Deloitte.

Report: Benchmarking your Analytics Journey

FY20/21 Survey Report

Global Insight Driven Organisation Survey
Report: Benchmarking your Analytics Journey

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Contents

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Introduction

Deloitte has long understood the importance of using data to enable fast, confident decision-making, and enable pioneering actions. Our teams work closely alongside diverse industries, geographies, organisation types and sizes to imagine, deliver, and run the future. In 2017, recognising that data and analytics were as important to an organisation's bottom line and business operations as more traditional functions, we launched our first annual Insight Driven Organisation (IDO) Survey in the United Kingdom. The aim of this was to quantifiably understand what business challenges organisations were facing, and how they were – or were not – using data to shape their future.

Meanwhile, alongside the organisations we work with, we continued to learn and evolve. Artificial Intelligence (AI) began to change the way we work, communicate, make decisions, and interpret things, with the world now firmly in the age of machine intelligence. This power of automation and artificial intelligence is the power to re-imagine how everything is done.

This year, we are pleased to present the results of our third IDO Survey. It represents two major shifts: our results being global, with responses across geographies spanning Asia, the Middle East, Europe, and North America, and a focus on not just data and analytics, but also AI capabilities. Combined with a year that has changed the world faster and in different ways than ever before, we wanted to understand how our respondents had felt the shift in their data, analytics, and AI capabilities. Did their analytical projects and budgets reduce in priority? How are they able to use analysis and data-driven insights to respond to the challenges of the pandemic? What are their biggest barriers?

While foundational data and analytical capabilities are important, these are no longer sufficient on their own – innovation today is fast and sophisticated. Adaptability and the ability to scale analysis are no longer competitive advantages – they are necessities. This is well-reflected in our survey respondents sharing with us that despite a turbulent past year, analytical budgets and priorities have not seen significant change. Rather, data, analytics and AI are seen as leading capabilities to help organisations recover from the global pandemic and its effects.

We thank our respondents for their willingness to share their journeys with us. As ever, we hope that the results of this survey will help you ask the right questions, assess your current analytical and AI capabilities, and make the competitive advantage yours.

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Andy Gauld
IDO Global Proposition Leader

This past year we have seen huge disruption in the ways in which people and businesses interact, the types of services being delivered, and the channels through which these services are secured. There has been a seismic shift in expectations as customers, as employees and as citizens, as their understanding and maturity increase. External factors as well as changing business models and services pose significant threats to organisations – but none so risky as 'do nothing'.

Building on from our previous Surveys, this report offers food for thought and highlights the positives, the concerns organisations are facing as they continue on their journey in expanding data, analytics and AI capabilities. Most know where they want their analytics and AI organisations to be, and the insights in this report will offer new perspectives, help define what additional capabilities and methodologies are required to achieve this, and help structure the way forward in an uncertain world.

Methodology

This is the third IDO Survey released by Deloitte, conducted online in the second half of 2020. Over 300 respondents participated globally, from across a range of industries, organisation sizes, and countries.

Our respondents are senior leaders with decision-making responsibility for their data, analytics and AI organisations, based across Canada, China, Denmark, Finland, Germany, the Middle East, Singapore, Switzerland, and the United Kingdom.

To join our panel of respondents for next year or for more information on the Survey, please contact Andy Gauld at **agauld@deloitte.co.uk**.

Respondents

Respondents

Who took the Global Insight Driven Organisation Survey?

The Global Insight Driven Organisation Survey FY2020/21 was run in the second half of 2020, with respondents based across Canada, China, Denmark, Finland, Germany, the Middle East, Singapore, Switzerland, and the United Kingdom.

Figure 1. Geographic Coverage
The majority of the Survey respondents' organisations operate in Europe, one in five having operations in the Middle East and Asia, and over one in ten having global operations. The figure below shows the geographic range of the regions in which respondents' organisations conduct business.
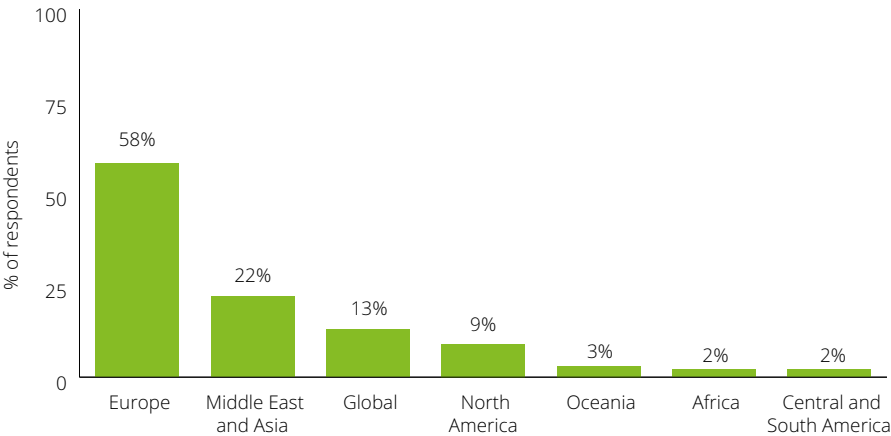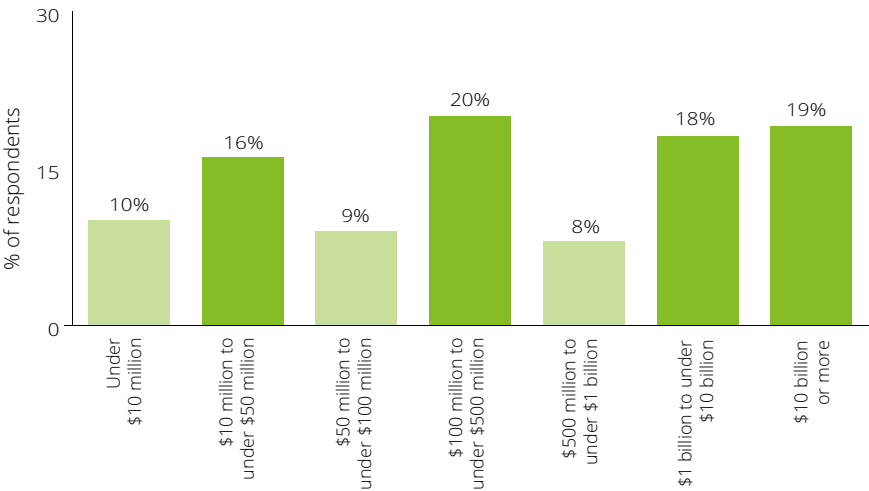

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Responses to the Survey came in from a diverse range of organisations in terms of financial revenue and turnover: smaller organisations with annual revenues of 50 million USD or below represented 26 per cent of all respondents, mid-sized organisations with annual revenue between 50-500 million USD represented 29 per cent of responses, and large organisations with an annual revenue of 500 million USD and above comprised the final 45 per cent.

Figure 2. Organisation Size
The Survey largely had responses from medium-to-large sized organisations, with two-thirds of all respondents reporting annual revenues of 100 million USD or above.
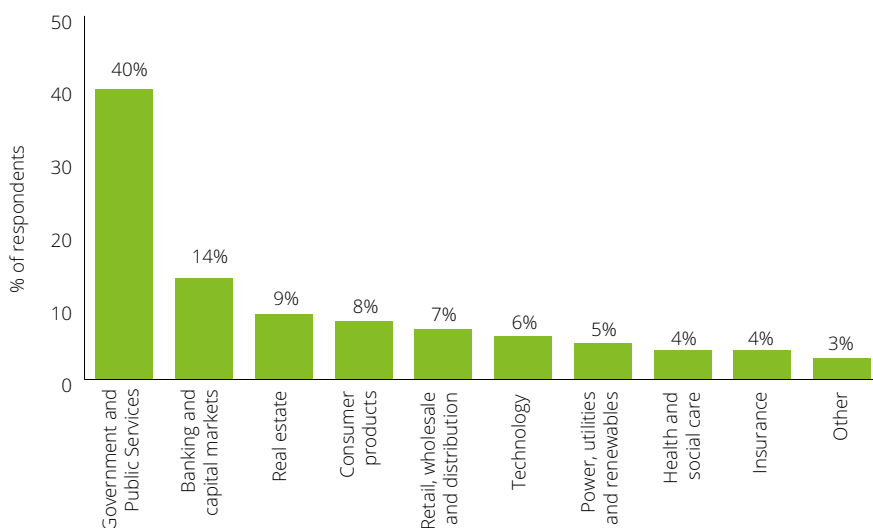

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

The largest proportion of our respondents were from Government and Public Service organisations (40 per cent), followed by Financial Services and Insurance (22 per cent). Private Sector responses were split across Power, Utilities, and Renewables (6 per cent), Technology (5 per cent), Retail, Wholesale, and Distribution (4 per cent), Consumer Products (4 per cent), and Real Estate (3 per cent), representing a total of 22 per cent of all respondents.

Figure 3. Organisation Industry
The largest proportion of survey responses were from Government and Public Services organisations, with Financial Services and Insurance and the Private Sector representing just under a quarter each of the total respondents.
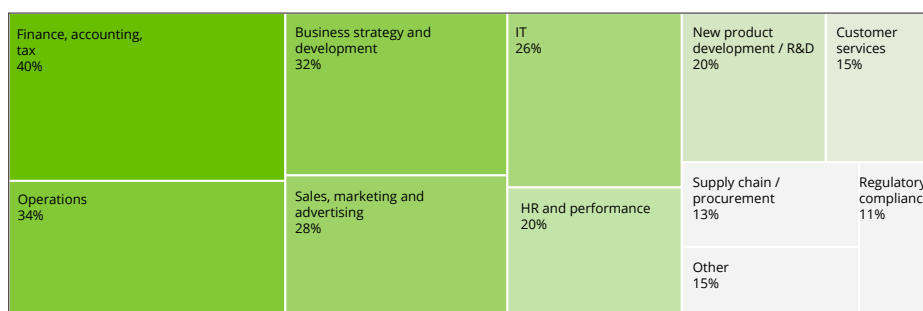

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

40 per cent of all respondents report that the Finance, Accounting, and Tax domains are amongst their most analytically mature business functions, closely followed by Operations (34 per cent). More interestingly, a third of all respondents reported that their business strategy and development function is one of the most mature users of data and analysis, to develop and drive the strategic vision and outcomes for the entire organisation.

Figure 4. Most analytically mature business functions
While traditionally data-focused business functions such as Finance, Accounting, Tax, Operations, Sales, Marketing and Advertising, and IT are likely to be more analytically mature, it is heartening to see that functions like business strategy and development, and new product development and R&D, are also increasingly data-driven.

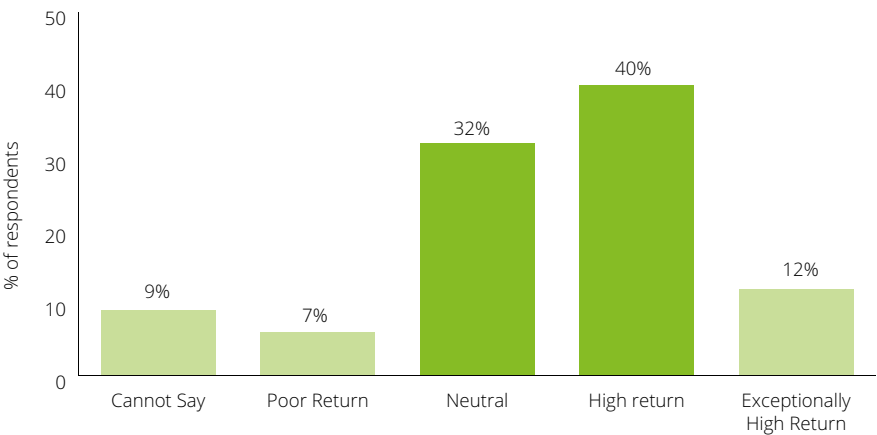Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Strategy

Stratergy

Establishing the right analytics and AI strategy and ownership

Understanding the Value of Analytics and AI in Decision-Making

Previous Insight Driven Organisation Survey Reports (published 2018, 2019) found data and analytics capabilities had become increasing crucial to organisations: in the 2018/19 Survey, less than 9 per cent of our respondents reported their organisation's senior leadership disagreeing with the crucial role of analytics to their organisation's success. This year, we wanted to understand whether the same importance is accorded to AI as well: 32 per cent of all respondents recognise that analytics and AI are critical to the success of their business, and believe that this understanding is widely shared across their organisation. A further 65 per cent of organisations have a formal strategy for these within some business units or some stakeholders that recognise the strategic importance, though there may be limited wider support. Only 3 per cent of organisations believe that analytics and AI are of no strategic importance to them, or do not know the strategic importance. A further one in every four of our Survey respondents would prioritise improving data, analytics and AI capabilities ahead of all other competing priorities.

Figure 5. Return on Investment (RoI) from Analytics and AI
Only half of our respondents felt confident that new analytics and AI initiatives were providing high or exceptionally high return, with 7 per cent expressing concern that their analytics and AI initiatives were leading to poor returns.

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Figure 6. Measuring the Value of Analytics and AI
45 per cent of respondent's organisations primarily think about analytical projects as part of wider solutions and functions, and measure the success of analytics and AI only as part of these wider solutions and functions. Less then 10 per cent of respondent organisations have a consistent and systematic mechanism with clearly defined metrics to measure analytical RoI.

1. We do not know how to measure the value of our analysis	19%
2. We know how to measure the value of analytics and AI, but do not regularly do so	12%
3. We primarily think about analytics and AI as part of wider solutions / functions and measure their value as part of these wider solutions / functions	45%
4. We sometimes think about analytics and AI as distinct functions and measure their value	15%
5. We have a consistent, systematic mechanism and performance metrics to measure this ROI	8%

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Despite all of our survey respondents have ownership of their analytical functions and being involved in executive decision-making around analytics, only half of them felt confident that their new data and analytics initiatives provided high or exceptionally high return. A third were 'neutral' about the RoI provided by analytical initiatives, and 7per cent expressed concern that their analytics and AI projects were actually leading to poor returns.

Part of the challenge expressed above around difficulties with tracking and measuring the output of analytics may be caused by the fact that the vast majority of organisations tend to think about, and measure, analytical outputs exclusively as part of the wider solutions and functions that they contribute to, rather than having specific metrics and measurement methodologies in place to measure analytical Return on Investment. There is a greater tendency for organisations to lack maturity in this area and struggle with defining how to measure analytical outputs, as well as with regularly and consistently enacting these measurements.

What does success look like?

Organisations often find it difficult to measure and demonstrate the value of analytical projects back to the business. We have found that this inability to demonstrate ROI usually stems from one of 3 root causes:

• The project is not aligned to business needs or designed to answer a specific business question

• Despite a well-executed project, the business has not adopted the insights or the solution in BAU

• Unrealistic expectations were set in terms of results, timelines, outputs or user-experience

These do not necessarily mean that the analytics or AI itself were unsuccessfully executed. Rather, it is key to define upfront which value drivers an analytical project is working towards, such as generating new revenue, reducing cost, regulatory compliance, capability building, efficiency improvement, risk reduction, or others. Each initiative should be aligned to one or multiple value driver(s), and leverage the most appropriate analytical or AI solution to meet the business and value objective.
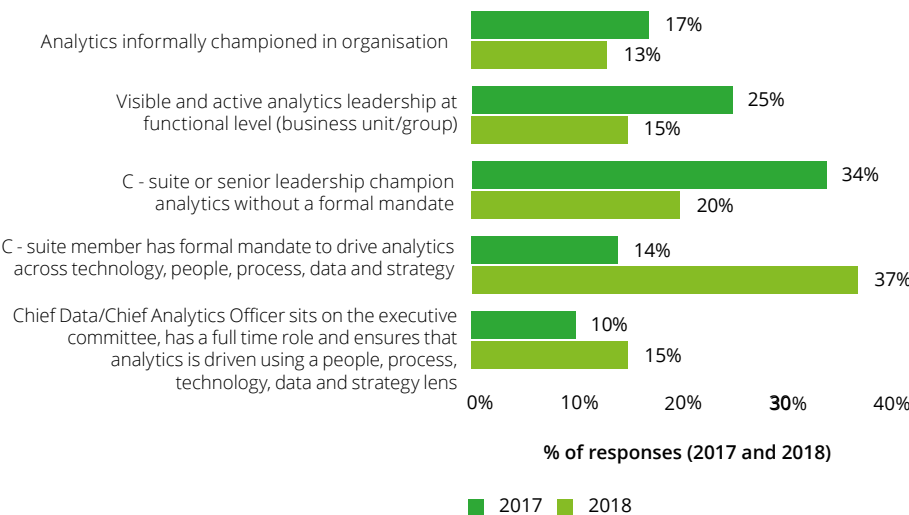
Value creation from AI inevitably involves trying and testing new ideas. It is important to share both successes and failures, in both cases understanding what worked and what didn't, and using this insight to evolve your proposition and operations.

Analytical Function Ownership

In previous Surveys, we have observed wide variations in analytical function ownership models. Only 15 per cent of our 2017/18 respondents had a Chief Data Officer or a Chief Analytics Officer, with the most common analytical champions being individual business unit heads, at 40 per cent. We felt that this lack of clearly defined, communicated and empowered owner for analytics, crucial to its success, was a fundamental missing building block. By 2018/19, almost 70 per cent of our respondents have reported having a clear, senior executive formally leading the analytical agenda, with a similar percentage in this year's Survey. We believe that this is further enabled by many boardroom leaders and senior executives being analytically aware, and driving analytical insight and an analytical mindset across their organisational culture– over 60 per cent of our respondents this year indicated that data is a crucial part of decision making culture at their organisation.

Figure 7. Analytical function ownership over the years
While multiple 'leaders' of the analytical function remain the single most common response in this year's Survey (approximately one in every four respondents), C-suite ownership has increased. Business unit heads, CIOs, CEOs, CDOs, or other C-level leaders are the most likely to lead their organisation's analytical function.

Analytics informally championed in organisation — 17% (2017), 13% (2018)

Visible and active analytics leadership at functional level (business unit/group) — 25% (2017), 15% (2018)

C - suite or senior leadership champion analytics without a formal mandate — 34% (2017), 20% (2018)

C - suite member has formal mandate to drive analytics across technology, people, process, data and strategy — 14% (2017), 37% (2018)

Chief Data/Chief Analytics Officer sits on the executive committee, has a full time role and ensures that analytics is driven using a people, process, technology, data and strategy lens — 10% (2017), 15% (2018)

% of responses (2017 and 2018)

■ 2017 ■ 2018

2017/18 and 2018/19 responses to the question,
'Which best describes who champions analytics at your organisation?'

Source: Deloitte Insight Driven Organisation Survey, 2018/19
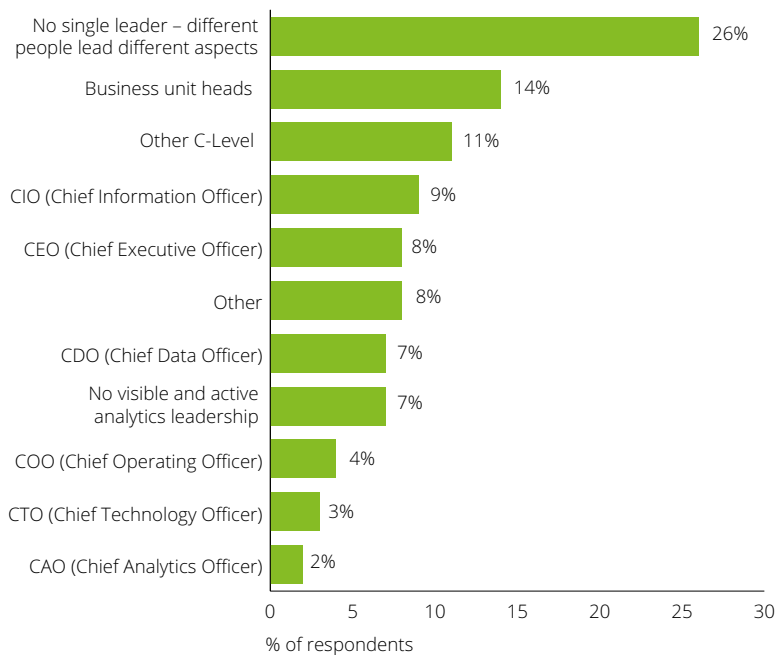
2020/21 responses to the question, 'Which best describes who champions analytics at your organisation?'

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

COVID and the Analytics and AI budget

Despite a strained year and significant periods of uncertainty for the vast majority of organisations across the world, most of our Global IDO Survey respondents did not see their organisation's investment in analytics decrease. Rather, investment in analytics remained the same as pre-pandemic levels (49 per cent of respondents) or increased over the last year as compared to pre-pandemic budgets (46 per cent).

Figure 8. Impact of COVID-19 on Analytical Budgets
Interestingly, COVID-19 has overwhelmingly not had a negative impact on analytical budgets, with half of respondents reporting no change and most of the other half indicating that their budgets have increased due to the global pandemic. This is a strong reflection of the wider understanding of the importance of analytics, across organisations and executive teams.

% of respondents
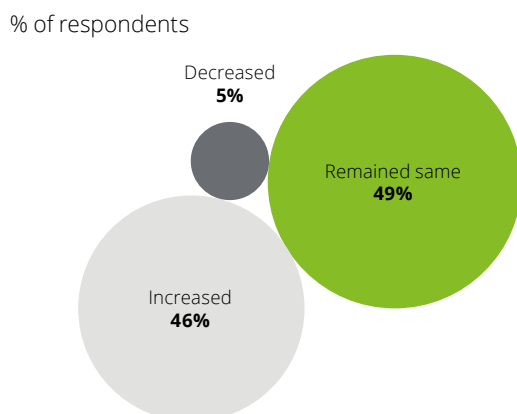
Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

People

People

Attracting, growing and retaining analytical talent and knowledge

Team Sizes and the Skills Gap

Sourcing data, analytics and AI skillsets in a competitive market is one of the key challenges for analytical function owners – especially when a large range of different skills is required. For small to medium-sized organisations (revenue under 500 million USD), analytics teams can be as big as up to 15 per cent of the overall organisation size. With larger organisations (those with annual revenues of 500 million USD or more), the proportionate size of the analytics team tends to shrink down, to an average of between 1-3 per cent of the total organisation size. In this year's Survey, we asked our respondents which skills are in shortest supply at their organisation. Most respondents are looking to increase their team's technical abilities in skills and technologies such as AI, data science, data engineering and analysis skills, but there is also significant interest in growing communication, business analysis, and business partnering capabilities.

Figure 9. Most Common Skills Required
While AI, data science, and data management, engineering, and analysis remain the most sought-after skills, close to a third of responses also sought to increase their team's communication and story-telling skills, enhance visualisation and user experience knowledge, and improve their team's business domain and business partnering.
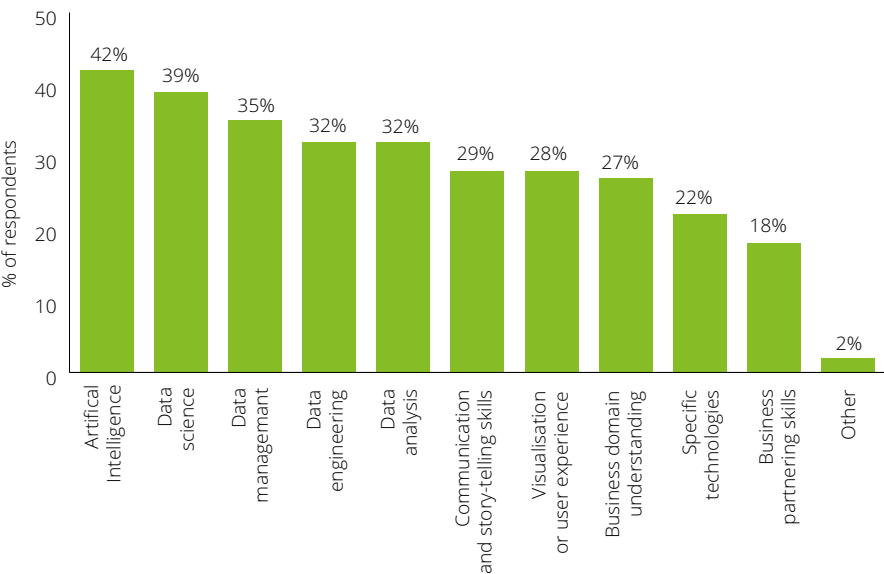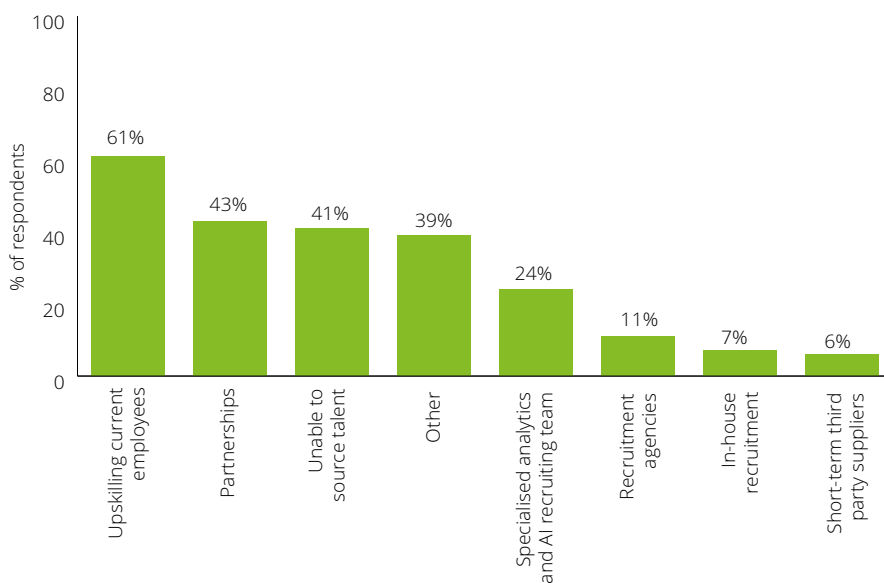

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Sourcing Talent

Survey respondents report a wide variety of challenges in obtaining the appropriate analytical talent to 'close the gap', and deliver data-backed insights useful to their business. As seen above, the skills gap is multi-disciplinary, across technical, analytical, business domain knowledge, storytelling, and visualisation skills. By far, the most preferred method to address this is to upskill current employees, with a third of respondents sharing this as a typical approach to improving analytical capability. In-house recruitment is also common, along with partnerships and third-party suppliers for specific, defined projects and short-term capability uplift.

Figure 10. Typical Sources of Talent

Upskilling employees is the most preferred method to grow an organisation's analytical and AI talent, preferred by 61 per cent of responses. Partnerships and short-term third party suppliers closely follow this, at 43 per cent and 41 per cent of responses respectively. Specialised analytical recruiting teams are uncommon, and 6 per cent of responses indicating an inability to source the appropriate talent required.

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Leveraging Talent Ecosystems

The amount and diversity in capabilities required to keep up with both internal and customer expectations, and a dynamic and rapidly changing environment, can be overwhelming. Developing a network of partners from a cross section of industry, government, research and technology faculties can take some of the pressure off constructing all these capabilities internally. An IDO ecosystem enables for innovations to be driven in technology, products and services and within talent and the organisational structure. Some examples include:

- A **data eco-system** includes both the data suppliers and data brokers, and also the data distribution networks.

- An **analytics eco-system** includes both the technology, but also the people and related organisations performing similar analysis.

- A **business eco-system** is based on the data and analytical capabilities being offered across the value chain and can be fundamentally different from past customer / supplier relationships, including regulatory impacts

- A **crowd-sourced eco-system** obtains its services, ideas, or content from contributions from a large group of people, especially online, rather than traditional employees or suppliers

- A **talent eco-system** is made up of relationships with universities, business schools, professional associations and innovation hubs.

Supporting the Wider Organisation and Teams in an Unprecedented Year

Unexpectedly, given the lack of impact to analytical budgets over the last year, over a third of our respondents are not actively using analytics and AI to help their organisation respond to challenges posed by the COVID-19 pandemic and its effects, with only 1 in every 10 respondents using analytics and AI to help inform their recovery and response strategies. However, a fifth of our respondents have had to prioritise only those analytical projects with the greatest value, and an additional 7 per cent have already begun rebuilding their analytical models to adapt to the 'new normal'.

There is a clear geographic distinction in these answers, with Middle East and Asia respondents most likely to have had to prioritise critical projects, North American respondents most likely to use AI and analytics to enhance internal remote working or to have prioritised critical projects, and European respondents most likely to not be making as much use of analytical and AI capabilities (over half of European respondents report not using analytics and AI to respond to challenges posed by the global situation as a result of COVID-19, and only 19 per cent deploying their analytics and AI capabilities more widely as a result).

Figure 11. Use of Analytics and AI to Respond to COVID-19, and Changes to Workforce

Globally, the average organisation is not yet using analytics and AI to respond to COVID-19 and concomitant challenges. However, one in every four organisations has had to prioritise their analytical initiatives, focusing only on those expected to produce the highest value. A large proportion of respondents are also looking to automation to support their workforce,capability, or beginning to retrain their workforce.
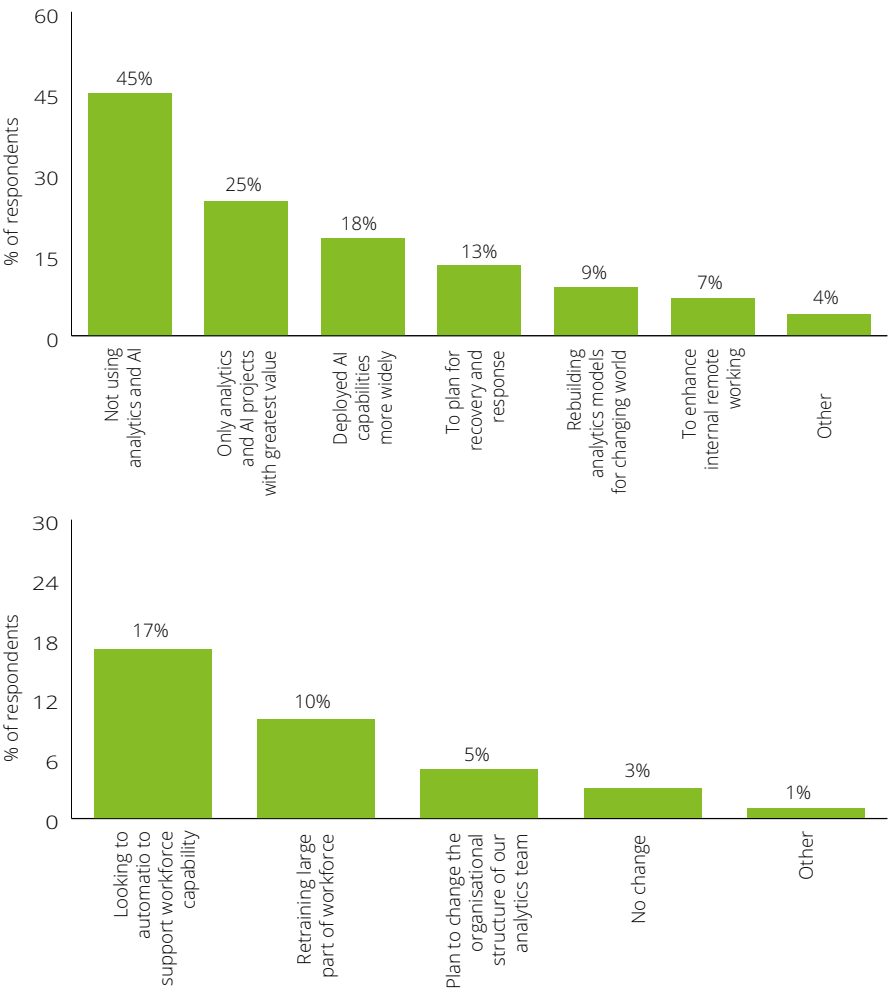
Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Process

Process

Overcoming challenges to build sustainable and repeatable insight delivery

Barriers to becoming insight-driven

Every year, we ask our respondents what their biggest barriers are across the end-to-end analytical process. While respondents do percieve a range of steps across the analytical process as barriers, there are clear common hotpots – in previous Surveys, the three biggest challenges were around managing data, implementing analytics, and embedding analytical results into business processes,. This year, the most common barriers have shifted from the focus on 'doing good analysis' to early-stage scoping and prioritising projects, and ongoing and late-stage tracking and measuring the output of analytical endeavours.

As in previous years, an industry alignment remains when it comes to analytical challenges, with our Government and Public Sector clients likely to experience the same difficulties as their cross-industry counterparts, but a higher proportion than average expressing difficulties with building analytics (especially efficient and effective delivery of information and analytics implementations). There is likely something to learn in this space from their Financial Services and Insurance counterparts, who are largely content with their ability to design, build and scale analytics but expressed particular challenges with communicating the value of analytics. Our Private Sector respondents expressed similar concerns around tracking and measuring analytical outputs, and were also more likely to express concern with the upfront definition of analytical programmes, especially with scoping and prioritising works.

Part of the challenge expressed above around difficulties with tracking and measuring the output of analytics aligns to the earlier insight shared in the Strategy section of this report, which showed that organisations tend to think about, and measure, analytics and analytical outputs as part of the wider solutions and functions that they contribute to, rather than having specific metrics and measurement methodologies in place to measure analytics Return on Investment (RoI).

Figure 12. Biggest Analytical Challenges
Almost half of all responses indicated challenges with tracking and measuring the output of analytical projects. Overall, communication and tracking was felt to be the most challenging area, followed by defining and scoping analytical work, and then scaling.

Defining and Scoping Analysis	Scoping and prioritising projects	33%
	Shaping strategy	26%
	Understanding analytics	35%
	Converting pilots to projects	26%
Designing and Prototyping Analytics	Converting pilots to projects	21%
	Initiating successful projets	14%
	Developing pilots	28%
Building Analytics	Managing your data	30%
	Delivering information e.g. data warehousing	26%
	Implementing analytics	31%
	Amplifying intelligence through cognitive technology	32%
	Automating manual processes	30%
Communicating Analytics and Tracking	Tracking and measuring the output of analytics	46%
	Communicating value	28%
	Optimising insights	28%
None of the Above	None of the Above	4%

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Delivery Methodologies

At the same time, as organisations begin to work towards bringing together analytical teams from across the business under clearly defined analytics leadership, we wanted to understand what the analytics delivery process looks like for most businesses. Currently, 22 per cent of respondents adopt agile processes and procedures for delivery of analytics and AI solutions (especially likely to be those organisations that work within Financial Services and Insurance, or those within the Technology, Media and Telecommunications industries), and 62 per cent adopt a hybrid agile or waterfall methodology. Only 16 per cent of respondent organisations use purely waterfall delivery processes, with Healthcare and Government and Public Sector clients most likely to contribute to this group. This is not surprising for organisations who have safety-related requirements, relatively more strict governance procedures or are likely to have legacy processes in place: but we expect this to change, especially in a post-pandemic world where change is more rapidly required than it has been in the past.

Communicating and Changing the Mindset

Given the complexity, specialist nature and novelty of AI as a discipline, becoming an IDO requires multiple layers of collaboration, communication, education and change management to support it. Technology has moved away from big, monolithic technology systems that we're used to, to tiny, highly agile, very sophisticated, very clever changes. That means that we are moving from a world of sort of managed monolithic change into a world of massively distributed change. It happens in very small, very fast, very sophisticated increments.

The business practices of corporate planning, organisational structure, job design, goal setting, and management were largely developed in the (first) industrial age, and companies need to revise these to keep up. Some tips for organisations looking to evolve a culture of embedded analysis and AI:

Immerse - Showcase the capabilities of AI technologies that are being proposed within the business. This will help drive adoption by giving employees an understanding of what's going on in the background. What are the features and variables that the model is using? How can the technology help enhance their day-to-day role?

Educate - Education begins with open conversations, which aim to eliminate misconceptions. Build a compelling picture of the future, with a clear benefits case, that will steer people in the right direction, align them behind a common goal and motivate them into action.

Strategise - The location of your AI function within the organisation is paramount to breaking down walls. Strong executive sponsorship will determine your ability to deliver tangible cultural and organisation change.
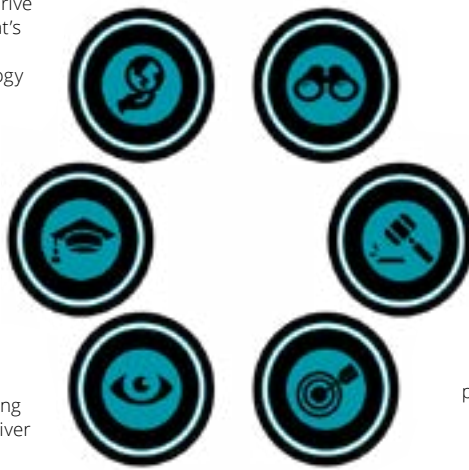
Collaborate - Break down operational silos as you look to leverage your investment and AI technologies. Data must be promoted as a shared asset across the organisation yet never at the expense of creating a 'single version of the truth'.

Advocate - Get the right team from across the business together to deliver the solution, and plan the activity and support needed to make the change land well. As circumstances change, be open to monitor and shift direction if required.

Mobilise and Monitor - Develop a cohort of leaders across the business who are advocates for the programme and who clearly, consistently and powerfully articulate the need for change. Identify key figures across the business to create a 'pull' and develop real business ownership of the change ahead.

Data

Data

Well-governed and well-architected data to enable trusted decision making

Managing and trusting data

In the 2017/18 IDO Survey, an astonishing 92.5 per cent of respondents indicated a lack of root cause analysis, trusted insight, and overall data governance capabilities within their organisations. We observed similar themes the following year, but at a lower scale, where 41 per cent of our respondents reported a lack of defined ownership and stewardship roles throughout their organisation, or data quality issues being addressed reactively.

This year, we are pleased to see that there has been a clear shift: over one in five respondents believe that their data quality and completeness is now high or very high, and one in three respondents believes that this is at a medium level. Those who scored their data quality as lower were most likely to be part of comparatively larger-sized organisations, which goes some way in explaining challenges with consistently achieving a high level of data quality, accuracy, and trust across the board.

Though the number of respondents with significant data quality challenges remains large, it is a significant improvement over previous years as organisations begin to realise how crucial good data governance and good data quality can be to increase efficiency, transparency, accuracy, governance and trust to support better decision making. The next challenge we expect for organisations will be understanding what datasets are required for future AI projects, and the quality of these. For example, some solutions depend on access to significant amounts of unstructured data that may have been retained for record-keeping but was never intended for analysis. Accessible, reliable data will remain at the heart of any analytical solution.

Figure 13. Data quality and completion levels
The average organisation has moved up the maturity curve when considering how consistently their organisation maintains the quality and completeness of its data. Telecommunications, Media, and Technology organisations are most likely to rank their capability highly in this area.
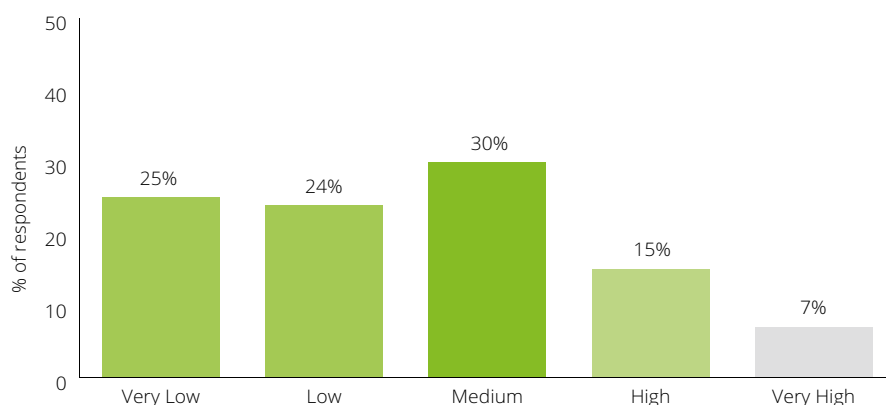
Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Data Modelling

Part of this move towards better quality data and trusted insight might be as a result of increasingly standardised, enterprise data models, essential in bridging gaps and reducing 'blind spots' such as excel spreadsheets and ungoverned analytical applications. 46 per cent of our respondents report having no up-to-date data model or one that is still under development, which likely means that data and information are not always available when needed for insight and decision making. A quarter of respondents report that some users or business units have a centralised managed repository for generating insights. The remaining third of respondents report having a centralised, enterprise-wide data model used by their organisation to access, add, modify, or delete structured and unstructured datasets, with some additionally reporting having a steering committee to monitor and update this model as required.

Looking to transform to an IDO requires understanding the intent of each application and actively managing the organisation's portfolio of products and services. Measuring technology leaders on the 'so what' elements of their team's products and services help to shift focus from a stack-centric view to a capability-centric view.

Cyber Security

The repercussions of a cyber attack can be devastating to an organisation's reputation and bottom line, and for leaders responsible for data-driven insights, cyber risk must be top of the agenda. Demonstrating system security, regulatory compliance and good data governance is now expected by customers, partners and shareholders alike.

The majority of our Survey respondents have implemented cyber security policies and protocols, with over half of our respondents reporting that these are regularly tested and monitored, and proactively updated where required, or all products and services are securely built by design. Very few organisations report having inconsistent policies and protocols (6 per cent of all respondents), and these are most likely to be represented by respondents from Asia. Danish respondents, on the other hand, were most likely to have leading cyber security policies in place.

Figure 14. Protection from Cyber Threats
Cyber security is clearly an important capability for our respondents globally, and this is an area of high maturity for most respondents. Almost a quarter of all global respondents build cyber security into their products and services by design.

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Secure data and platforms

Security issues have a potentially significant impact on business and can result not just in financial losses but damage to reputation and operational downtime. Risks relating to data security should be quantified and remedial actions taken across the enterprise, including considerations such as malicious code, unauthorised access, improper usage, loss or theft of equipment and attrition. Risk assessments can also act as an audit point for existing controls, processes and behaviours.

Malicious Models

Machine-learning models may have difficulty detecting adversarial input—that is, data constructed specifically to deceive the model. The process of training machine-learning models can itself be manipulated with adversarial data. By intentionally feeding incorrect data into a self-learning facial recognition algorithm, for instance, attackers can impersonate victims via biometric authentication systems.

In some cases, machine-learning technology may expose a company to the risk of intellectual property theft. By automatically generating large numbers of interactions with a machine-learning-based system and analysing the patterns of responses it generates, hackers could reverse-engineer the model or the training data itself. Given the increasing prominence of AI-based image recognition, this is another area likely to be a cyber-risk battleground in the future.

Technology

Technology

## Partnerships to support analytical innovation and insight delivery

Vendor Landscape

Our respondents work with a diverse vendor landscape, as shown in Figure 15 below. Our North American respondents are most likely to work with the Microsoft stack as well as larger-sized vendors, while our Middle East and Asia respondents are more likely to work with a varied range of small, medium, and large analytics vendors and technologies. Each of our European respondents had a similarly wide range of vendor relationships, with the Microsoft stack again proving the most common.

However, the vast majority of vendors that organisations are currently working with tend to be data, analytics, and in some instances, automation and technology platforms: there were very limited examples of true AI platforms and vendor partnerships. This reflects the overall maturity of the market in terms of AI adoption and tooling platforms to support this.

Figure 15. Technology Providers
The Microsoft Stack was one of the most popular amongst our Survey respondents, with 50 per cent of all responses indicating use of Microsoft PowerBI and 45 per cent indicating use of Microsoft Azure. Tableau is the third most common toolset used, as indicated by 29 per cent of all responses.
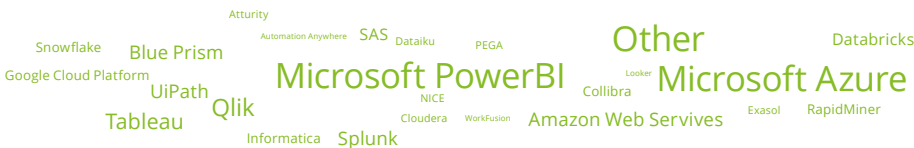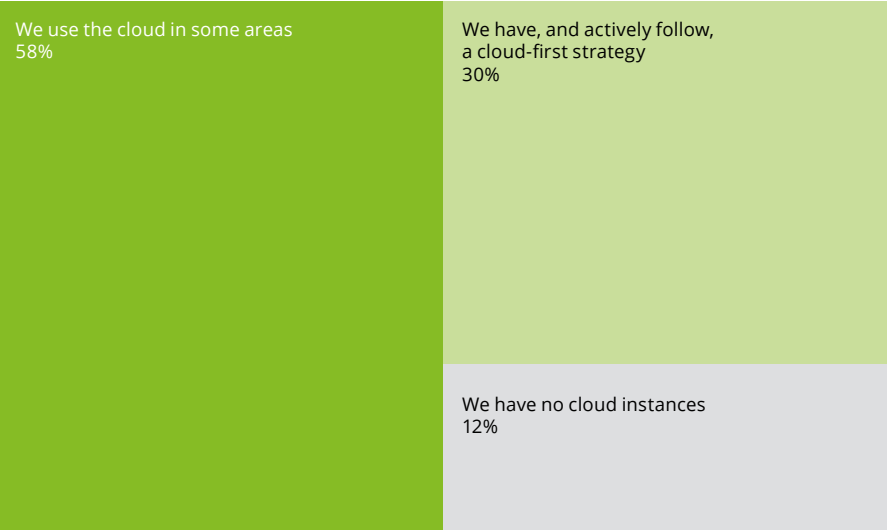

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Cloud Adoption

We also asked our Survey respondents how well Cloud adoption was progressing in their organisations. The vast majority of respondents responded positively, telling us that cloud technologies were used in some areas. Almost half of our respondents were able to indicate that they actively follow a Cloud-first strategy. Very few reported having no cloud instances, and these respondents were most likely to be small-to-medium sized governmental departments or, in some cases, financial sector and insurance respondents, likely due to legacy or regulatory complications.

Figure 16. Use of Cloud
Cloud adoption is generally high amongst respondents, although 12 per cent of respondents reported having no Cloud instances. On the other hand, 30 per cent of all respondents actively reported following a Cloud-first priority.

We use the cloud in some areas
58%

We have, and actively follow,
a cloud-first strategy
30%

We have no cloud instances
12%

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Enabling Tools

The analytical landscape is evolving rapidly, driven by innovation in the marketplace as data becomes an ever more critical part of the world around us. The open source community is also helping to drive innovation, with big technology companies and the open source community working in close collaboration. With significant change in the marketplace, creating the right platform for a data and analytics initiative can be extremely challenging. The days of a limited set of technology product categories and a few major vendors are over.

The single biggest innovation of recent years is the advent of cloud. Competition in the marketplace has meant that cloud providers are releasing an ever-expanding array of data and analytics products onto their platforms. Many of these products are focussed on reducing time-to-value for AI and machine learning, by packaging solutions for common AI challenges such as image recognition and speech to text.

Joining the cloud providers are big enterprise software companies that are integrating AI capabilities into cloud-based enterprise software. Salesforce, for instance, integrated its AI-enabled BI tool, Einstein, into its CRM software. SAP integrated AI into its cloud-based ERP system, S4/HANA.

A host of start-ups are also sprinting into this market with cloud-based development tools and applications. These innovators can make it easier for organisations to benefit from AI technology even if they lack top technical talent, access to large datasets, and their own massive computing power.

Logic

Logic

Scaling AI and automation to meet tomorrow's challenges

AI and its potential

Finally, looking to the future of AI and how intelligent machines can ethically augment human cognitive capabilities and experiences, we asked our respondents to what extent their organisations understand and have adopted AI strategies and toolkits. Most reported being in the early stages of understanding what opportunities AI has to offer and how it applies to their organisations, with a small number of respondents (cross-industry, but typically from European countries) having moved ahead to having an enterprise-wide AI strategy. Almost 20 per cent of our respondents, however, are yet to define any AI strategy.

Figure 17. Exploring and adopting AI
The average organisation is still exploring the opportunities offered by AI. Some (10 per cent) have defined an AI strategy but are yet to significantly progress with any implementation, while a small sub-group (12 per cent) have experimented with Proof of Concepts. 6 per cent of respondents report having an enterprise-wide AI strategy and implementation.
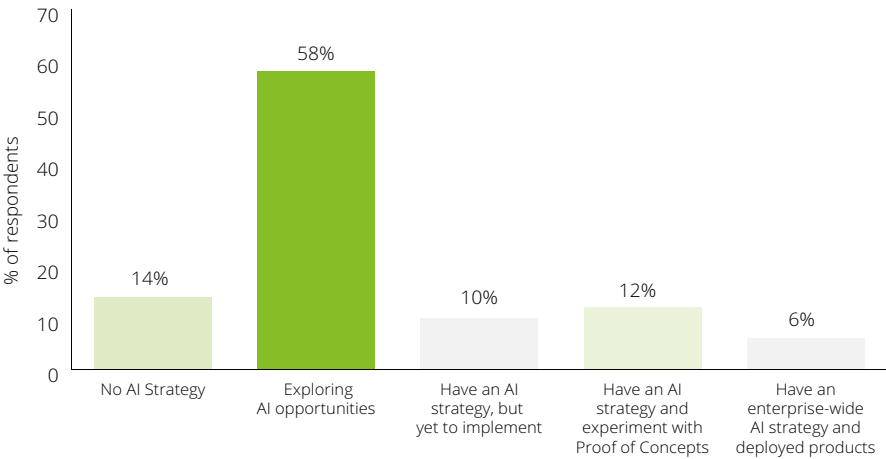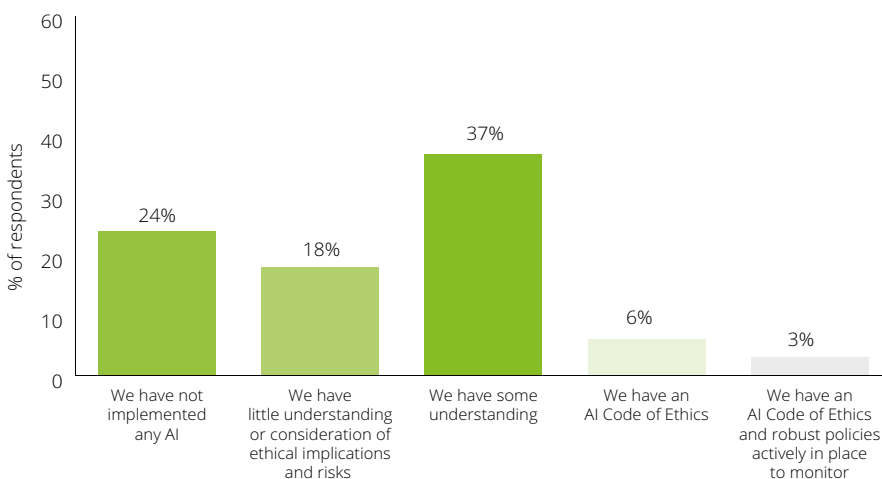

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Ethics and AI

Any new decision, model, product or service comes with risk as well as opportunity. With advances in AI, it is important not to underestimate the need for human and AI balance and ensure appropriate oversight and testing of the long-term implications of AI for the organisation and its stakeholders. Very few organisations have developed a code of ethics relating to any advanced analytics or AI products and services, or have robust policies and processes in place in addition. The vast majority of respondents report having little or no understanding of ethical considerations (16 per cent), with a third reporting having some understanding only.

Figure 18. Understanding Ethical Considerations and Risks
24 per cent of respondents have not considered or not implemented any AI products or services. Of the remaining, most have limited or some understanding of the ethical risks, considerations, and requirements, with only 9 per cent having progressed to creating a Code of Ethics and putting in robust policies and procuedres in place against this Code.

Source: Deloitte, Global Insight Driven Organisation Survey, 2020/21

Ethical Design

Designing ethics into AI starts with determining what matters to stakeholders such as customers, employees, regulators, and the general public - simply meeting regulatory standards is not enough.

As with data governance, identifying ownership and accountability across the organisation for AI is key. Existing governance forums must embed or institute ethical advisory capabilities, escalating to board-level as required. Any AI-related ethical issue may carry long-term implications for the workforce, external reputation and the organisation's regulatory responsibilities.

As a general rule, organisations should be up-front about their use of AI to help build trust with all stakeholders. This includes transparency with company employees and staff.

Summary

In previous years, we observed a steady increase in analytical maturity, with respondent organisations building and scaling their data and analytics functions, nominating senior accountable ownership for these, and growing their analytics teams. Organisations were focussed on a broad spectrum of activities tackling fundamental data challenges, introducing new analytical processes, and improving insights that could effect business change.

This year, our respondents have demonstrated that this work has paid off, and they have developed great confidence in their data and analytical foundations. The 'next step' is around AI, automation, and successful communication of the impact of their well-established and long-running analytical processes and projects. Understanding the barriers and challenges currently in place in these areas, grasping the opportunities they offer, and recognising the risks — these are what will determine the future of not just analytics and AI functions, but often organisations as a whole. Adanced analytics and AI have massively accelerated the ability to identify patterns in data, and draw deep insights from those patterns. However, this can only happen when organisations understand the tools that AI offers, and when they make themselves ready to absorb and adopt these new technologies. Whether AI makes us better businesses — and better people — is in our readers' hands.

This is combined with the rapid and widespread external disruption over the past year, which has been unnerving for most organisations - even those founded on disruption and change. Digital, data and exponential AI technologies have threatened the status quo, but do also offer the best opportunities to respond to these changes underway. Responding to disruption doesn't have to involve a 'big bang' or all-encompassing solution. Instead, some of the most successful organisations are those who have embedded a culture of innovation, insight and dynamism in their operations. We firmly believe that the more dynamic and unpredictable the circumstances, the more important it is for organisations to make data-driven decisions, relying not just on historic datasets but also on 'what-if' scenario simulations and investment in new data and analytics tools to enable their organisation, markets, and society to recover and thrive.

We warmly welcome and look forward to hearing your thoughts

Actionable Advice
What comes next? Becoming an Insight Driven Organisation is about evolution, not revolution. You can:

Join us for an IDO Scaling Lab: this is an interactive experience for organisation across all industries, and provides the capabilities and tools required to successfully break through analytical barriers and achieve insight at scale.

Experience Analytics: this is Deloitte's flagship technology event and one of our largest client events. It is a highly interactive event that provides our most valued clients with an immersive and innovative experience into data, analytics and AI and the essential tools they need in order to become an Insight Driven Organisation.

Start a conversation: Deloitte helps clients derive value from data to make better decisions. From strategy through to delivery, our capabilities cover all aspects of data management, information presentation, master data management, advanced analytics and data science.

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Endnotes

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