aws

7 leading generative AI use cases

How today's businesses use generative AI to achieve fast, efficient, and measurable results

This eBook is written for executives and technology professionals interested in unlocking business value and gaining competitive advantages with generative AI.

Solve your most common business challenges with generative AI

What is generative AI?

Generative AI is a type of AI that can create new content and ideas, including conversations, stories, images, videos, and music. It is powered by large models that are pretrained on vast amounts of data, commonly referred to as foundation models (FMs).

The rapid emergence of generative artificial intelligence (AI) applications has brought us to an inflection point in the widespread adoption of AI. As generative AI continues to capture attention and imagination, the technology is proving transformative across all lines of business—including engineering, marketing, customer service, finance, sales, and more.

For organizations across virtually every industry, the race to unlock the business value and competitive advantages of generative AI has become a top priority. Businesses are leveraging generative AI to achieve benefits such as:

- **Enhanced customer experiences:** Adding generative AI functionality to products and services can lead to deeper, more powerful experiences that attract new customers and help retain existing customers

- **Improved productivity:** Generative AI can automate tasks and augment creative thinking, allowing staff to complete projects faster and achieve more impactful results

- **Accelerated process optimization:** Generative AI saves time, allowing organizations to redirect resources toward higher-value activities—such as building customer relationships or growing the business through innovation

- **Enhanced creativity and content generation:** Organizations can extend the creative thinking of staff with generative AI to both optimize existing content and explore new and innovative ideas

While it's clear that investing in generative AI can yield substantial benefits, organizations face several barriers to adoption. Many are unsure how they will achieve a positive return on investment (ROI), lack confidence in the skills of their teams, don't have the time or resources to prepare their data for training, or have yet to identify the right partner to help them use the technology.

Choosing the right generative AI use case

Before you can successfully adopt generative AI, it's important to determine where and how you can apply the technology for the greatest impact. In other words, you need to select the right generative AI use case for your organization. This requires the consideration of several factors.

First, you need to find a balance between optimal business value and speed. A proof of concept built by a siloed data scientist is not likely to generate much enthusiasm for generative AI in an organization. What is more likely to attract the needed commitment and funding is showing how generative AI can address the practical issues your organization currently faces. Furthermore, to not lose momentum, you'll want to find something that can be accomplished in the short term, whether that means a few weeks or a few months in your organization. This is especially true if this is your first foray into AI.

Second, you will want to find a use case that will leverage your existing data to create a unique value for your organization. Generative AI business value grows exponentially when the FMs are customized with your own data through prompt engineering or by fine-tuning them. You will be able to customize your own FM with your data and intellectual property (IP), which will stay completely protected, secure, and private.

Lastly, here are three critical factors to consider when selecting the right generative AI use case:

- **Impactful:** Early use cases should solve real business problems (or create new opportunities that matter to your business) and demonstrate the differentiated benefit of using generative AI to solve them.
- **Visible:** Select use cases with broader visibility in your organization or create a communication plan to generate visibility.
- **Relatable:** Initial use cases shouldn't be limited to solving one problem. Spark team members' imaginations and inspire them to think about what they can solve within their domains using generative AI.

The best way to satisfy all these criteria is to ensure that technical experts and domain experts are working hand in hand on your generative AI project. Technical experts can conduct feasibility assessments, and domain experts will ensure the solution is solving a real business problem and that it will have a real impact.

To help customers determine AI use cases that can drive impact in their organization, Amazon Web Services (AWS) has built the AI Use Case Explorer. The business outcome-centric search and navigation site enables users to find the right AI use cases, discover relevant customer success stories, and mobilize their teams toward deployment.

Learn more ›

What is AI Use Case Explorer?

The AI Use Case Explorer is a business outcome-focused tool for discovering AI and machine learning (ML) use cases that enables users worldwide to explore the art of the possible, discover relevant success stories to a given use case, and mobilize their team accordingly.

aws

Starting with the right use case is key to organizational buy-in

In this eBook, we have outlined seven use cases that can be successfully deployed using solutions built with AWS AI, including generative AI offerings. You can apply these use cases to kick-start your AI journey or add them to your current strategy—and they can strengthen your business case for wider adoption of AI.

Choosing an impactful yet achievable generative AI use case is crucial for gaining organizational support and buy-in. The use case should align with the company's strategic goals and address a clear business need. It should be scoped appropriately so that initial pilots can demonstrate value and build trust without overpromising. Selecting a use case that is too ambitious without proving more limited capabilities first can lead to disappointment and skepticism. On the other hand, choosing a trivial use case will fail to get stakeholders excited about generative AI's possibilities. The ideal use case is one that stakeholders across the organization recognize as important but is still limited enough in scope that quick wins can be demonstrated without requiring extensive infrastructure changes early on. By choosing the right balance of ambitious yet achievable, generative AI pilots can gain organizational backing for further initiatives.

7 leading use cases:

1 Improve the customer experience with self-service virtual agents ›

2 Enhance contact center operations ›

3 Boost employee productivity and creativity ›

4 Augment and accelerate marketing content creation ›

5 Generate powerful sales content ›

6 Ideate and develop new products ›

7 Automate document data extraction and analysis ›

aws

1 Improve the customer experience with self-service virtual agents

The demand for self-service conversational interfaces continues to grow as more users prefer to interact with businesses on digital channels. Organizations of all sizes are leveraging generative AI to power voice and text conversational interfaces that enable new ways of engagement, increase customer satisfaction, reduce operational costs, and streamline business processes.

Many of these solutions are powered by conversational AI (CAI), which adds human-like conversation capabilities to your business applications. CAI combines technologies like natural language processing (NLP), natural language understanding (NLU), and natural language generation (NLG) to better understand and respond to customer inquiries.

CAI interfaces are used broadly across a variety of industry segments and use cases. The common use cases for CAI include 1) building virtual agents and voice assistants, 2) automating informational responses and data capture, 3) boosting agent productivity in contact centers, 4) automating customer service, and 5) performing transactional operations.

CAI solutions provide the advanced deep learning functionalities of automatic speech recognition (ASR) and NLU to enable customers to build applications with highly engaging user experiences and lifelike conversational interactions using voice and text. With **Amazon Lex**, the same deep learning technologies that power Amazon Alexa are now available to any customer, enabling you to build sophisticated natural language conversational bots quickly and easily.

Learn more ›

IDEAL FOR ALL INDUSTRIES

XPERTAL

"Xpertal operates a contact center which serves as an internal help desk for employees and has 150 agents that handle 4 million calls per year. Xpertal improved contact center efficiency, omni-channel support: across email, phone, collaboration tools, and internal corporate websites to further improve call deflection rates, reduce call wait times, and increase agent productivity. With Amazon Lex's easy to use interface, Xpertal's contact center team was able to create bots after a 1-hour training session."

Chester Perez, Digital Transformation Manager, Xpertal

WAFD

"We're getting incredible data from AWS through the conversational logs. That has given us insights into what our customers are asking for so that we can add more self-service functionality."

Dustin Hubbard, CTO, WaFd Bank & Pike Street Labs

2 Enhance contact center operations

Adding generative AI to your contact center is a powerful way to differentiate your organization—and demonstrate the value of AI to both shareholders and internal stakeholders.

Generative AI can help transform your contact center into a competitive advantage by reducing call wait times, improving agent productivity and satisfaction, lowering costs, and helping to identify business improvement opportunities using conversational insights.

AWS offers several flexible options to add intelligence to your contact center. If you are looking for an end-to-end solution, **Amazon Connect** is an easy-to-use omnichannel cloud contact center that helps you deliver superior customer service at a lower cost.

Already have a contact center or other customer experience system in place? AWS AI services elevate customer satisfaction, agent productivity, and conversation insights by adding AI capabilities to your platform of choice—with no ML experience required. These AI capabilities seamlessly integrate with leading contact center platforms, such as Avaya, Cisco, Genesys, Mitel, Talkdesk, and more. Leveraging generative AI, these capabilities address three crucial contact center use cases: 1) self-service virtual agents, 2) real-time call analysis and agent assistance, and 3) post-call analysis.

Learn more ›

STATE AUTO

"State Auto was able to derive insights from millions of calls made to customer service representatives by using Amazon Transcribe. Because AWS services do their job so well out of the box, we have the flexibility to be creative and build things on top of them."

Uthra Ramanujam, VP of Strategic Technology Research, State Auto

MAGELLAN RX MANAGEMENT

"We chose Amazon Kendra to build a secure and scalable agent assist application. This helped call center agents, and the customers they serve to quickly uncover the information they need. Since implementation, early results show an average reduction in call times of about 9-15 seconds, which saves more than 4.4k hours on over 2.2 million calls per calendar year."

Brian Lichtle, Sr. Director of Software Engineering, Magellan Rx

3 Boost employee productivity and creativity

Generative AI has the potential to fundamentally transform the way employees work. Through natural language interfaces, generative AI-powered enterprise assistants will go beyond simple search to provide meaningful answers, insights, and recommendations tailored to each employee's needs.

Knowledge workers will be able to have complex conversations with these AI assistants and receive synthesized responses based on analysis of all the data and documents they have access to across the organization. Additionally, generative AI will become an invaluable aid for writing and content creation. Sales teams will be able to generate targeted content for specific clients just by describing their goals and needs. Marketers will provide their AI assistant background on a new campaign and receive drafted social media posts, emails, and ad copy in the appropriate voice and tone for their audiences.

The AI assistant will also analyze large datasets to find non-obvious insights and trends. This will enable data-driven decision making and strategy development. Rather than sorting through reports, employees will ask plain language questions about performance and receive clear, actionable responses and recommendations.

Finally, generative AI has the potential to enhance creativity through interactive brainstorming. Users will describe a challenge or goal and receive innovative suggestions and ideas based on the AI's analysis of the issue. The interactive back-and-forth will allow for rapid refinement of concepts, leading to more breakthrough ideas in less time.

In summary, generative AI will provide knowledge workers with an intelligent and creative assistant that goes beyond search to deliver insights, content creation, and interactive brainstorming. This will free up employees to focus on more complex, meaningful work that makes the best use of their time and talents. Generative AI has the potential to usher in a new era of productivity, innovation, and enhanced job satisfaction across organizations.

Learn more ›

IDEAL FOR ALL INDUSTRIES

ADIDAS

"We were excited to be part of the Amazon Bedrock preview and get our hands on the service. Bedrock quickly became a highly valued addition to our generative AI toolkit, allowing us to focus on the core aspects of our LLM projects, while letting it handle the heavy lifting of managing infrastructure. Using Bedrock, we have developed a generative AI solution that gives the community of adidas engineers the ability to find information and answers from our knowledge base through a single conversational interface, covering everything from getting started to highly technical questions."

Daniel Eichten, VP of Enterprise Architecture, adidas

aws

4 Augment and accelerate marketing content creation

Marketers regularly spend days drafting reports, creating internal documents for meetings and approval processes, and collating data for campaigns. Automating these repetitive tasks using generative AI can free them to focus on higher-value work—like crafting compelling brand narratives and exploring innovative campaign strategies.

Generative AI also augments marketers' creative thinking. By 2026, over 100 million humans will engage generative AI assistants to contribute to their work.[1] By treating generative AI like a creative assistant or coworker, marketers can collaborate with it to come up with new ideas, discover fresh angles on specific topics, and investigate different approaches to reaching their target audience.

Perhaps best of all, generative AI can allow marketers to complete these tasks in a fraction of the time normally required—saving the organization time and operational costs.

AWS offers generative AI solutions to help your marketing teams speed up content creation and strategic planning without losing quality. With generative AI on AWS, marketers can draft internal discussion documents in record time, develop innovative, brand-compliant creative with less effort, devise strategic plans tailored to audiences and segments—and ultimately deliver more impactful and successful campaigns.

Learn more ›

IDEAL FOR ALL INDUSTRIES

OMNICOM ANNALECT

"Amazon Bedrock, together with AWS Trainium and AWS Inferentia chips purpose built for machine learning, will help us accelerate the transformation of advertising campaign development, creative generation, insights, and recommendations. By unlocking advertisers' first-party data, we can create more powerful advertising campaigns through trained, purpose-built LLMs (large language models) that are unique to them, secure, protected, and private."

Adam Gitlin, President, Annalect

5 Generate powerful sales content

Sellers are leveraging generative AI to automate manual work and help them seize opportunities faster. Generative AI can enhance your sales team's productivity, augment its work with impactful creative and new ideas, and free up more time to pursue leads, foster relationships with customers, and devise more effective sales strategies.

Your sales team is the heart of your business, and its time is extremely valuable. Unfortunately, sellers are typically forced to spend precious hours on repetitive, undifferentiated tasks—such as drafting customer communications, entering data into CRM systems, and preparing reports.

With generative AI on AWS, your sales team can complete these duties exponentially faster—without sacrificing accuracy, quality, or even brand compliance. By analyzing your documents and data, generative AI applications can create internal communications, sales reports, and a wide range of other sales content. Once properly trained, generative AI can complete this work in seconds and with minimal or no input from your sales team.

Furthermore, a sales team can use generative AI on AWS to augment its work. Generative AI can help sellers brainstorm fresh ideas, enhance sales documents with personalized or localized content, identify new leads or opportunities, and quickly add touch points to nurture streams.

Learn more ›

HIGHSPOT

"Highspot is obsessive about helping our customers drive efficient growth by delivering capabilities that unlock new levels of sales productivity. The potential generative AI brings is huge and at Highspot we're leveraging it to transform sales enablement and continue leveling up the value we give our customers. The AWS Generative AI Innovation Center is providing us with novel solutions and creative guidance for some of the most complex challenges and opportunities involved in bringing generative AI workloads to life at scale."

Kurt Berglund, VP of Science, Highspot

SHOWPAD

"We improve how sales and marketing teams partner in pursuit of a shared goal, bringing meaningful value to each buyer interaction. This requires tailoring information and improving how sellers engage with buyers, based on their unique needs. That's why we rely on Amazon Bedrock to rapidly experiment and subsequently push new models to production, so we can ensure that every conversation is empathetic, authentic, and builds trust with buyers."

Tony Grout, CPO, Showpad

6 Ideate and develop new products

To stay competitive and keep up with customer demands, your business needs to develop and launch differentiating products quickly. Generative AI applications can accelerate and augment product creation, ideation, prototyping, testing, and more—helping you bring more impactful products to market faster and with greater confidence.

Generative AI applications can automate manual aspects of product development, such as routine design, analysis, and writing tasks. The technology can also generate dozens (and, in some cases, hundreds or even thousands) of ideas from simple text prompts, all within seconds. These capabilities free your teams to focus on completing more strategic and creative work, such as developing unique concepts and positioning to engage customers across audience segments. Ultimately, these applications allow your teams to iterate faster.

Specific generative AI technologies offer further benefits across the new product value chain, from ideation to patent to launch, including:

- Design tools can rapidly iterate through multiple design variations to help optimize prototypes
- Recommendation algorithms, conversational AI, and NLP can uncover new product opportunities based on consumer data
- Creative text and image generation AI models can generate blueprints, novel visual concepts, and designs to support product teams

Amazon Bedrock offers access to a family of models that aid ideation and accelerate design testing—all on scalable infrastructure that helps transform product creation. Amazon Bedrock also reduces physical prototyping and testing costs by parallelizing multiple design stages, such as design iteration, simulations, and variations.

Learn more ›

aws

AUTOMATION ANYWHERE

"Our vision has always been to make automation accessible to everyone, anywhere. Putting our cloud-native Automation Success Platform on AWS was the first step, and now through intelligent automation fused with generative AI on AWS we enable every employee in every company with the potential to transform business and reshape the way we live and work."

Mihir Shukla, CEO & Co-Founder, Automation Anywhere

7 Automate document data extraction and analysis

The millions of documents created by your organization contain a treasure trove of insights waiting to be leveraged. Unfortunately, manually processing the ever-growing volumes of data to make them easy to access and search is a cumbersome and costly task. Using AI, your organization can gain timely access to the information contained in your documents, leading to new insights that will inform your business decisions.

AWS offers three intelligent document processing (IDP) services that can be deployed individually or combined as building blocks to develop an end-to-end document processing solution. **Amazon Textract** automatically extracts handwriting, printed text, and data from scanned documents. **Amazon Comprehend** is an NLP service that uses ML to find insights and relationships in text. And **Amazon Augmented AI** (Amazon A2I) provides built-in human review workflows to help ensure the accuracy of data.

Generative AI complements these services to further automate IDP and accelerate time to insight. You can use generative AI to flag and even correct mistakes, such as incomplete phone numbers, missing documents, or addresses without street numbers. Generative AI can complete this work faster and with fewer resources than traditional IDP workflows, which rely on manual review and complex scripts. **Amazon Bedrock** makes FMs from leading AI startups and Amazon available through an API, so you can identify and access the model that best suits your IDP requirements.

You can also quickly and efficiently build, train, and deploy your own ML models for text extraction and analysis with **Amazon SageMaker**. This fully managed service provides several built-in ML algorithms—such as BlazingText and Linear Learner—that are optimized for text classification, NLP, and optical character recognition (OCR).

Learn more ›

aws

IDEAL FOR
Financial Services, Healthcare and Life Sciences, Accounting, Education, Government, Legal, Oil and Gas

ASSENT COMPLIANCE

"Amazon Textract's OCR technology enabled us to process...documents while Amazon Comprehend was able to extract custom entities. [Using] Amazon Augmented AI, we were able to have our teams review documents in a given accuracy range and help train our next model iteration. Combining these services...[saved] our customers hundreds of hours in manually reviewing documents."

Corey Peters, AI/ML Team Lead, Assent Compliance

THOMSON REUTERS

"Our solution required several iterations of deep learning configurations at scale. Amazon SageMaker enabled us to design a natural language processing capability in the context of a question answering application...successfully allowing [our customers] to simplify and derive more value from their work."

Dr. Khalid Al-Kofahi, VP of Research & Development, Thomson Reuters

Start or expand your generative AI journey now

With the use cases in this eBook, you can leverage generative AI to improve your customer self-service experience, add intelligence to your contact center, find insights faster through conversational search, create compelling marketing and sales content quickly, ideate and develop exciting new products, and automate document data extraction and analysis.

We chose to highlight these seven use cases because industry analysts and market data agree with them. And our customers are achieving impactful, measurable results with them today—because they fulfill the requirements you should look for when identifying a suitable application for generative AI. These use cases can be completed in a matter of months, solve real business problems, increase performance, reduce costs, and improve the customer experience. Additionally, proof of concept (POC) use cases can be completed in shorter time frames with an easier start and at a lower cost. They lend themselves to the inclusion of technical and domain experts and—when properly executed—generate results that gain attention and foster executive support for wider AI adoption.

The business potential of generative AI goes far beyond these seven use cases. With the broadest and deepest set of AI services and ML tools available today, AWS can help you apply generative AI in a wide variety of ways that can transform your business—allowing you to push innovation to new heights and reimagine the possibilities of what your organization can achieve.

Learn more about generative AI on AWS ›