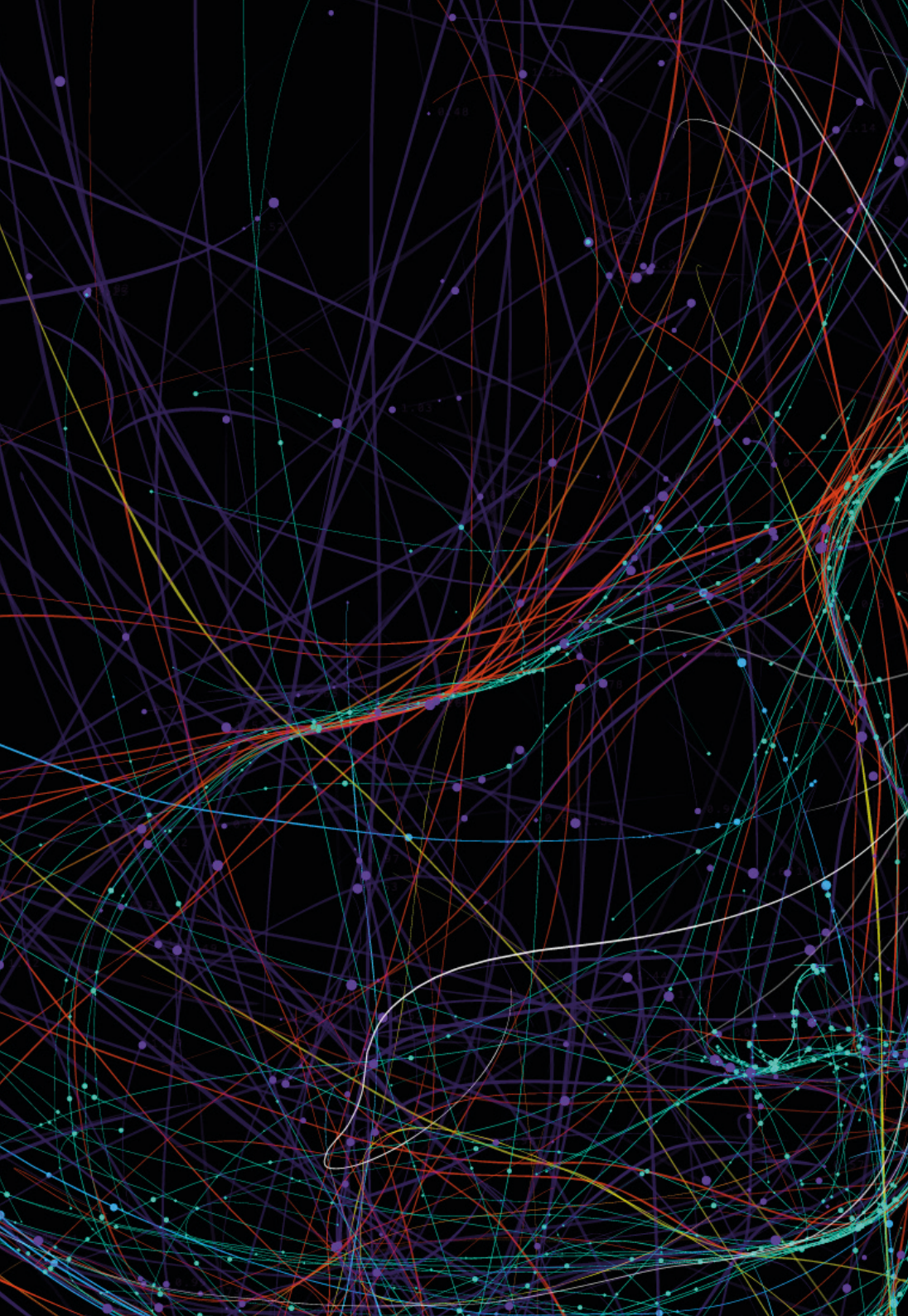


An abstract wireframe illustration of a human head in profile, facing right. The head is composed of a dense network of thin, multi-colored lines (purple, blue, green, orange, and yellow) that form the outline and internal structure. Small dots of the same colors are scattered along the lines, particularly concentrated in the eye and ear areas. The background is solid black.

 CHIEF DISRUPTOR
**MAXIMISING
BUSINESS IMPACT
FROM AI**

JUNE 2023

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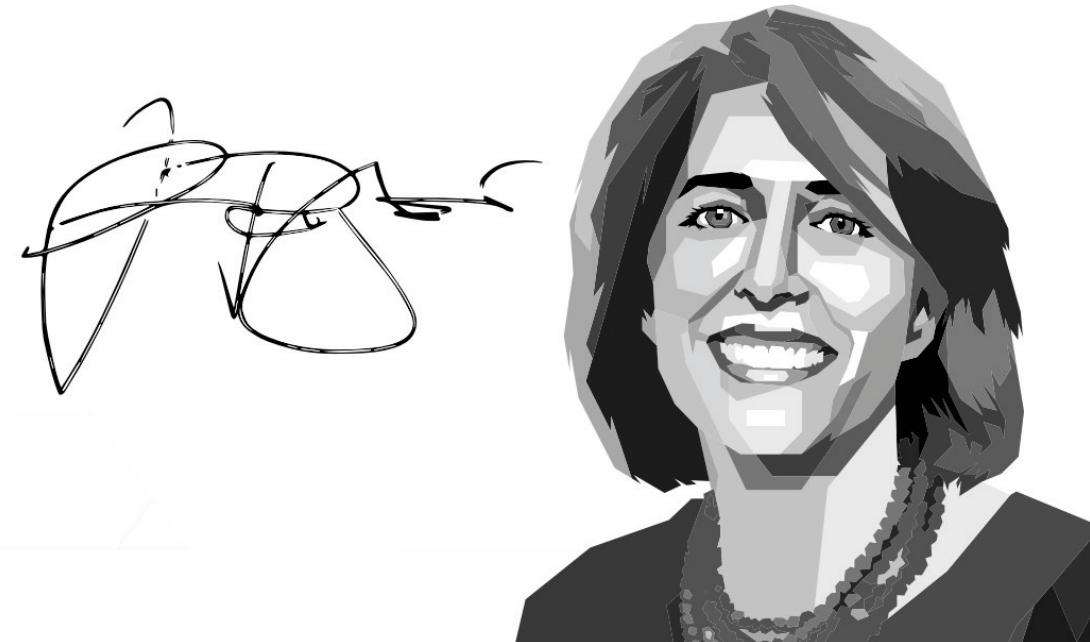
NOTE FROM THE FOUNDER

Welcome to Chief Disruptor's Maximising Business Impact from AI report. This report is part of our AI Business Insight Series which launched with a member survey in April 2023. The series, which also includes a panel debate, webinar, podcasts and our 1-day summit, AI LIVE, has been designed to help members make sense of this rapidly evolving disruptive technology. We hope that by sharing the findings of our first AI member survey, we'll shed some light on the steps organisations should take to prepare for the transformational impact of next-generation AI, and to maximise business impact from their AI initiatives.

With very best regards,

Emma Taylor

Founder & Managing Director



INTRODUCTION FROM THE DIRECTOR OF RESEARCH AND STRATEGIC DEVELOPMENT

The Chief Disruptor community believes that disruption is a catalyst for business transformation. As part of our mission to help members make sense of disruptive trends and technologies, we set out to explore with members the highly topical and somewhat controversial subject of AI.

I think we can all agree that AI is disruptive and transformative, and is changing every industry in ways we can barely even imagine. But contrary to what one might think with the explosion of hype around new tools such as ChatGPT, AI is not actually new to business and technology leaders. In fact, many organisations have been experimenting, developing and deploying AI in a variety of use cases for some time; from robotics to customer service platforms, predictive analytics to fraud management.

Experts agree that those organisations which successfully leverage AI will gain a significant competitive advantage. So why do so many organisations still struggle to deliver value from AI?

The past seven months have seen a flurry of groundbreaking AI launches including OpenAI's ChatGPT last November and the March release of GPT-4, the generative AI model that underpins the chatbot. Many experts believe these tools have the power to transform and even disrupt industries. But the speed of

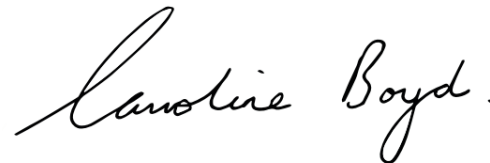
these developments has left many business and technology leaders scrambling to get to grips with what impact AI might have on their industries. While the potential opportunities of AI, including improved customer service, automation and fraud detection are generally well understood, many are still grappling with concerns around ethics, consumer trust or even trying to establish the best use cases for the technology.

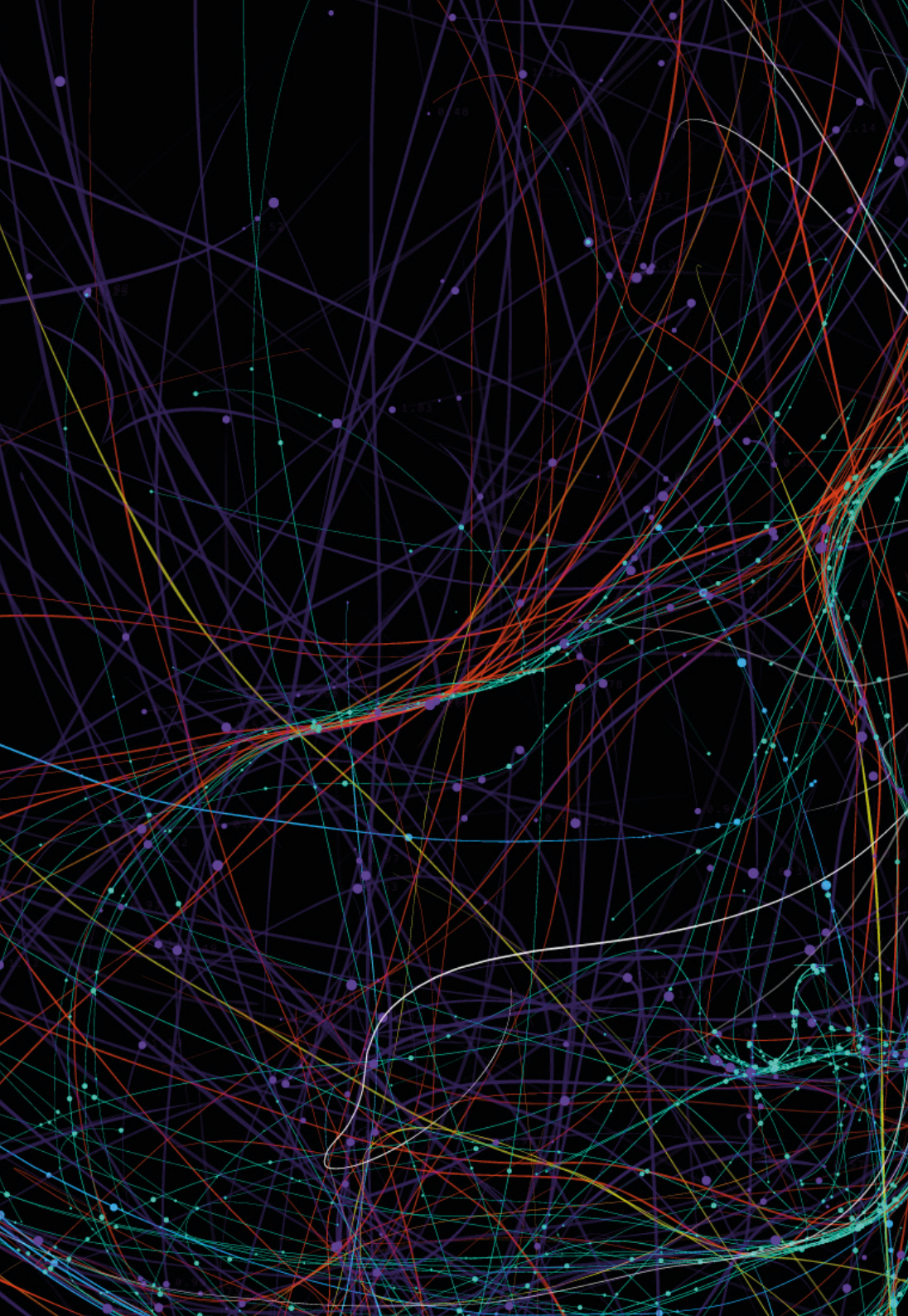
As part of the Chief Disruptor AI Business Impact series, we set out to understand members' approaches to their AI investments and initiatives in the next 18 months. 'The Maximising Business Impact from AI' survey explored members' business priorities for AI, the challenges facing members as they try to maximise business impact from AI, and their concerns about implementing AI.

With developments evolving at such a pace, the only thing we can be sure of is that this genie is not going back in the bottle. We hope this report and the other activities in the series will help members make sense of this rapidly evolving disruptive technology.

Caroline Boyd

Director of Research and Strategic Development

A handwritten signature in black ink that reads "Caroline Boyd." The signature is fluid and cursive, with a period at the end.



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WHO ARE THE RESPONDENTS?

The survey was completed by 115 senior decision-makers across a wide range of job titles and sectors.

Fig. 1 A breakdown of respondents by industry

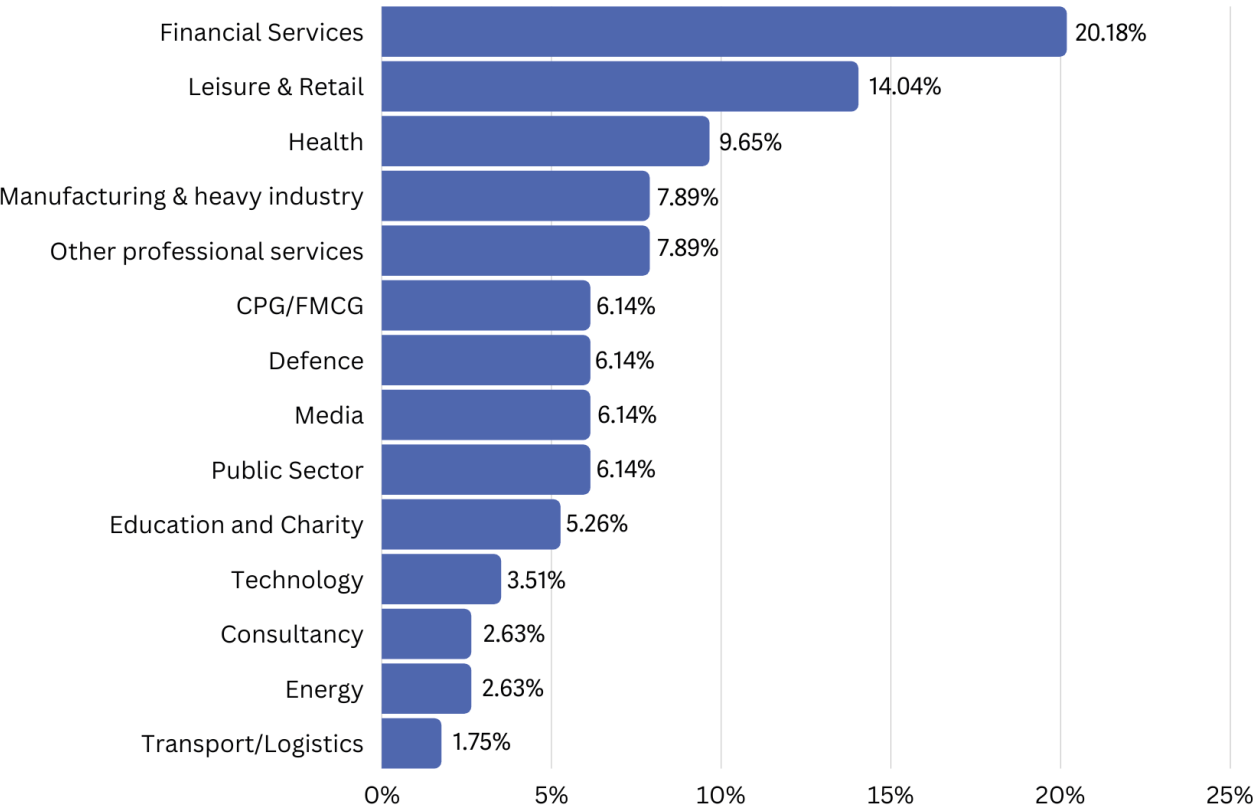
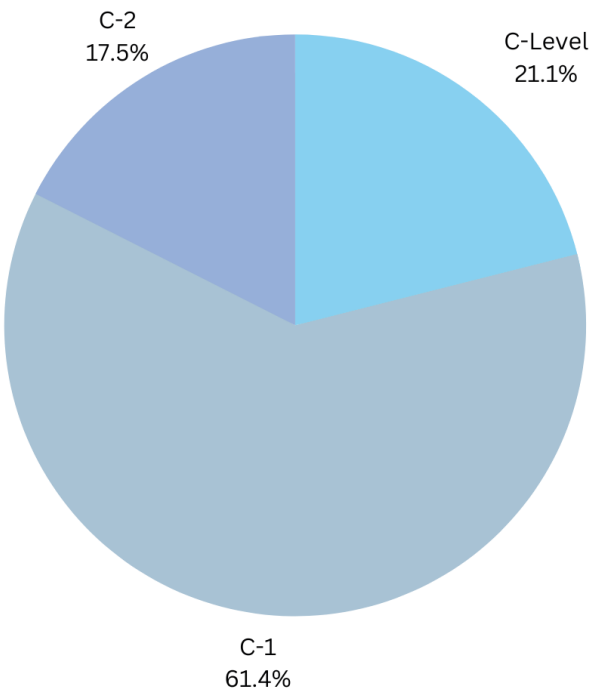


Fig. 2 A breakdown of respondents by seniority



**For clarity, 'Defence' includes those respondents from within the Ministry of Defence and the wider defence industry in order to reflect the views of our Chief Disruptor Defence sub-community. Similarly, 'Other professional services' includes predominantly legal firms as well as recruitment.*

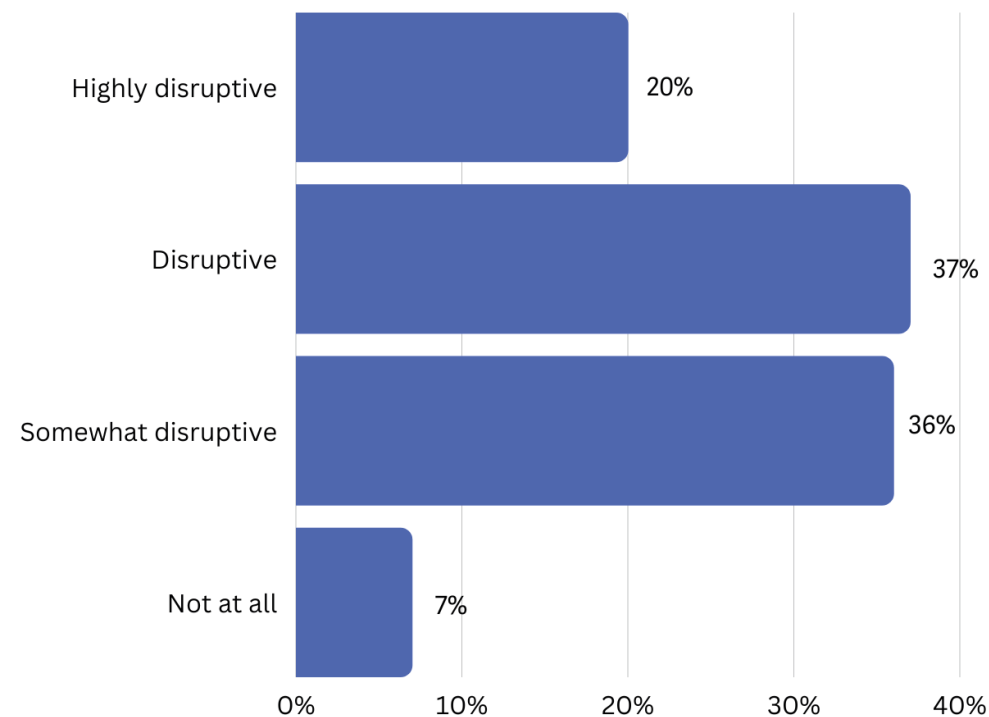
FINDINGS FROM THE CHIEF DISRUPTOR MAXIMISING BUSINESS IMPACT FROM AI SURVEY

1. THE MAJORITY OF RESPONDENTS BELIEVE AI WILL BE DISRUPTIVE OR HIGHLY DISRUPTIVE TO THEIR BUSINESS MODEL IN THE NEXT 18 MONTHS

As the community for disruptive business and technology leaders, we aim to track how members perceive the impact of disruptive trends, technologies and mindsets. AI is certainly regarded by many as one of the greatest disruptive technologies of the past two decades. 57% of respondents rated AI as either 'highly disruptive' or 'disruptive' (Fig. 3).

Emerging disruptive technologies have the power to transform existing business models and even create new ones. Arguably generative AI goes beyond that, disrupting the workplace itself, taking on roles traditionally held by humans, such as copywriting, answering customer service enquiries, writing news reports, and creating legal documents.

Fig. 3 How disruptive is AI likely to be to your business model in the next 18 months?



Disruption inevitably creates winners and losers, and the stakes are high, even for established tech organisations. Recently, Microsoft’s co-founder Bill Gates, who described AI as the most important technological advancements in decades, has even predicted the end of the likes of Google Search and Amazon if artificial intelligence continues to evolve at the current pace.

Beyond process optimisation and automation, AI now presents enormous opportunities for business model reinvention, particularly for early adopters, creating new jobs, products and services that were previously inconceivable. Certainly Chief Disruptor members predicted AI as having the most disruptive impact on business models in 2026 in our most recent [Disruptive Trends Report](#).

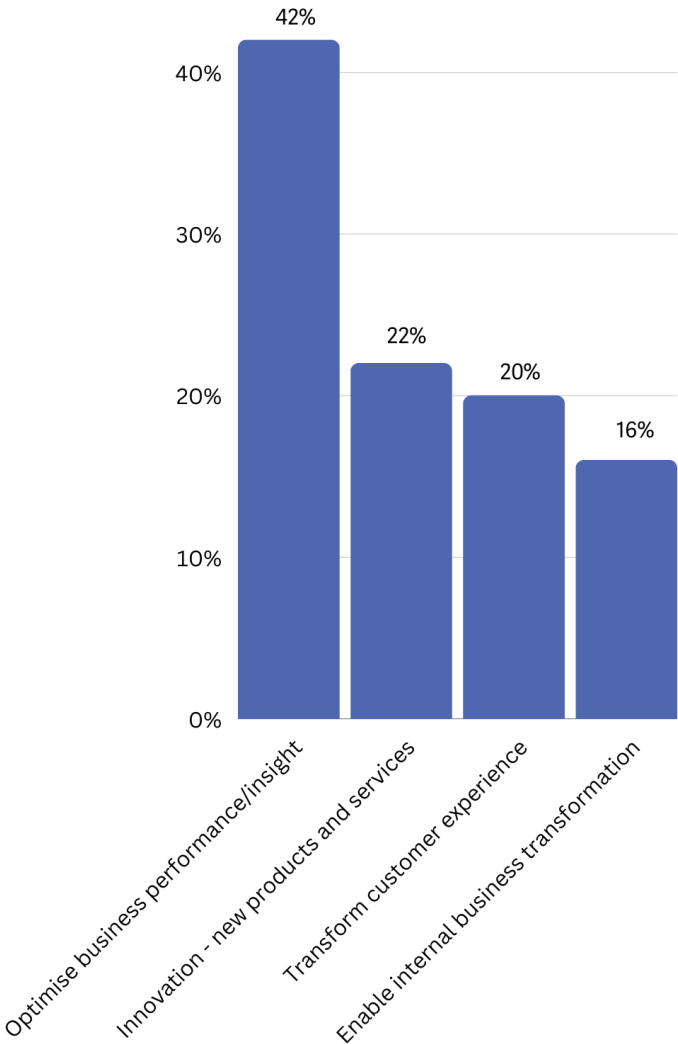
2. OPTIMISING BUSINESS PERFORMANCE AND INSIGHTS IS THE PRIMARY REASON FOR INVESTING IN AI

We wanted to understand more about what members’ primary business objectives were for investing in AI. They were asked to select from the following 4 options:

- Enable business transformation
- Transform customer experience
- Optimise business performance/insight
- Innovation- new products and services

One of the main reasons why AI initiatives fail to deliver business value stems from a lack of clear business objectives from the outset. Leaders will need to consider carefully the areas of the business where AI can have the greatest impact.

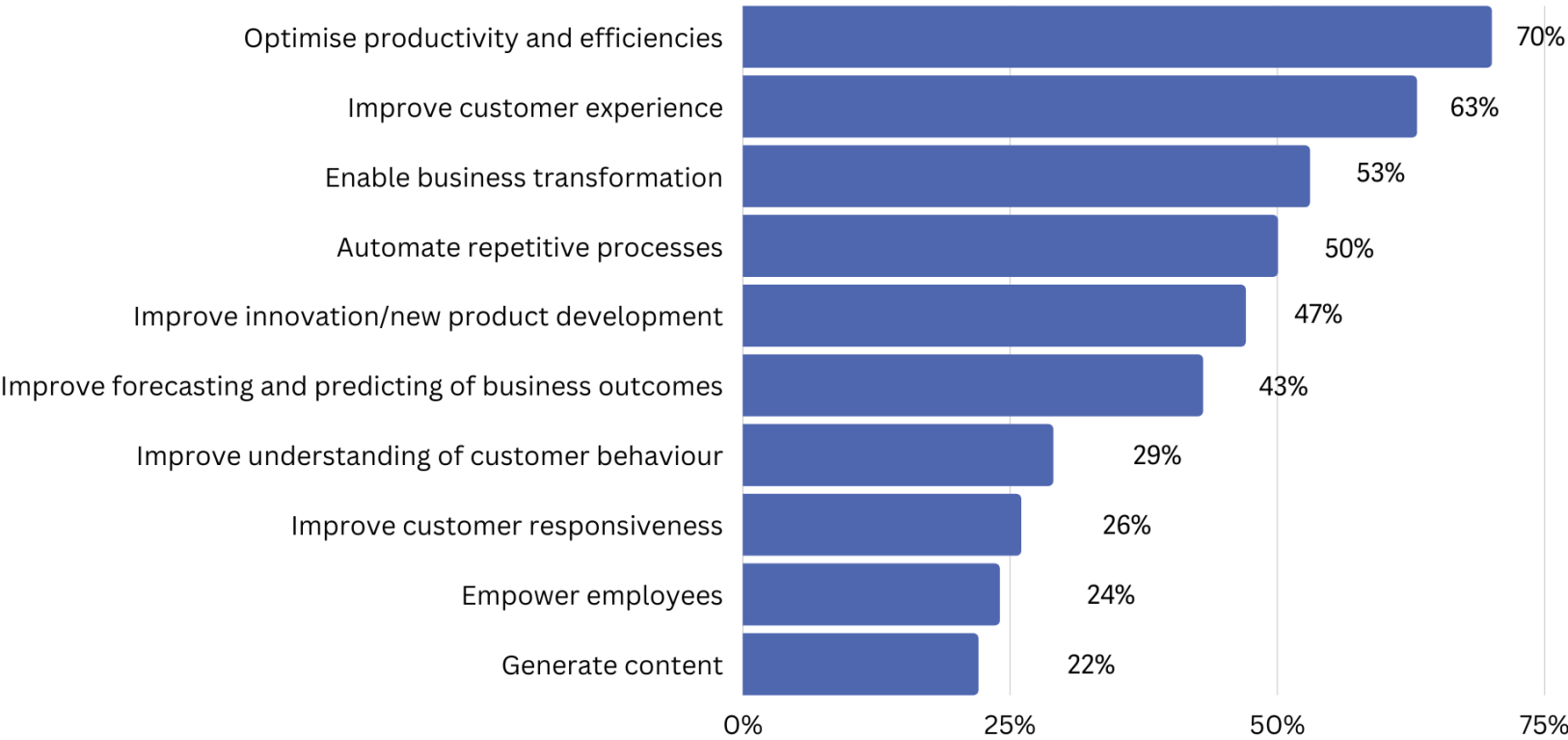
Fig. 4 Which of the following best defines your primary reason for investing in AI? (Please select 1 answer)



By far the highest rated response to this question was ‘optimise business performance/insight’ at 42% and this was the top reason for investing in AI for all sectors except public sector, and leisure and retail (Fig. 4). This was followed by ‘innovation - new products and services’ at 22%. AI is undoubtedly a game changer when it comes to enabling business insight. Organisations that can deploy AI-enabled analytics programmes are better able to identify trends and patterns from complex data from a variety of sources. AI also enables organisations to predict outcomes, develop forecasts and analyse potential scenarios to determine which have a better chance of success.

AI-enabled analytics also drive our second highest rated response, ‘innovation- new products and services’ (Fig. 4). The ability to better understand how your customers feel about your products and services, and the ability to deliver that insight to business users in an accessible and timely manner, drives the development of new products and services. Furthermore, AI-enabled automation frees workers from monotonous tasks, leaving them free to innovate and disrupt. The UK government has made it clear in its AI White Paper, that adopting AI will drive innovation and unlock growth, which is why the government is committed to unleashing AI’s potential across the economy. New developments

Fig. 5 From the following, please select your top business objectives when implementing AI in your organisation. (Please select 5 answers)



in AI are already enabling innovation across multiple sectors and use cases. In pharmaceuticals, generative AI is already having a profound impact on innovation in drug development, both in terms of revealing new therapies and the speed at which they can be discovered.

We wanted to really drill down into the specifics of what members were hoping to achieve from AI so asked respondents to select their top 5 business objectives when implementing AI in their organisations.

The highest rated response to that question was to ‘optimise productivity and efficiencies’ (70%) (Fig. 5). One of the most widespread AI applications for enhancing productivity is automation. As we touched on earlier in the report, by automating repetitive and time-consuming tasks, businesses can free up their employees’ time, allowing them to focus on more critical aspects of their job that are perhaps more creative, rewarding and strategic. For example, AI-powered chatbots can handle customer service enquiries, allowing customer service representatives to focus on more complex issues. This was the number one objective for manufacturing, financial services, health and defence industries. In fact, 100% of respondents from the defence sector selected ‘optimise productivity and efficiencies’ as their top business objective for implementing AI.

Improving customer experience was the next most popular choice at 63% and was the top objective in both the education & charity, and leisure and retail sectors (Fig. 5). Interestingly, this reflects a similar trend in technology spending found in our [2023 Disruptive Trends Report](#), which is unsurprising given that optimising customer engagement is the holy grail for organisations right now. Many businesses are turning to AI-enabled customer service to enable that engagement to happen. AI chatbots, automation and predictive analytics are just some of the tools that are likely to give businesses a competitive advantage as they strive to offer more personalised and connected omni-channel experiences to their customers. AI also improves customer service responsiveness and the recent explosion of conversation AI will enable brands to add a more human dimension to their chatbots. But while digital tools can drive seamless and frictionless customer experiences, questions remain about whether consumers actually miss human interaction and whether these developments can effectively humanise digital customer experiences.

Interestingly, ‘generate content’ was identified as a business objective for AI by 22% of respondents; reflecting the recent widespread interest in utilising generative AI to create content (Fig. 5).



3. THE MAJORITY OF RESPONDENTS ARE AT THE STAGE OF EXPLORING USE CASES AND BUILDING A BUSINESS CASE FOR AI

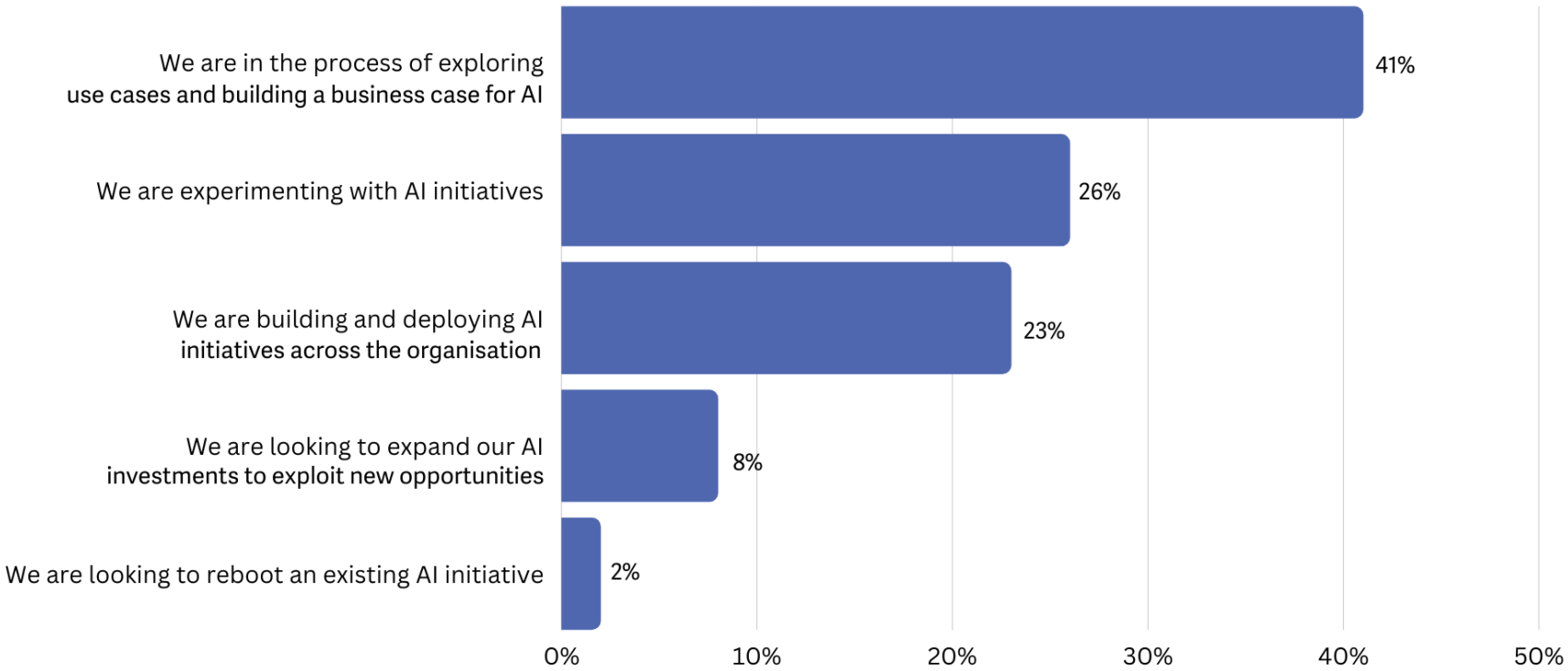
Given the transformative potential of AI and the media frenzy around new generative AI models, it's not surprising that the highest percentage of respondents (41%) stated that they are 'exploring use cases and building a business case for AI' (Fig. 6).

Respondents from the defence sector were more likely to have AI initiatives at a more mature stage than other respondents. This is perhaps unsurprising given the Ministry of Defence's ongoing commitment to R&D and experimentation,

and to maintaining strategic advantage by exploiting cutting-edge technological advances. This finding perhaps also reflects the high level of collaboration that takes place between the Ministry of Defence and its industry and academic partners.

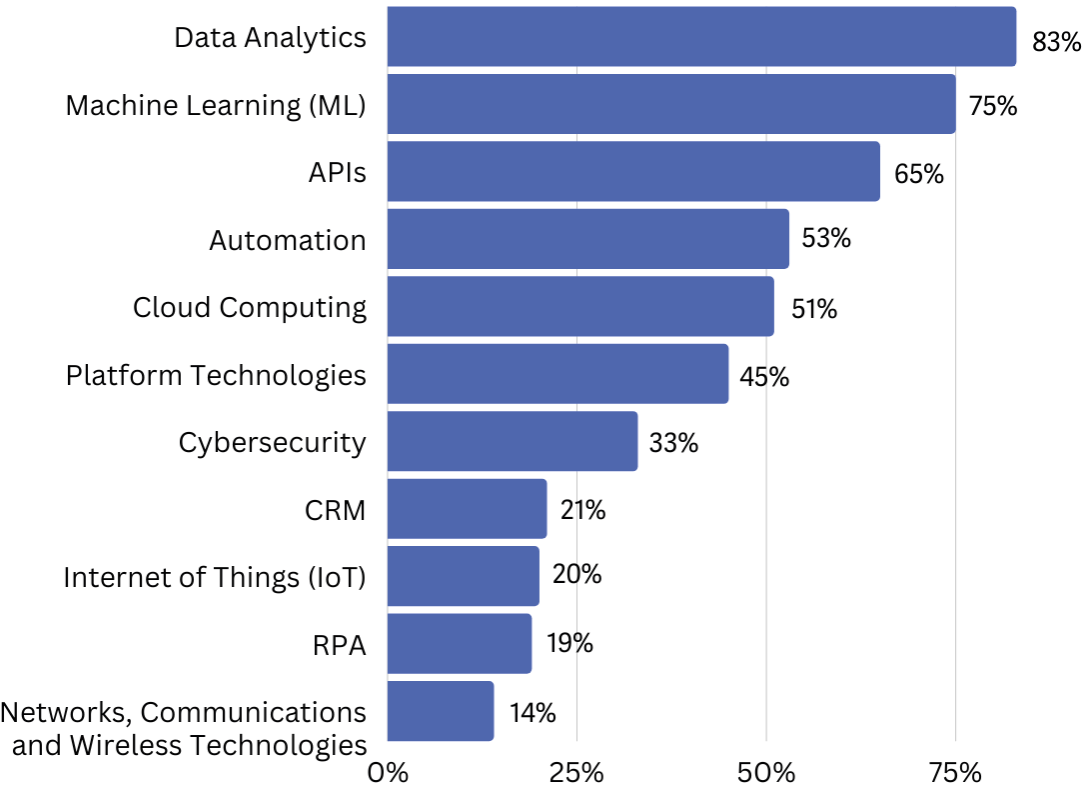
The potential use cases for AI are incredibly wide and include every industry sector and job function, encompassing everything from personal assistants on our phones to cybersecurity enhancements. And the sheer number of use cases is growing every day as the technology evolves rapidly and new innovations come to market.

Fig. 6 How would you describe the status of your AI initiative? (Please select 1 answer)



4. DATA ANALYTICS IS THE MOST IMPORTANT TECHNOLOGY TO ENABLE SUCCESSFUL AI OUTCOMES

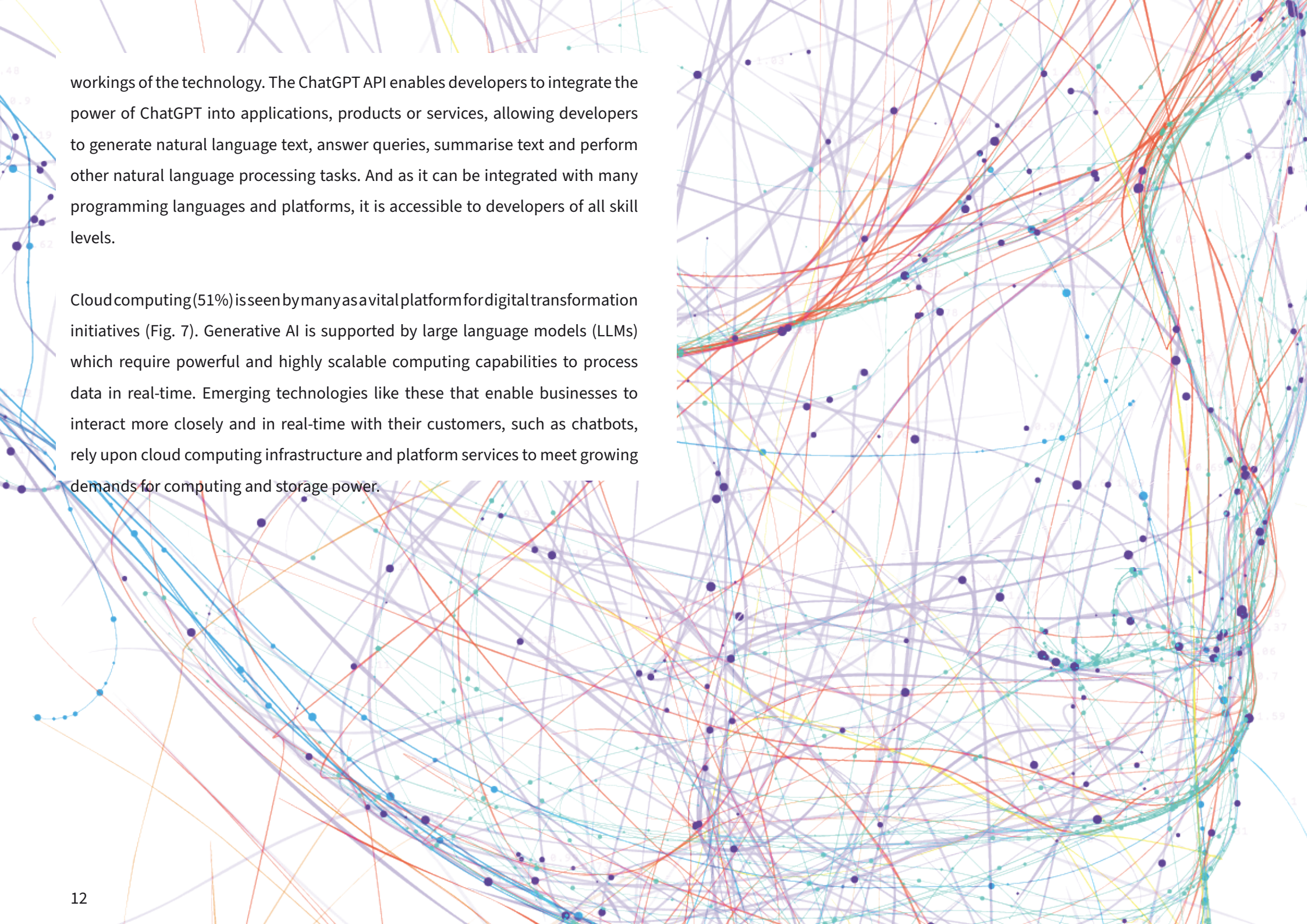
Fig. 7 Select the top 5 technologies that are important to enable successful AI initiatives and outcomes within your organisation. (Please select 5 answers)



We saw earlier in the report that ‘optimise business performance/insight’ was the number one business objective for AI investments, so it’s not surprising that data analytics (83%) was rated as the most important technology for enabling successful AI outcomes (Fig. 7). AI analytics uses machine learning algorithms to constantly monitor and analyse huge amounts of data, automating the time-consuming work normally done by data analysts. Developments in AI are helping to automate the analytics process further and help organisations make data-driven decisions.

Machine Learning (ML) (75%) is the second highest-rated technology necessary to enable successful business outcomes (Fig. 7). ML is a subset of AI, focused on building systems that can learn from historical data, identify patterns, and make logical decisions with little to no human intervention. It is a data analysis method that automates the building of analytical models by using data from diverse forms of digital information. AI and ML are closely related, however, they differ in several ways, including scope, applications and more. Organisations are incorporating AI and ML capabilities into their systems to help them rethink how they use their data and available resources, drive productivity and efficiency, and enable data-driven decision making.

Application programming interfaces (APIs) (65%) were the third highest-rated technology necessary to enable successful AI outcomes (Fig. 7). APIs are vital in making AI and its infrastructure accessible to other applications. By providing a clear, standardised interface for interaction, APIs empower developers to harness the power of AI without having to understand the inner

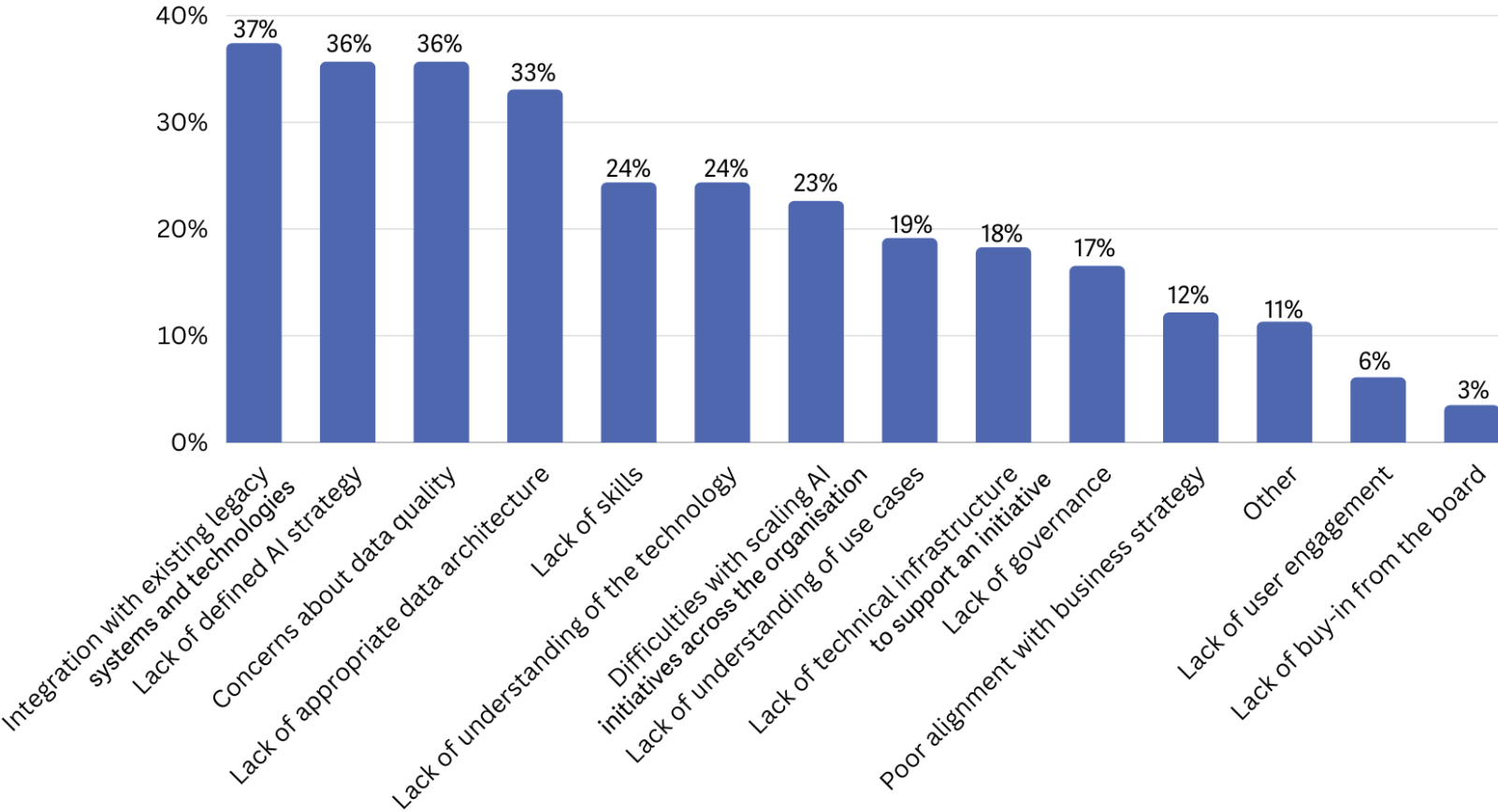
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workings of the technology. The ChatGPT API enables developers to integrate the power of ChatGPT into applications, products or services, allowing developers to generate natural language text, answer queries, summarise text and perform other natural language processing tasks. And as it can be integrated with many programming languages and platforms, it is accessible to developers of all skill levels.

Cloud computing(51%) is seen by many as a vital platform for digital transformation initiatives (Fig. 7). Generative AI is supported by large language models (LLMs) which require powerful and highly scalable computing capabilities to process data in real-time. Emerging technologies like these that enable businesses to interact more closely and in real-time with their customers, such as chatbots, rely upon cloud computing infrastructure and platform services to meet growing demands for computing and storage power.

5. INTEGRATING AI WITH EXISTING IT SYSTEMS AND INFRASTRUCTURE IS THE GREATEST BARRIER TO AI SUCCESS

Fig. 8 What are the top 3 barriers to implementing AI in your organisation? (Please select 3 answers)



We wanted to understand more about the challenges facing members when trying to implement AI. ‘Integrating AI with existing legacy systems and technologies’ was the highest-rated barrier at 37% and was highest in manufacturing, health and CPG sectors (Fig. 8). Integrating technology can be extremely complex and challenging and a failure to do so will likely scupper the chances of rolling out AI across the enterprise and achieving ROI. AI infrastructure encompasses AI storage, networking and data requirements, and how well tuned these are to supporting such high powered applications is key to success.

We’ve seen already that cloud computing is viewed by respondents as an important technology for enabling AI. But while this is becoming increasingly useful for organisations managing the data-intensive AI workloads, many enterprises still rely on their on-premises IT environments for these projects and this is often where integration challenges can arise.

There are likely to be a number of integration pain points at different stages of the AI deployment lifecycle. At the experimental stage, data scientists typically want to be able to experiment quickly, with the flexibility to configure and reconfigure clusters. And difficulties may also arise when trying to scale AI workloads into production-ready environments as quickly and seamlessly as possible.

Data quality (36%) is a time-old concern for organisations but is particularly critical with AI (Fig. 8). Unsurprisingly, data quality was the highest-rated barrier to AI in financial services.

If the data-feeding AI systems are inaccurate or out of date, the output and any related business decisions will also be inaccurate or unreliable, regardless of the sophistication of the algorithm. And importantly, this can have an impact on trust. High-quality data is essential for training accurate AI models. There are a number of factors that can impact data quality, such as the data source and collection method, how the data is cleansed and processed, and the way the data is split into training, validation and test sets.

The lack of a defined AI strategy, also at 36%, is a factor that we referred to earlier in the report as one of the main reasons why AI initiatives fail to deliver business value (Fig. 8). This barrier to AI was highest in the professional services, health, and leisure and retail sectors. An organisation’s AI strategy refers to its vision for how AI will be deployed to help achieve the company’s business goals. This strategy needs to be closely linked to an organisation’s data strategy and it will provide a roadmap for executing a business’s AI priorities.



6. ETHICS ARE THE GREATEST CONCERN REGARDING AI

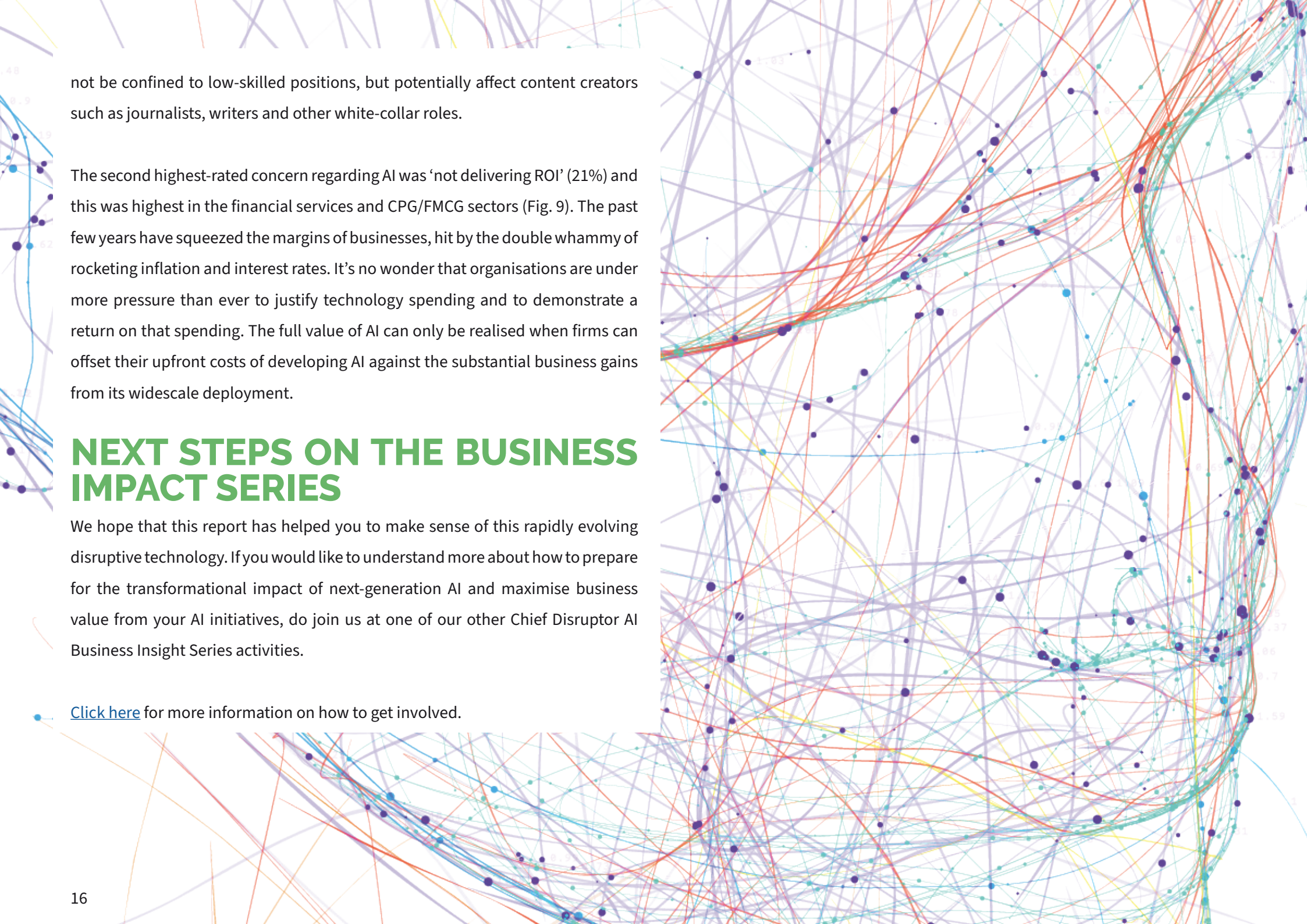
Fig. 9 What are your top concerns about AI? (Please select as many as apply)



Finally, we wanted to understand more about what members’ main concerns were regarding AI, and ‘ethics’ were the highest-rated concern (25%) (Fig. 9). This was highest in the education and charity, and leisure and retail sectors. Charities rely more than any other sector on public trust and their beneficiaries may be more vulnerable, so they are likely to have particular concerns about data misuse, misinformation or consent. In education, there may be additional concerns due to the age of the users, and fears that students may lose the ability to develop critical reasoning skills, due to over reliance on AI tools.

The subject of AI ethics has come to the forefront recently, particularly in light of the recent explosion of developments in generative AI. Earlier this year, an open letter was circulated by Elon Musk and others talking about the ‘profound risk’ of AI to humanity and calling for a temporary halt to development. Other large organisations such as the EU have expressed their concerns about AI models and their lack of regulation. So for many, the challenge is to balance the need for regulation and protections against the freedom to innovate. And with the advent of generative AI models such as ChatGPT and other large language models, many business leaders are questioning whether there’s more reason to be concerned about AI now than ever before. Indeed the UK Prime Minister is currently considering a new international regulatory body for AI based on the International Atomic Energy Agency.

Concerns regarding AI ethics tend to fall into a number of categories. The first is privacy and surveillance. AI relies on the collection and analysis of data, often sensitive or personal. Many are concerned about the danger that this data could be misused or exploited. The second is bias and discrimination which stems from thinking that learning machines not only learn our biases but can also reinforce them or introduce new ones in their code. The third is the impact of AI on jobs. A recent report by investment bank Goldman Sachs claims that AI could replace the equivalent of 300 million full-time jobs. With the advent of generative AI, the roles under threat would

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not be confined to low-skilled positions, but potentially affect content creators such as journalists, writers and other white-collar roles.

The second highest-rated concern regarding AI was ‘not delivering ROI’ (21%) and this was highest in the financial services and CPG/FMCG sectors (Fig. 9). The past few years have squeezed the margins of businesses, hit by the double whammy of rocketing inflation and interest rates. It’s no wonder that organisations are under more pressure than ever to justify technology spending and to demonstrate a return on that spending. The full value of AI can only be realised when firms can offset their upfront costs of developing AI against the substantial business gains from its widescale deployment.

NEXT STEPS ON THE BUSINESS IMPACT SERIES

We hope that this report has helped you to make sense of this rapidly evolving disruptive technology. If you would like to understand more about how to prepare for the transformational impact of next-generation AI and maximise business value from your AI initiatives, do join us at one of our other Chief Disruptor AI Business Insight Series activities.

[Click here](#) for more information on how to get involved.

A BRIEF HISTORY OF THE EVOLUTION OF AI

AI may feel like a relatively new phenomenon to some. But whilst AI has become more mainstream recently, particularly in light of the explosion of interest in new generative AI models such as ChatGPT, it's certainly not new.

The beginnings of AI date back to the 1950s and the work of AI pioneer, Alan Turing. Turing is best known for developing 'The Turing Test' which determined whether a machine could mimic human intelligence. In the early years of AI development, computing was incredibly expensive and computers couldn't store or remember commands. But over the past eight decades, these AI systems have become more powerful as the computational power of AI has increased.

Fast forward to the 1990s, to an era of increasing digitalisation, and we start to see more widespread use of machine learning and a more data-driven approach. This decade also saw a newfound interest in AI when in 1997, reigning world chess champion and grandmaster Gary Kasparov was defeated by IBM's Deep Blue, a chess-playing computer programme. This highly publicised match was the first time a reigning world chess champion lost to a computer and served as a huge step towards an artificially intelligent decision-making programme.

The 2000s saw the arrival of Deep Learning, a type of machine learning, inspired by the structure of the human brain. Deep Learning is a more computationally-

intensive machine learning approach which has led to incredible developments in natural language processing (NLP), computer vision and robotics. The impact of these developments can be seen in applications ranging from Google Maps to Google Translate or in how Netflix and YouTube provide recommendations to users.

The latest wave in AI began in 2018 with the arrival of foundational models which are large AI models trained on vast quantities of unlabelled data. The Stanford Institute's Centre of Human-Centred AI defines a foundation model as "any model that is trained on broad data (generally using self-supervision at scale) that can be adapted to a wide range of downstream tasks". Well-known examples include GPT-3 released by OpenAI in 2020, and Gato, released by DeepMind in 2022. There are numerous enterprise applications for this technology including chatbots, virtual assistants and content generation but the technology is not without flaws and is known to 'hallucinate' when it doesn't know the answer to a question.

In March 2023, OpenAI launched GPT-4, describing it as more creative, less likely to make up facts and less biased than its predecessor. GTP-4 is a "multimodal" model, which means it can accept images as well as text as inputs, allowing users to ask questions about pictures.

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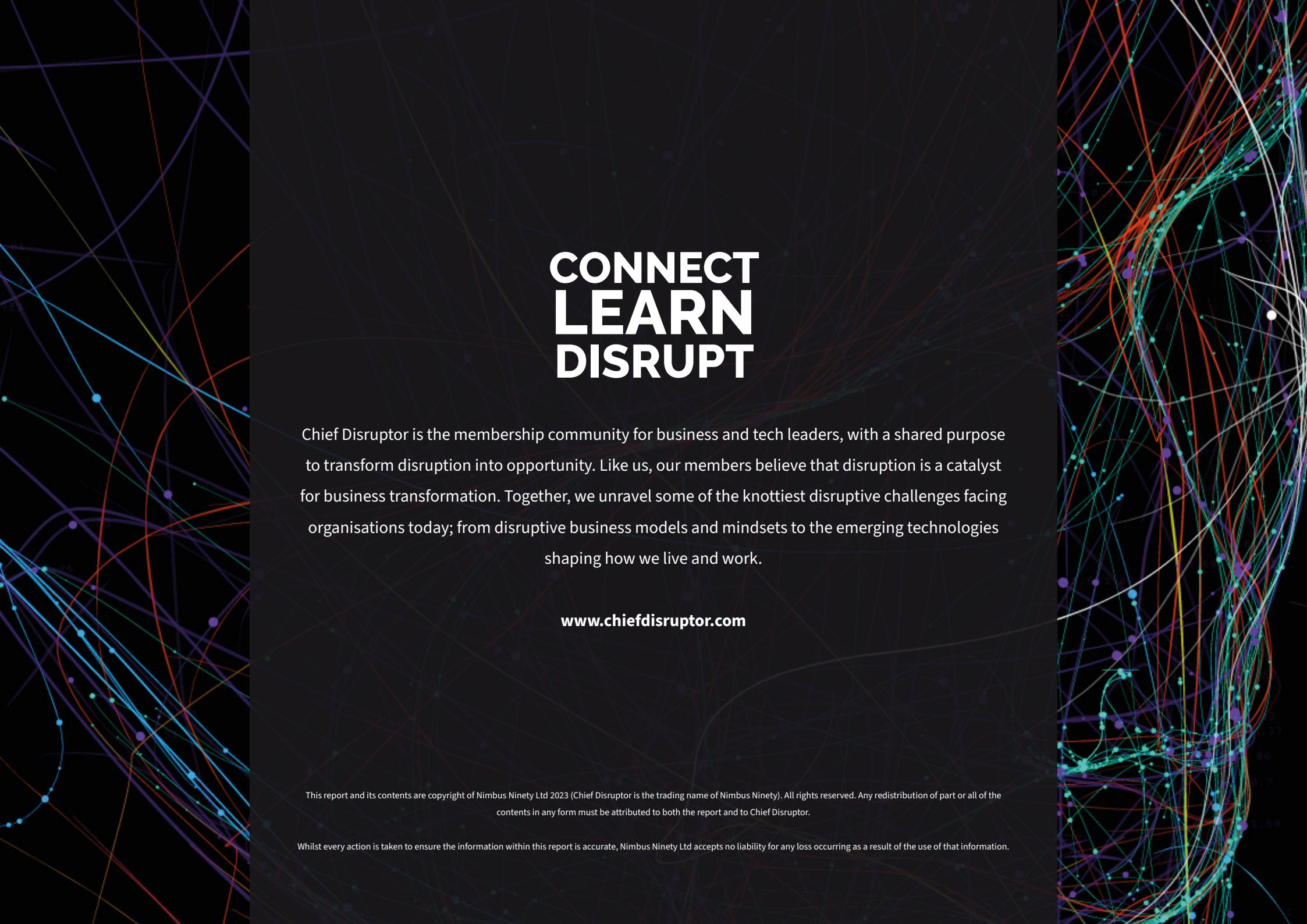
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