-year comparison)

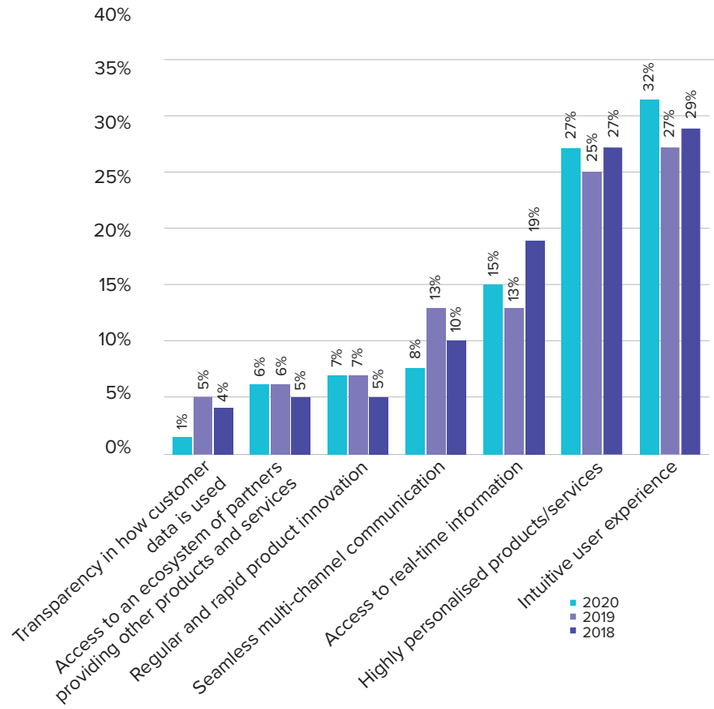


Fig. 49: Which of the following is important to your customers? (across industry)

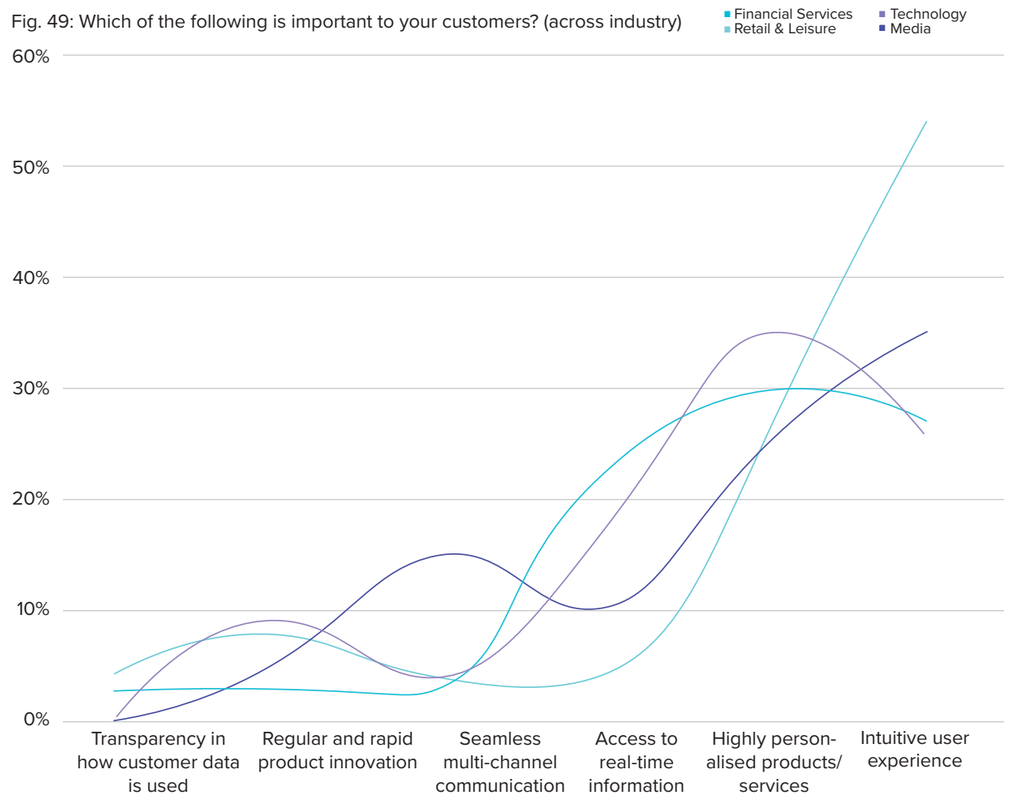


Fig. 50: “Interaction with the customer” and “speed and efficiency of processes” as effects of AI deployment.

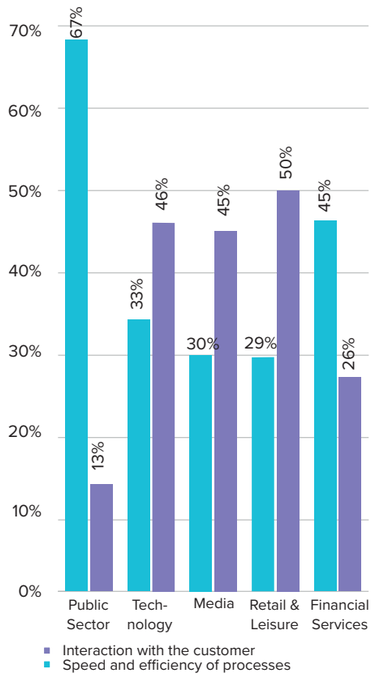
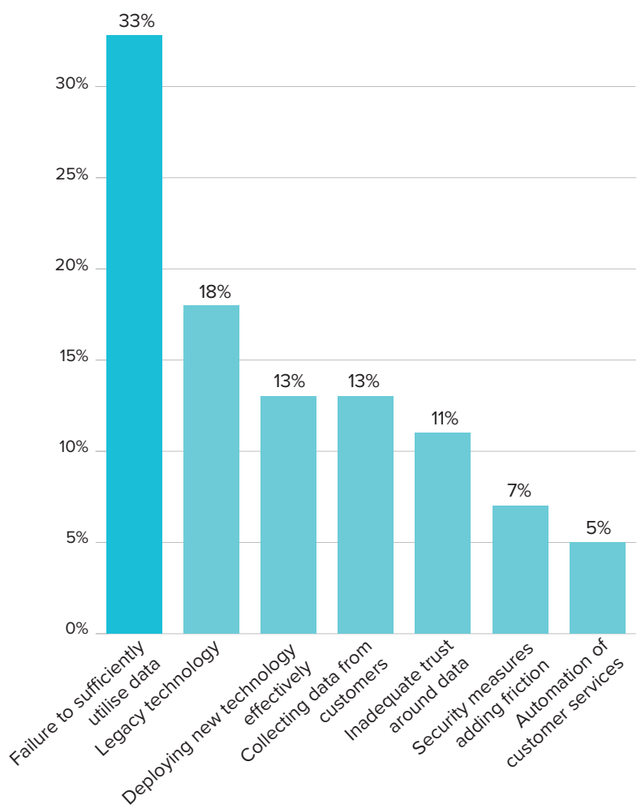


Fig. 51: What poses the biggest internal challenge to customer loyalty?



AI deployment is expected to impact many areas, but interaction with the customer is the area that is predicted to be impacted most substantially. This was most prominent for retail & leisure (50%), media (45%) and technology (46%). (Fig. 50) These are the industries that most prioritise improving customer experience or engagement, and navigating this will depend on skills and investment.

Great digital experiences have elevated expectations, and keeping customers happy is notoriously difficult. The failure to sufficiently utilise data is cited as the biggest internal challenge to customer loyalty at 33%. Collecting data from customers is only cited by 13%, suggesting that obtaining the data is less of a problem than extracting the value from it. (Fig. 51)

This is consistent across organisational size and industry, and underlines one of the top challenges for organisations in 2020: generating and using insight from data effectively (37%). (p. 13, Fig. 9)



In every industry now there’s some kind of disruptive company coming along and taking customers. With taxis, it’s Uber, Ola, et cetera; with banking, it’s Revolut, Monzo, et cetera. You can name an industry and there are disruptive companies coming along and taking customers left, right and centre. Why? Because they typically have an easy-to-understand value proposition. It’s easy to sign up. It’s easy to measure (and optimise for) loyalty and customer lifetime value. Whereas the old business systems are cumbersome and too expensive.

If you innovate to give the customers the products or service they want, at the price they want, you’re almost certainly designing a cheaper process. For example, banking without branches is cheaper and it’s what customers want. So start with what the customers want, give it to them at a price they want — and you’ve probably just taken a handful of costs out of your business.

Big companies in particular have always been better at focusing on innovation to cut costs because that has immediate ROI. If you streamline a process you save some money, or save time, or reduce risk, or whatever it might be. But there’s less upside from innovating around cost-saving compared to innovating around customer experience.

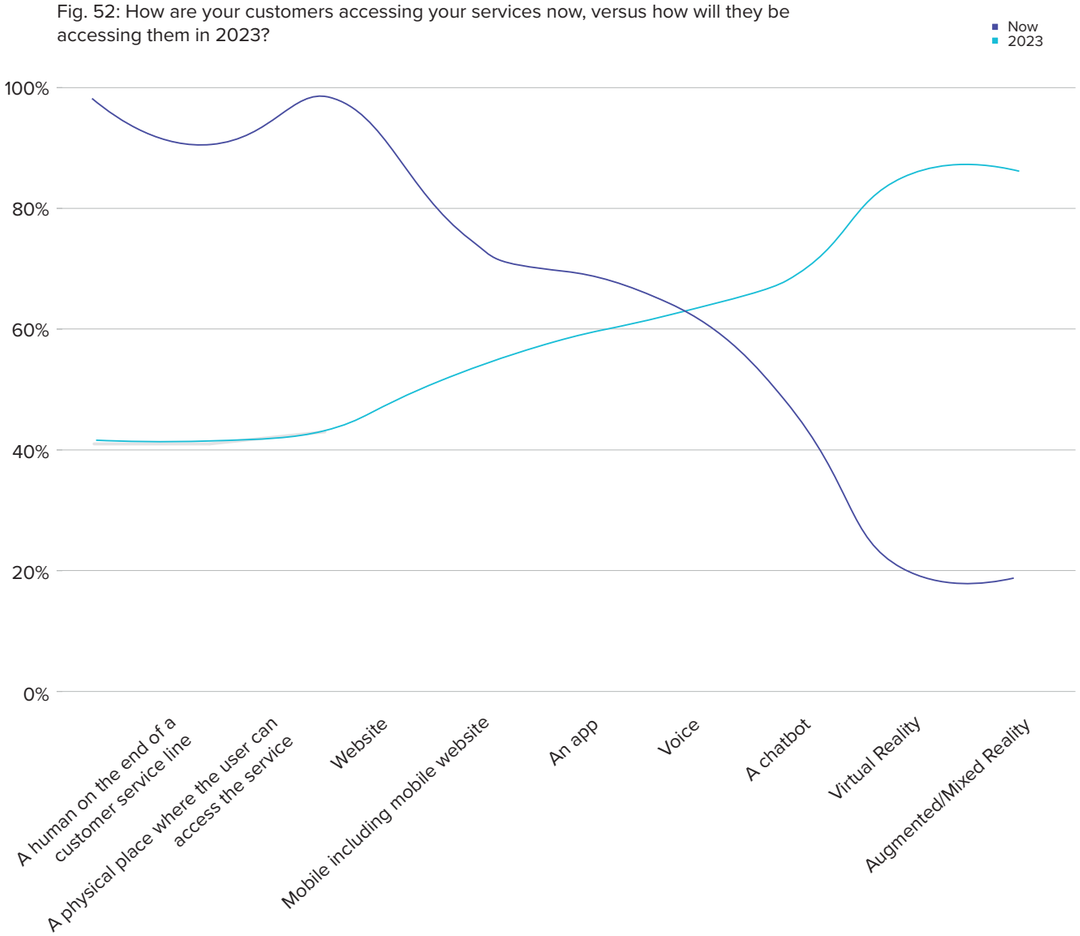
BEN LEGG
Former Managing Director,
Ola Cabs UK

AUGMENTED REALITY: ON THE RISE?

Anticipating consumer behaviour in an increasingly digitised world is vital to ensuring experiences are innovative and best-in-class. When thinking about how customers will access services in 2023, respondents predict the downturn of the website (43%) and customer service line (41%), with VR (86%), AR/MR (85%) and chatbots (68%) being the preferred channels for customer engagement. (Fig. 52)

> Focus on customers first and jobs second, because ultimately without customers you don't have a business anyway.
>
> **BEN LEGG**
> Former Managing Director, Ola Cabs UK

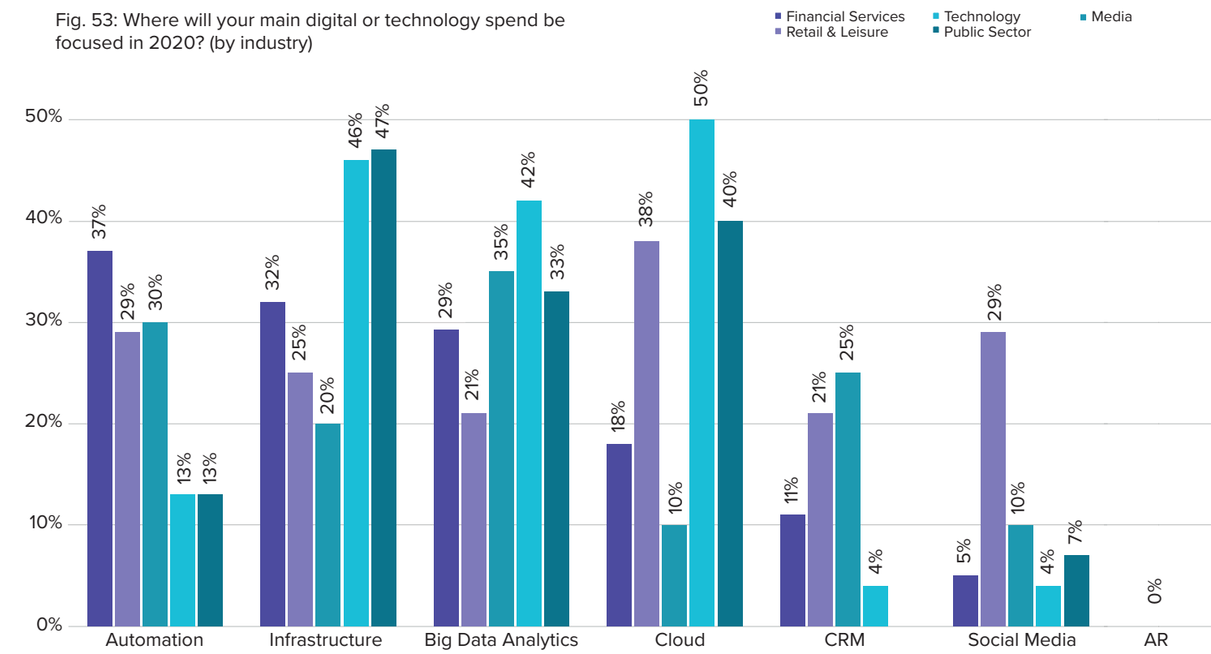
Fig. 52: How are your customers accessing your services now, versus how will they be accessing them in 2023?



Faith in AR as the technology of the future has remained steady for the last four years. Yet with investment still low (just 2%, see Fig. 21, p. 26), it remains difficult to see how and when this technology will generate the customer experience benefits that organisations are predicting. Not a single respondent from financial services, retail & leisure or media cites it as an area of spend, despite their high levels of prediction for AR usage in 2023. (Fig. 54)

While the vision to modernise customer engagement through disruptive technology exists, priorities for investment tell a different story. Industries are investing in more commonplace and commercially tested technologies, in order to improve customer engagement. CRM is the third biggest area of spend for media (25%) and social media is second for retail & leisure (29%). (Fig. 53)

Fig. 53: Where will your main digital or technology spend be focused in 2020? (by industry)



Views on the future of the physical place are contested. Only 22% of retail & leisure believe the physical place will be a viable channel for consumers in 2023, compared with 40% of media and 47% of financial services. (Fig. 55) This suggests that further high street disruption is coming for retailers in 2020, in contrast to the retaining of physical place predicted in financial services and media.

With this in mind, organisations across industries can plot for both now, and the long term, when considering what their customers need. This also impacts how to effectively compete with others in their industries, in vying for consumer engagement.

Fig. 54: Augmented Reality as a channel of customer access, now versus in 2023.

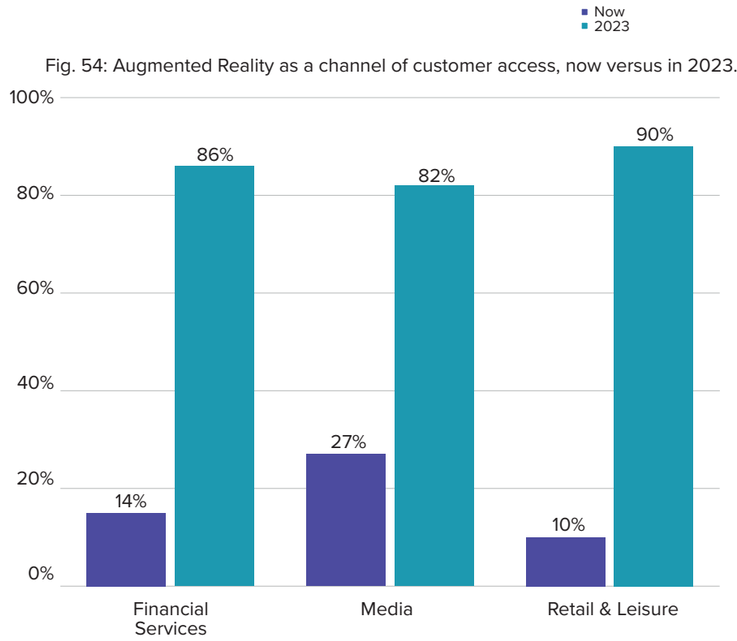
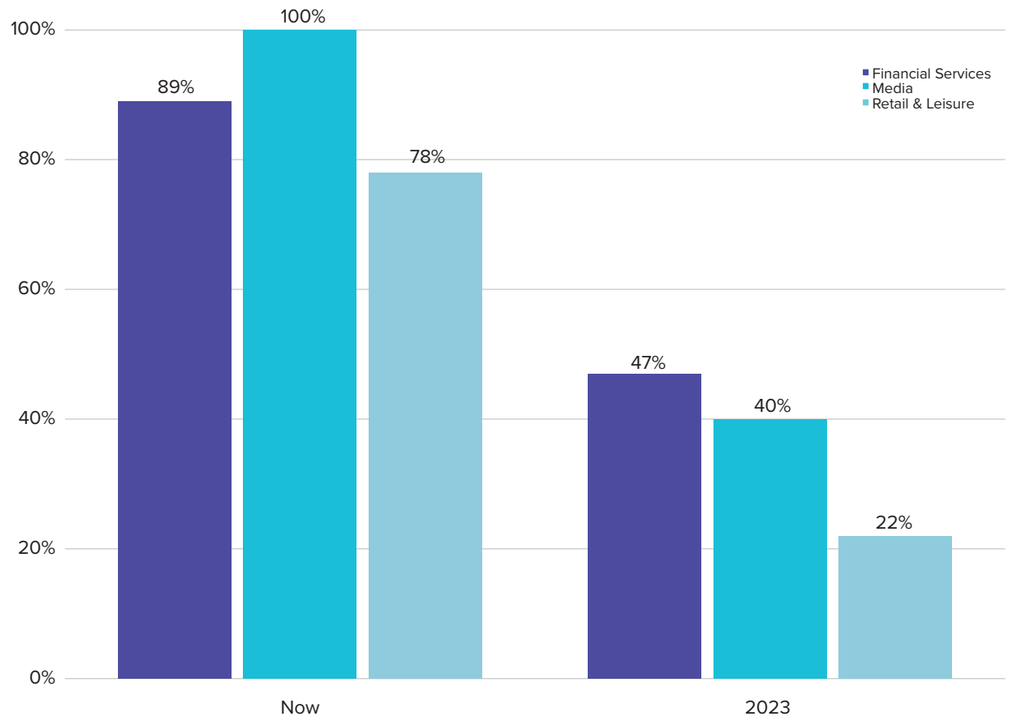


Fig. 55: A physical place as a channel of customer access, now versus in 2023.



A NEW REALITY: LEARNING THROUGH VIRTUAL

A case study on using augmented and virtual reality with the British Safety Council

Technology experts agree that outside of gaming, viable use cases for immersive experiences will, for now, remain in the enterprise rather than consumer space. In a survey of AR and VR developers in 2019, 33% said current potential projects were in education and 27% were focused on training.[1]

The British Safety Council was the first Health & Safety provider in the country to use immersive technologies in both its online and in-classroom training. James Mansbridge, Head of Digital Learning, agrees that VR and AR offer huge potential for education and training providers.

"They are already used extensively in military and medical fields and have been used to help treat mental illnesses such as anxiety and PTSD. Walmart has used VR to help train staff to prepare for Black Friday and to handle a variety of customer service issues, while KFC has done so to train new recruits to prepare chicken."

REALITY ENTERS THE CLASSROOM

Inspired by the success of such training programmes, and eager to improve the experience for its students, the British Safety Council introduced VR to teach the evaluation of risk.

"In the classroom there is little similarity between the taught processes of assessing risk and what takes place in the real world," James explained. "When you teach risk, you might walk around a real commercial kitchen, but it wouldn't be a working kitchen. You need to observe a real situation in order to understand all of the risks."

Online training is even further removed from reality, James added. "Conventional hazard perception exercises are focused on spotting hazards that are so obvious even a young child could identify them. Our VR exercise has nothing to do with spotting hazards – in fact the hazards are all provided before you begin."

VR AND OBSERVING BEHAVIOUR

VR gives Health & Safety students a more immersive and challenging experience than traditional classroom teaching. After an initial orientation tutorial, students are transported into a working restaurant kitchen.

"Evaluating risk in such a real environment is a challenge," James said. "Students must talk to characters, examine and interact with objects, and notice subtle clues of which there may be several contributing to a single risk. Very few people are able to spot all risks on their first attempt."



The programme was designed to teach and evaluate the practical side of risk assessment. But over time, James has observed post-task discussions going beyond the VR kitchen to include the day-to-day experience of working in Health & Safety.

"We originally introduced VR to break

up the monotony of being in a classroom. We didn't expect to be able to use it to talk about what it means to work in Health & Safety management and leadership."

AR AND REMOTE LEARNING

In addition to VR, the British Safety Council introduced AR to teach students how to operate industry equipment safely. "By using a piece of virtual equipment students can explore and discover its operation without risk," James explained. "They can make mistakes and learn what the consequences of failing to close a guard or tighten a chuck fully could be."

Using AR to learn the correct operation of large machinery, either onsite or remotely, is becoming more commonplace. However, James feels the hardware is still not as good as VR and the experience lacks the 'wow factor'. "AR technology isn't quite as reliable as VR," he said. "You need quite a light space for AR, which can make it almost unusable in offices with no natural light. In a couple of years when cameras and motion tracking are better, and processing speeds are faster, I think AR will take off in a bigger way."

IMPROVING CLASSROOM LEARNING

VR has also enabled the British Safety Council to further develop its risk assessment training through data. "We built a back-end system so a tutor can monitor students' progress with the training," James explained.

"Over time we've noticed that students' final scores have got closer to what we recommend they should be. Health & Safety assessment is still subjective, but you wouldn't expect to see huge variations. We've got better at setting students up and equipping them for the task."

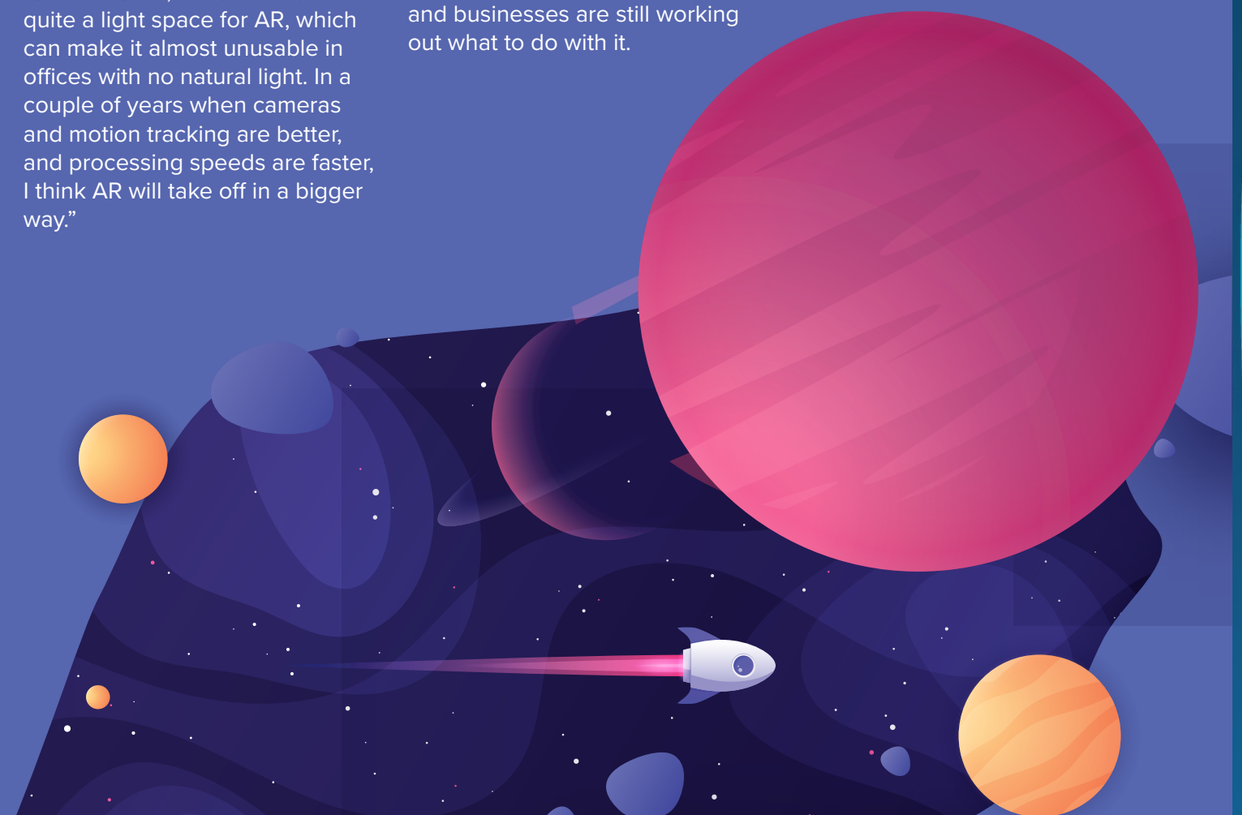
VR AND AR IN 2020

Immersive technology made huge leaps in 2019 and is expected to become even more sophisticated in 2020. However, as James confirmed, consumers are yet to experience what VR can really do and businesses are still working out what to do with it.

"We're getting a lot of enquiries from companies wanting to use VR in their training," James said. "They see other companies doing it and feel they should be too but they're not sure what to do with it. For the British Safety Council, I see the focus shifting towards creating bespoke experiences for companies rather than producing off-the-shelf products."

REFERENCES

1. XRDC, 2019. "AR/VR Innovation Report". http://reg.xrdconf.com/AR-VR-Innovation-Report-2019





Taking digital innovation from conception to roll-out has become a key part of business growth and remaining competitive. However, with only 16% saying that “digital is in our DNA”, a solid digital strategy is still being developed for many organisations.

In this section, we examine how digital strategy and attitude to experimentation impacts success and where organisations are failing.

PROFILING DIGITAL FAILURE

38% of respondents have had a strategic or operational digital project fail to meet its objectives in the last 12 months. (Fig. 56) This proportion has remained fairly constant over the last three years, despite 48% of all respondents agreeing that “the digital projects we must deliver are becoming harder year-on-year”. (p. 60, Fig. 66) This demonstrates that organisations are becoming more adept at successfully completing digital projects.

Fig. 56: Have you had a strategic or operational digital project fail to meet its objectives in the last 12 months?

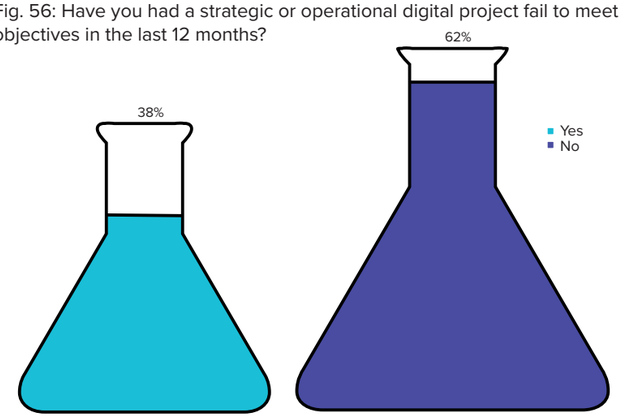
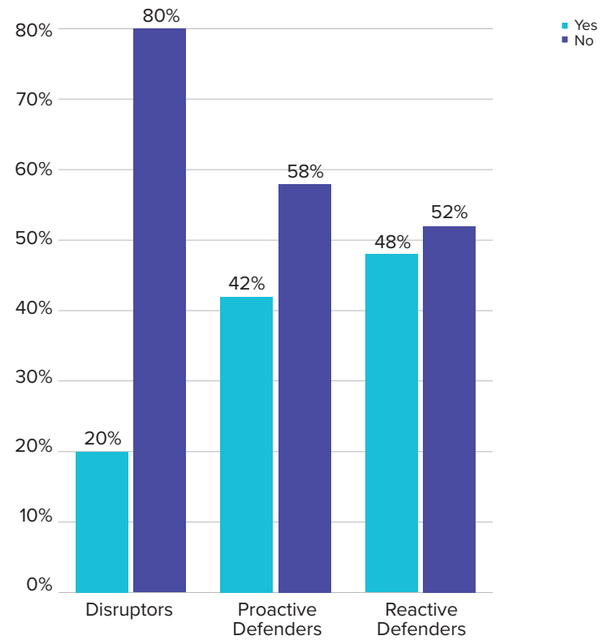


Fig. 57: Have you had a strategic or operational digital project fail to meet its objectives in the last 12 months?



Disruptors are the most successful with digital projects, with only 20% of projects failing. (Fig. 57)

People and process problems pose a bigger challenge to success than technology: project failure is mostly down to culture (18%), failure to meet customer/stakeholder needs (16%) and internal bureaucracy (13%). (Fig. 58) Legacy technology is barely cited as a reason for failure (1%), despite it being the third biggest challenge (34%) for organisations this year. See p. 31 for in-depth analysis of the legacy tech problem.

When asked what they would do differently, respondents mentioned making the most of agile methodology, better leadership, iterative roll-out and clearer ownership. One respondent would have better “managed expectations and early excitement”.

More specialised knowledge is repeatedly an issue. Although only 5% cite inadequate skills as a reason for failure (Fig. 58), several respondents say they would have “removed decision-making from the people outside professional competence”, “learnt the skills ourselves” and “delayed implementation until the right personnel are on board”.

Fig. 58: Why did it fail?

As organisations grow, inadequate skills become a less prominent issue, with start-ups struggling with this most (20%). (Fig. 59) Unsurprisingly, larger organisations struggle with internal bureaucracy the most (17%).

FEAR OF FAILURE

Focus on short-term objectives or incentives is the biggest cultural barrier to success (30%). This was generally true for organisations of all sizes and industries, likely due to the need to quickly demonstrate ROI before gaining bigger budgets. (Fig. 60) In the public sector however, the risk-averse nature of the organisation is the biggest issue (33%), as well as in financial services (18%). (Fig. 61)

Fig. 59: "Inadequate skills" as a reason for digital failure.

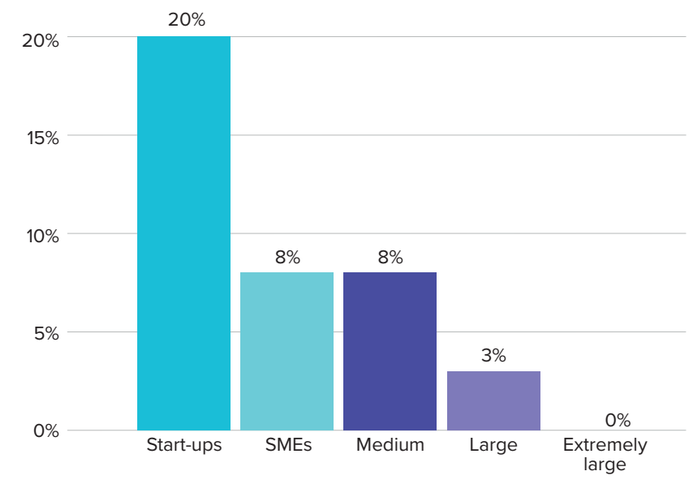
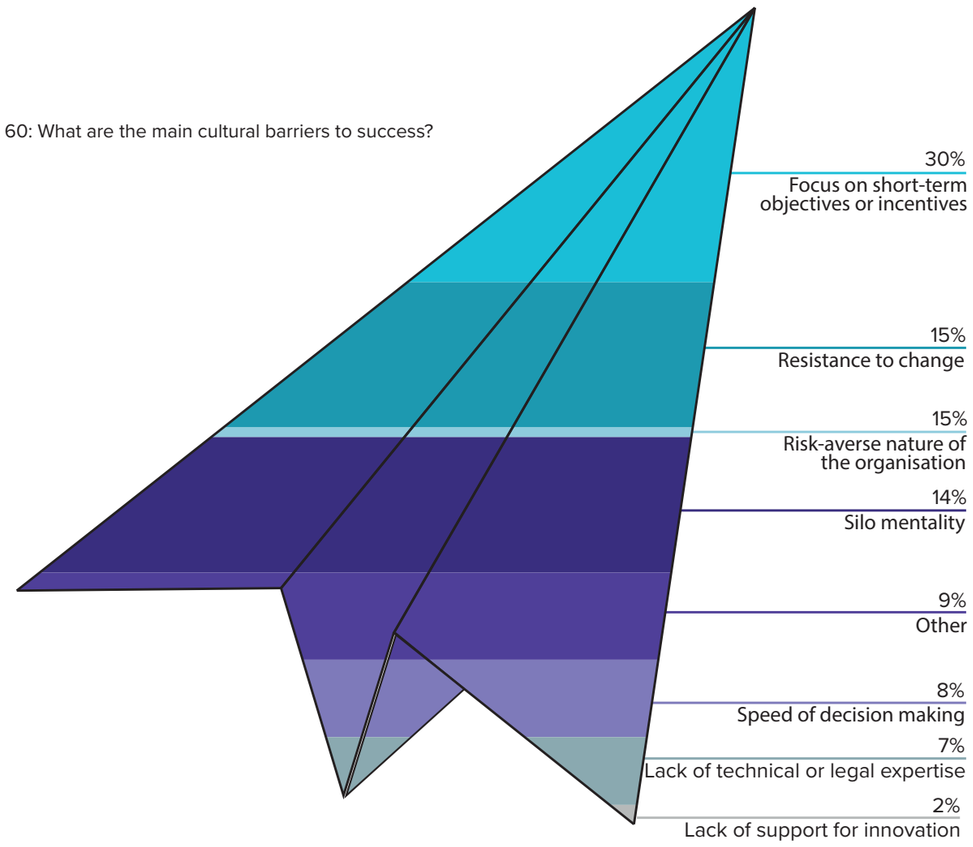


Fig. 60: What are the main cultural barriers to success?



These sectors are also more likely to have issues with public failure, due to their dependence on public trust for their organisation to flourish. Financial services (42%) and the public sector (47%) agree most that their organisations forbid public failure, demonstrating a general fear of experimentation due to a different tolerance for risk-taking. (Fig. 62)

HOW CAN BUSINESSES ADOPT A LONG-TERM MINDSET?

It begins with seasoned, rounded leaders who listen. Businesses need executive teams that are keen on finding lessons and inspiration in the success of others: people who learn from organisational criticism, avoid autocracy and embrace change. I think if all leaders started from this point, businesses would be closer to a long-term mindset.

BRANDIE DEIGNAN
Managing Director,
Marco Pierre White Restaurants

Fig. 61: What are the main cultural barriers to success? (by industry)

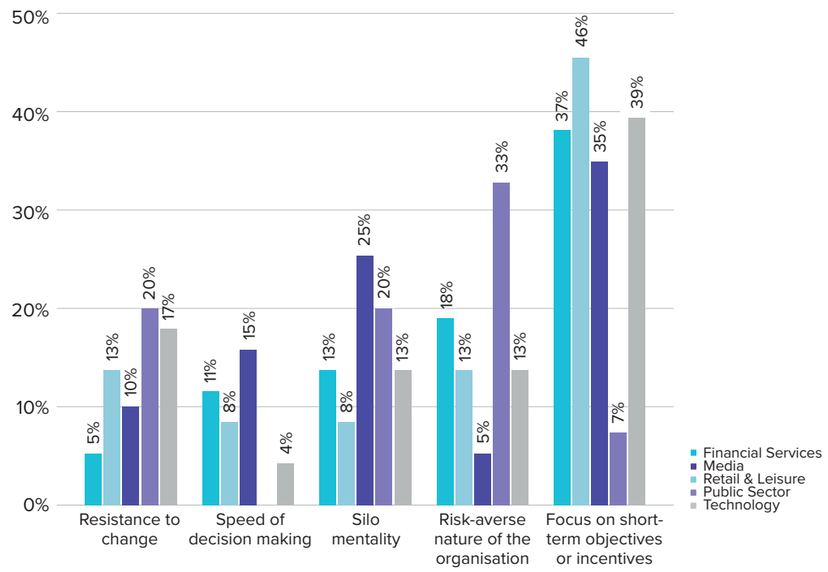
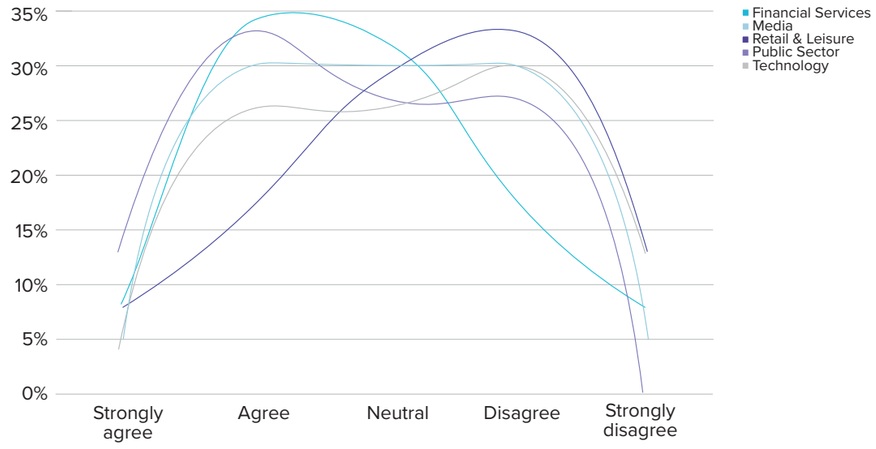


Fig. 62: "My organisation forbids public failure." (by industry)



If you've got the boring, reliable people doing execution and cool, funky people with fun haircuts doing innovation, that's the wrong way of doing things. Separating innovation from reality seldom leads to success.

BEN LEGG
Former Managing Director,
Ola Cabs UK

Similarly, larger organisations are more risk-averse and more likely to have cultures that forbid them from public failure. Meanwhile, smaller organisations struggle more with lack of technical or legal expertise, as well as inadequate skills. Overall, it is the larger organisations that fail in digital projects more, suggesting that a positive attitude and culture towards experimentation is vital to success. (Fig. 63)

THE JOURNEY TO SUCCESS

Despite the prevalence of digital failure, the propensity to learn from failures effectively has increased this year to 49% from 43% last year. Smaller organisations take lessons on board more easily, with agreement from 79% of start-ups and 63% of SMEs, demonstrating how size and agility can have a positive impact on ability to bounce back from failure. (Fig. 64)

Fig. 64: "My organisation learns from failure effectively." (by organisation size)

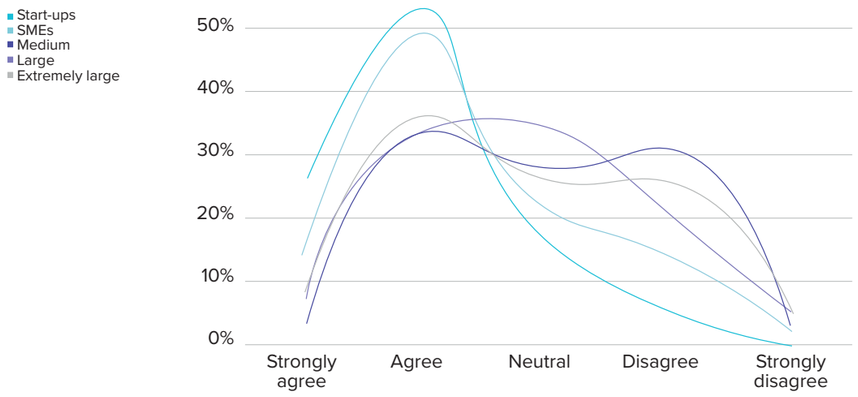
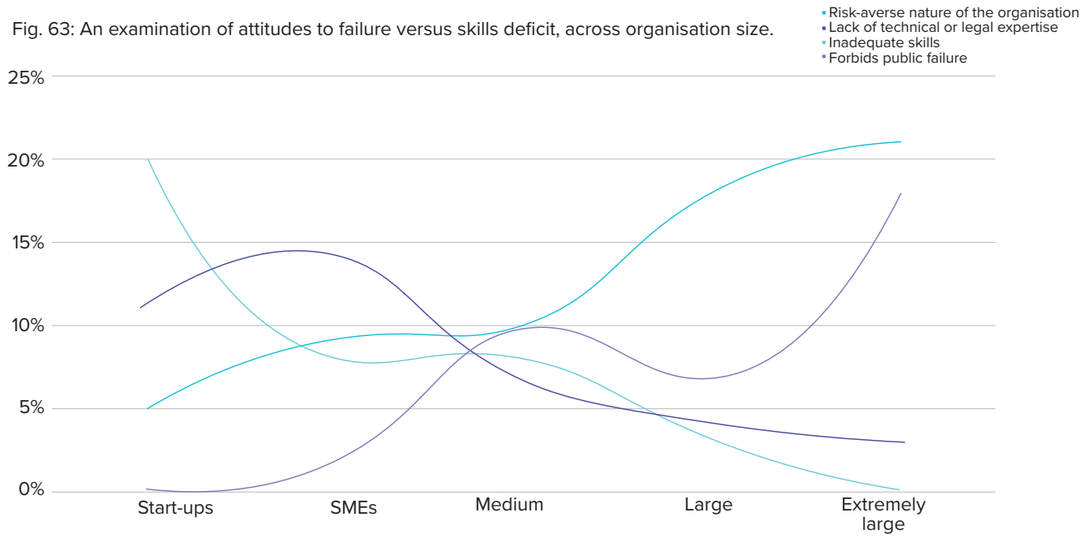


Fig. 63: An examination of attitudes to failure versus skills deficit, across organisation size.



There are two reasons why businesses struggle with being too short-term in mindset: they have stakeholders that are putting short-term pressure on revenue, or they lack strategic clarity and their business model is opportunistic and reactive.

With regard to the former, it's really important to map out over time what you want the business to look like. Then you need to manage your stakeholders' expectations.

A lot of stakeholders will understand that sometimes you're better off reinvesting in the business instead of paying everything out. So the profits may not be apparent, because you're reinvesting much of what's being thrown off as revenue into initiatives that will bear fruit in a couple of years. But as long as you can articulate that to those stakeholders in a very clear way, then you take them on that journey.

It's really dangerous to just manage business from year to year, because you don't step back and see the full picture. You won't survive if you manage a company from year to year.

ALEXANDRA ALTINGER
CEO,
J O Hambro



Disruptors are markedly better in this area with 77% agreeing they learn from failure effectively, demonstrating how deeply embedded their experimental and iterative culture is: 62% agree that their "organisation has a strong culture of iteration".

Technology has the strongest culture of iteration (61%); public sector the least (27%), despite agile development of many front-facing government digital services. (Fig. 65)

48% of respondents agree that "the digital projects we must deliver are becoming harder year-on-year", and yet 50% agree that "day-to-day running of the organisation prevents achieving digital goals". (Fig. 66) With the difficulty of both the work and the ability to do work increasing, learning from failure grows even more important.

In 2020, success is traced by agility, determination to experiment and a long-term vision. Organisations will need to excel in these areas in order to grow, and this next decade will be the test for how well organisations bounce back from failure and deal with disruption.

Fig. 65: "My organisation has a strong culture of iteration."

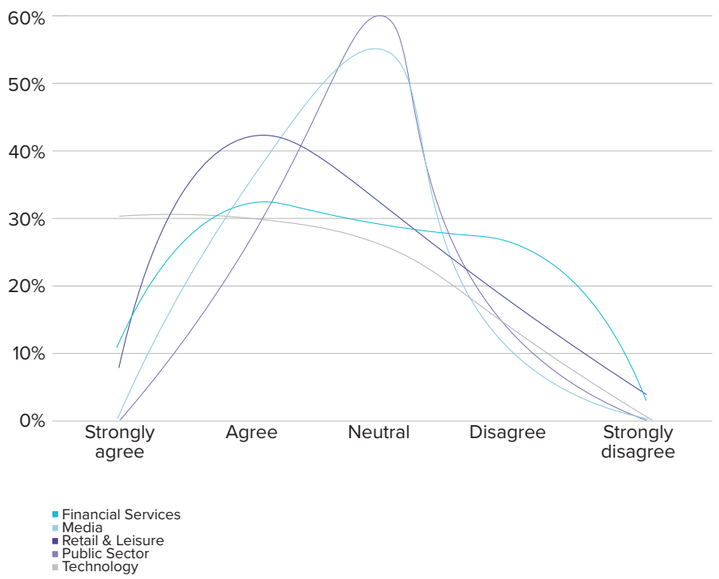
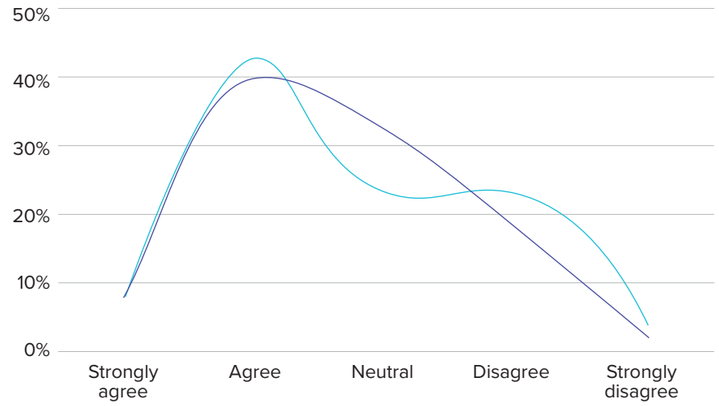


Fig. 66: A comparison between the difficulty of digital projects and the ability to achieve digital goals.





TOP TIPS FROM THE MASTERS: EXPERIMENTING IN YOUR ORGANISATION

You can see regulation as constraint. But every innovation comes out of working around constraint; whether it's a constraint of the human condition or a constraint that previously predetermined limitations that nobody was prepared to challenge.

CIO,
A Global Financial Institution

With culture being the largest barrier to innovation, I wonder if it is time to consider an innovative approach to culture itself. Organisations pay so much respect to individual expertise: perhaps a new consideration for collaboration and solution-mapping in partnership will be a fresh approach for the decade.

RICH CORBRIDGE
Director of Innovation,
Boots

You probably should spend the majority of your money on the stuff that works or finetuning the stuff that works and keep experimentation to a minimum. The key is to make sure you have a continuous pipeline of experiments, turning the winning ones into scalable actions.

BEN LEGG
Former Managing Director,
Ola Cabs UK

SUSTAINABILITY AS A CAUSE, NOT A BUZZWORD

A case study on Patagonia's culture of experimentation and sustainability

Experimentation is woven into the fabric of Patagonia's business culture as well as its products. To achieve its bold new mission to "save our home planet", the company is innovating its supply chain, how clothes are made, and changing the behaviours of consumers, businesses and governments.

There are many examples of experimentation throughout Patagonia's history, from its roots making better tools for climbers from scrap metal, through to its latest clothing line made from worn-out garments.

SWITCH TO ORGANIC COTTON

Patagonia made the switch to 100% organic cotton in 1996. They'd discovered that the natural fibres used in most of its sportswear had greater environmental impact than other materials.

They learned that at the time, 10% of all agricultural chemicals in the United States were used to produce cotton. Research also showed that extensive and intensive use of synthetic fertilisers damaged soil, water, air and biodiversity.[1]

Organic cotton was equal to or better than conventionally grown cotton, but a more time consuming and therefore expensive alternative. Despite this, Patagonia began experimenting with organic T-shirts. To achieve their goal of 100% organic cotton, the company had to build strong relationships deep within its supply chain.

WILD SALMON JERKY

The launch of Patagonia Provisions in 2012 saw the clothing company move into the food industry. Strange as it may seem at first, food fits with the company's wider environmental mission. Yvon Chouinard, Patagonia's founder, believes there is a great opportunity and an urgent need for positive change in the food industry.



"Patagonia Provisions is about finding solutions to repair the chain," he said. "We started, as we always do, by rolling up our sleeves and learning everything we can about the sourcing of each product. In the coming years we will continue to offer a selection of foods that address environmental issues and continue to encourage support of local food producers."[2]

EXPERIMENTS WITH PLANT-BASED DYES

In 2017 Patagonia launched its Clean Color collection, a line of clothing made from dyes derived from bio-waste, rather than petroleum.

Julia Seltzer, Patagonia's Global Senior Marketing Manager, said in a 2017 interview: "With the launch of Clean Color, we are following up on another dye initiative — denim being dyed with non-toxic dyes and made of organic cotton (because denim is a filthy business!)."[3]

The dyes used in the Clean Color Collection are a blend of ancient techniques and modern technology. They are made from a number of natural ingredients including Chinese silkworm excrement, which gets its green colour from the insect's diet of fresh mulberry leaves.

PATAGONIA ACTION WORKS

Patagonia is as known for its environmental activism as it is for its products. It has consistently embraced environmental-related marketing campaigns, even when it could be controversial.

Since 1985, Patagonia has donated over $100 million to grassroots environmental organisations. In 2018 it launched Action Works, a digital platform to connect committed individuals to organisations working on environmental issues in the same community.

A SECOND LIFE FOR CLOTHES

Patagonia's business is selling clothes. Yet, in what may seem a counter-business move, it actively encourages consumers to buy less. It also keeps items in use for longer through Worn Wear, a marketplace for second-hand products.

Worn Wear began as a travelling repair workshop before launching online in 2017. A consumer can return an eligible item to Patagonia for repair. If they no longer want to keep the item, they can give it back to Patagonia in exchange for a gift card and the item will be refurbished and posted on wornwear.com for resale.

Since its launch, Patagonia says it has kept 130,000 used items in play and given them a second life. It's also been good for business with Worn Wear reporting a 40% growth in revenue and profitability in 2019.[4]

RECRAFTED UPCYCLED

Recrafted launched in 2019 and is Patagonia's answer to what happens to clothes when they cannot be repaired, resold, or recycled.

The line takes worn-out, damaged goods and turns them into a new one-of-a-kind item. Each product in the collection is made from parts of up to six different garments. With a limited run of 10,000 units, Patagonia claims this is the industry's largest upcycling project.

GOOD FOR THE PLANET AND GOOD FOR BUSINESS

Patagonia has consistently demonstrated that doing good for the planet can also be profitable for business. Consumers are more aware than ever before of climate change and can see through sustainability policies that aren't backed up with action.

While improving customer experience is still a priority, what once gave businesses a competitive edge may eventually become the expected norm. In the future businesses will need to innovate products and services, and customers are increasingly expecting these to be good for the planet and its people.



REFERENCES

1. Patagonia, 2020. "Organic Cotton". https://www.patagonia.com/organic-cotton.html

2. Yvon Chouinard, 2020, "Why Food?". Patagonia Provisions, https://www.patagoniaprovisions.com/pages/why-food-essay

3. Patagonia, 2017. "Experimenting with Naturally Dyed Clothing". https://www.patagonia.com/blog/2017/06/experimenting-with-naturally-dyed-clothing/

4. Ryan, Thomas J. 2020. "Worn Wear Taking Off for Patagonia". SGB Media. https://sgbonline.com/worn-wear-taking-off-for-patagonia/

COMMENTATORS

BEN LEGG
Former Managing Director, Ola Cabs UK
A seasoned technology CEO, Ben has lived in nine countries (worked in 60) and reinvented multiple industries. He is passionate about using technology, data, fresh thinking and awesome teams to build pioneering organisations.

BRANDIE DEIGNAN
Managing Director, Marco Pierre White Restaurants
Brandie is strongly informed by her exposure in the wide array of hospitality disciplines related to her field of expertise. She is specifically interested in the way in which social shift and innovation influences business and strategy subtly.

RICHARD CORBRIDGE
Director of Innovation, Boots
Richard is a disruptor in healthcare who has been asked to bring a different type of thinking to the health and beauty retail arena. He has been responsible for leading a country from paper to digital healthcare, as well as being on the a Nimbus Ninety members' advisory board.

ALEXANDRA ALTINGER
CEO, J O Hambro
Alexandra has worked globally in wealth and asset management for 25 years, and led business transformations including appointing women to the leadership team. She's currently writing a book on ethical leadership.

CIO at a Global Financial Institution

CREDITS

EMMA TAYLOR
Founder & Managing Director
emma.taylor@nimbusninety.com

JESSICA THORPE
Editorial and Content Lead
jessica.thorpe@nimbusninety.com

Written and produced by:
SHAMMAH BANERJEE
Editor
shammah.banerjee@nimbusninety.com

Designed by:
ALEXA PHEREZ
Marketing Manager
alexa.pherez@nimbusninety.com

WE ARE **NIMBUS NINETY.**

We are the independent community of disruptive thinkers. Our members are digital leaders across every industry and sector, who sit at the intersection of business and technology. We bring together a broad range of senior stake-holders, through a variety of member-driven activities including our summits, research, reports and accelerator events. Our members, all of them disruptive leaders, share a common goal; to fast-track their learning and transform their challenges into opportunities.

Join the community:
www.nimbusninety.com

CONTACT

Address

Nimbus Ninety
15 Bishopsgate
London EC2N 3AR

Registered company: Nimbus Ninety Ltd
Registration number: 06803745, registered in England & Wales
Registered address: 16 Northfields Prospect, Putney Bridge Road, London, SW18 1PE

Copyright © Nimbus Ninety Ltd 2020 - All rights reserved. While every action is taken to ensure the information within this document is accurate, the publisher accepts no liability for any loss occurring as a result of the use of that information.