



making sense of the  
connected world

in conjunction with



# Making Artificial Intelligence Work for Your Business

A stylized illustration of a human head profile in shades of purple and blue. Inside the head, there are various symbols representing artificial intelligence and technology: a cloud with a network diagram, a gear, a sun, and binary code (0s and 1s). A green circle on the right contains text. The background is a mix of orange, purple, and blue with abstract shapes and patterns.

**A C-level  
guide to achieving  
rapid business  
value with artificial  
intelligence**

## Artificial Intelligence and the New Executive Imperative

Artificial intelligence (AI) has become one of the most important technology trends in recent years, and the unique challenges of 2020 have accelerated its adoption even further. Over the past year, executives have increasingly turned to AI to help them solve critical business problems exacerbated by the pandemic in areas such as customer engagement, process optimization and fraud detection.

As one of the companies to have adopted the technology, UK supermarket chain Sainsbury's uses AI to speed the release of products online and improve customer engagement. New food products now get rolled out online daily rather than the previous five or six times per year, leading to a fivefold increase in weekly customer interactions.

More than **80%** of companies are now trialling or putting AI into production in their organizations, up from **55%** in 2019. Additionally, **58%** of senior leaders plan to increase their investment in AI in 2021.

CCS Insight Senior Leadership IT Investment Survey, 2020

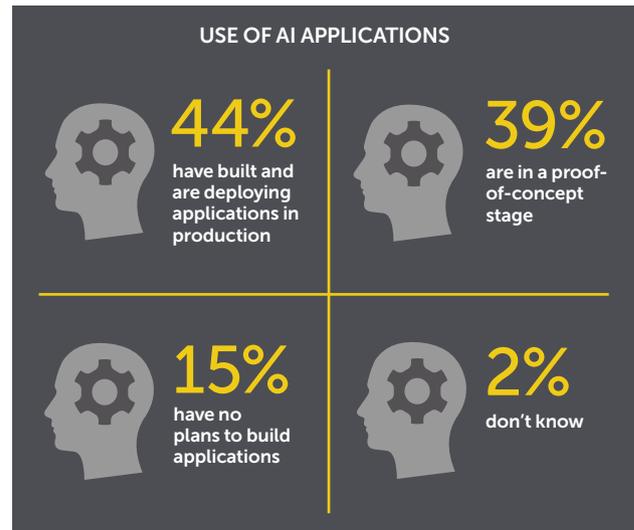
Online delivery company Deliveroo employs AI to better manage delivery logistics and offer more personalized recommendations. It has cut food delivery times by 20% even as orders have tripled over the past year, through more efficient dispatching of riders, made possible by AI analyzing processes, allowing riders to fulfil more orders and earn more money.

And Onfido, a provider of digital identity verification services, has seen its verifications soar by 1,200% in the past two years thanks to its use of AI, which enables better verification of documents against more than 4,500 types of identification.

These implementations highlight that AI is no longer an experimental, longer-term source of innovation for companies. Rather, it is a technology that is delivering rapid business value.

And although many business leaders have been sluggish to embrace AI in the past, the arrival of new, more business-oriented solutions paired with the events of 2020 are now encouraging them to pursue AI with new vigor.

This executive briefing serves as a practical guide, presenting a case study and useful recommendations, to help C-level decision-makers seize the opportunities afforded by AI business solutions. It highlights the major challenges facing executives, solutions available — including a spotlight on one of the leading suppliers in this space, Amazon Web Services (AWS) — and examples of implementations. The report aims to spur leaders into action in making AI a business imperative for their organizations in the post-Covid-19 economy.



Source: CCS Insight Senior Leadership IT Investment Survey, 2020; n = 736

## THE OPPORTUNITY

AI is improving many areas of business today, from customer service, product development and sales enablement to employee productivity and cybersecurity, for example. According to CCS Insight's Senior Leadership IT Investment Survey, 2020, improved cybersecurity, employee productivity and cost reduction are the most significant gains that senior leaders expect to realize from their investment in the technology.

Additionally, the technologies that enable AI — developer tools, processing power and data storage — are advancing rapidly

**58%** of businesses say their executive team, either the chief information officer or senior business leaders, is the primary influence on AI decision-making in their firms. This paints a different picture to that of a few years ago, when responsibility sat largely with technical roles such as data scientists, developers or machine learning engineers.

CCS Insight Senior Leadership IT Investment Survey, 2020

and becoming increasingly affordable for businesses of all sizes. The time is ripe for companies to seize the opportunities and this is prompting more executive leaders to take ownership of decision-making.

## THE PAIN

### Technical and Business Challenges

The challenges business leaders face with AI are also expanding beyond just technical areas. CCS Insight sees four crucial hurdles that are holding back many businesses from fully reaping the benefits of the technology.

### 1 Time to Value

Identifying and prioritizing projects that deliver the most business value and can get into production quickly has also been problematic. For more than 20% of businesses in CCS Insight's Senior Leadership IT Investment Survey, 2020, the time it takes to realize benefits from AI forms one of the biggest challenges their organization faces with the technology. The change in climate brought on by the pandemic has meant that companies can no longer afford to have investments tied up in longer-term projects and proofs of concept. According to the UK's Office for National Statistics, as of November 2020, a staggering 30% of businesses are operating with less than three months of cash reserves.

### CHALLENGES WITH MACHINE LEARNING



Source: CCS Insight Senior Leadership IT Investment Survey, 2020; n = 736



## 2 Data Challenges

AI is only as effective as the data it is fed, and our research shows that 30% of businesses see the quality and readiness of their internal data as the single biggest hurdle in machine learning projects. Many businesses have a hard time tackling data challenges as the foundation of AI projects because they lack fluency with data and experience with using data to make business and operational decisions. They often operate in departmental silos when it comes to using data and have a shortage of good data practices that work throughout the entire organization.

## 3 The Skills Gap

Another major challenge is keeping up with the technical complexity of this rapidly evolving discipline. A lack of technical skills in data science, development and engineering are well-documented problems, but there are also large gaps in applied fields such as translating business requirements, measuring business results and implementing operational and governance practices. How firms handle change management and rewire the organization at a cultural level to support adoption of AI tools are also stumbling blocks.

## 4 Governance, Risk and Compliance

Organizations are becoming more aware of the business risks associated with AI. This creates an interest in principles, practices and technologies that enable businesses

57% of businesses list security and building trustworthy systems as their biggest hurdles with AI, and more than 80% of C-suite executives are concerned about the ethical perils stemming from its use.

CCS Insight Senior Leadership IT Investment Survey, 2020

to deploy AI in an ethical, transparent, secure and accountable way. With the European Commission pledging to develop “groundbreaking” regulation of AI in 2021, executives making plans are also confronted with an emerging and uncertain regulatory environment.

Altogether, these four forces are why many AI projects are slow to progress. Fewer than 20% of firms deploying AI have fully put it into company-wide processes. At most, only one in five AI solutions clear these obstacles to become operational.

## THE SOLUTION

### The Emergence of Business-Centric Artificial Intelligence Solutions

To overcome these challenges and advance their AI and digital transformation strategies, business leaders should consider the growing set of AI business solutions that have emerged over the past 18 months.

AI business solutions are a set of packaged AI applications concentrated on solving common business and industry problems. They require little-to-no expertise in machine learning — thereby making it easier to get started with the technology — and can cut costs, speed implementation and radically accelerate the time it takes to achieve business value from AI.

#### Supplier Spotlight: Amazon Web Services

**aws** AWS is uniquely positioned as a leading supplier of AI business solutions thanks to the company's vast experience using AI in the Amazon.com retail business. The solutions and customer deployment stories that we profile below form part of the company's broad portfolio of machine learning offerings. Collectively, they highlight crucial considerations for any business executive overseeing AI strategies.



**Demand forecasting.** Accurate forecasting is a critical business requirement, especially as a result of the shifts in demand that most industries are experiencing. Amazon Forecast harnesses machine learning to deliver customized forecasts in areas such as cash flow, product demand or resource planning.

Italian refrigerator manufacturing firm Arneg uses the solution to collect more than 11 million records from Internet-connected sensors, and to predict the energy consumption



of its refrigerators installed on customer premises worldwide, achieving over 90% accuracy in its predictions. Arneg was able to get Amazon Forecast up and running quickly, enabling it to assess the risk of outages up to a day before a breakdown is likely to happen, and reducing the number of maintenance calls from customers.



**Personalization.** Amazon Personalize enables businesses to use machine learning to build personalized services, such as product recommendations, product rankings and direct marketing.

Bundesliga, the German football league, is using Amazon Personalize to set itself apart. As part of an overhaul of the fan experience, the organization is using the tool to offer real-time



statistics and customized content during live matches, on all its digital platforms. Viewers can also personalize content that interests them by tailoring video clips and search results to their favorite clubs, players or matches. Bundesliga CEO Christian Seifert stated that its work with AWS enables it to deliver insights for every match, be that on mobile devices, TV or web and regardless of their location.



**Fraud detection.** According to Interpol, 2020 saw an alarming escalation in cybercrime, and with organizations globally losing tens of billions of dollars each year to online fraud, fraud detection has become one of the most common uses for AI. Our survey of C-suite executives showed that 49% of organizations currently building AI solutions are focusing on security applications such as fraud. Amazon Fraud Detector, which exposes suspicious online identity and transaction activities in customers' payment systems, also uses technology from Amazon's consumer business.

ActiveCampaign, a marketing automation company supporting small and medium businesses, deployed the solution following a spike in phishing attacks on its customers. After deploying a machine learning model quickly with its own data, the company was able to achieve results with a low false-positive rate, which meant no additional work for its operations staff.



**Intelligent search.** This has long been a drain on productivity in large organizations, owing to the difficulties in finding and accessing information housed in multiple systems and operational silos. Integrating with commonly used repositories such as file systems, applications, intranets and relational databases, Amazon Kendra uses machine learning to index internal data sources, such as documents, intranet content, archives and notes, and makes information searchable using natural language processing.



**Trusted operations and responsible deployment.** Transparency in how AI reaches decisions is one of the biggest factors in encouraging senior executives to adopt AI solutions. More businesses are now prioritizing vital areas such as model explainability, fairness, security and privacy in order to engender trust and minimize business risk.

But there is still a large amount of complexity for companies pursuing "build it yourself" projects, integrating machine learning workflows into the wider organization and managing applications in production.

AWS offers a complete machine learning life cycle platform in SageMaker to address these challenges, including a range of



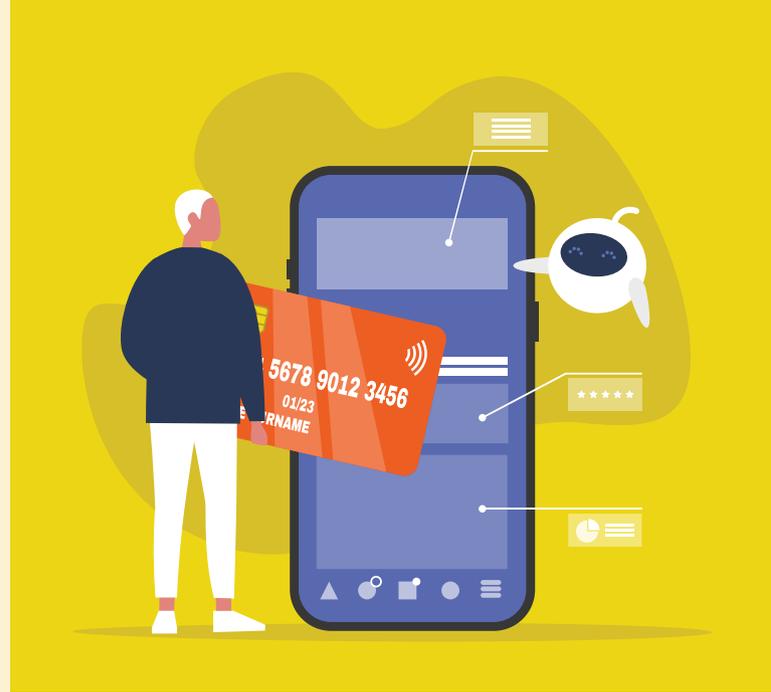
## THE JOURNEY

### Case Study: Barclays

- Barclays is putting Amazon Connect into action. The UK bank deployed the platform in 2020 as part of a push to modernize its contact centers in response to the pandemic. The rapidly evolving digital banking industry has required Barclays, an organization with 85,000 employees and a presence in over 40 countries, to be more agile and operate a “one Barclays” culture.

- The pandemic brought further urgency to this effort, forcing the bank to immediately enable 25,000 contact center agents to work from home. Barclays achieved this in just six weeks, including deploying its entire European operations in a weekend and expanding its global infrastructure to hold up to 6,000 concurrent calls per hour. This compares with its previous interactive voice response solution, which took 18 months to deploy.

- Although Amazon Connect was a building block for Barclays, its real value lies in the AI solutions that Barclays can now deploy on top of the platform. They include technologies such as voice biometrics, speech analytics and, in the future, chat bots, natural language processing and transcription, to help the firm analyze data from a growing number of customer interactions as well as boost engagement. Previously, it took up to six months for Barclays to analyze customer data in its own interactive voice response system; Amazon Connect has brought this down to days. Barclays is also able to roll out the



number of new features at a tenfold improvement over the previous system.

- Ultimately, the solutions will enable the bank to interact in a more proactive and personalized manner with its customers, including allowing it to prioritize specific customer groups, such as the clinically vulnerable, which is another major facet of its customer strategy. Barclays is exploring how it can use AI to better predict customer requirements, to enable the firm to offer more proactive customer service.

## THE ADVICE

### Next Steps for C-Level Executives

Customers such as Arneg, Bundesliga and Barclays, among others, are proving that AI business solutions from leading providers such as AWS give C-level executives important options in making AI work for organizations. Rather than hiring armies of expensive data scientists, success involves sourcing the right innovation, selecting the best partner and integrating the technology effectively into the wider IT and business environment.

We advise executives planning investments in AI to consider our top three recommendations. They will help you to overcome the main hurdles with putting AI into practice in your business.

1

Educate

Establish an educational program for your entire organization to learn more about AI. You should with aim to have all senior executives take part so as to bolster adoption, help employees understand principal concepts and how to enable the business strategy, as well as to steer practitioner resources outside technical disciplines.

2

Partner

Align your organization with an innovative solution provider that can help leaders prioritize the right problems to fix with solutions. Identify at least two projects by the end of each quarter and attach to each of them clear measures of business outcome and return on investment.

3

Govern

Establish a clear set of ethical guidelines for AI and put solutions that help you build trust with your customers and employees above ones that focus solely on technical accuracy. Underpin all AI projects with a solid foundation of data governance, which should be regarded less as a process that stifles innovation and more as one that improves the performance, output and, above all, confidence in the AI of your company.

With the change and competitive pressures appearing on the horizon, applying these steps will help businesses leaders take their transformation strategies and business success with AI to the next level in the crucial years ahead.

## TRANSFORM YOUR BUSINESS WITH AI NOW

 The time is ripe to capitalize on the business opportunities afforded by AI. Companies such as AWS are helping many organizations build their futures with AI today. Executives should seize the advantage in being ahead of the curve by making AI work for their organizations as a business imperative in the post-Covid-19 economy.



ccsinsight.com

© ccsinsight



info@ccsinsight.com



@ccsinsight