Retail

Your quick-start guide to generative AI

How to transform retail from back-end to check-out.

$100-190B

Economic potential of gen AI in the retail and consumer packaged goods industries (North America)[1]

What does the future of generative AI have in store? When it comes to its benefits, retail has some of the biggest potential compared to other industries. The value is already visible, with early adopters using gen AI to transform experiences for employees and customers alike.

In this guide, we explore the most promising use cases of gen AI for the retail industry and share key considerations for starting your journey today.

70%

of business activities could be automated by 2030 using gen AI in back-end operations such as Legal, HR, and IT[2]

81%

of decision-makers feel "urgency" to adopt gen AI[3]

1. McKinsey. (2023). The economic potential of generative AI: The next productivity frontier.
2. McKinsey. (2023). The organization of the future: Enabled by gen AI, driven by people.
3. TechCrunch. (2024). Google Cloud rolls out new GenAI products for retailers.

Consider these strategies to realize value from gen AI in your organization.

|	
① Drive digital growth and personalized experiences	→
② Enhance marketing and customer outreach capabilities	→
③ Improve sustainability and efficiency in operations	→
④ Improve associate and store productivity	→

Ready to go?
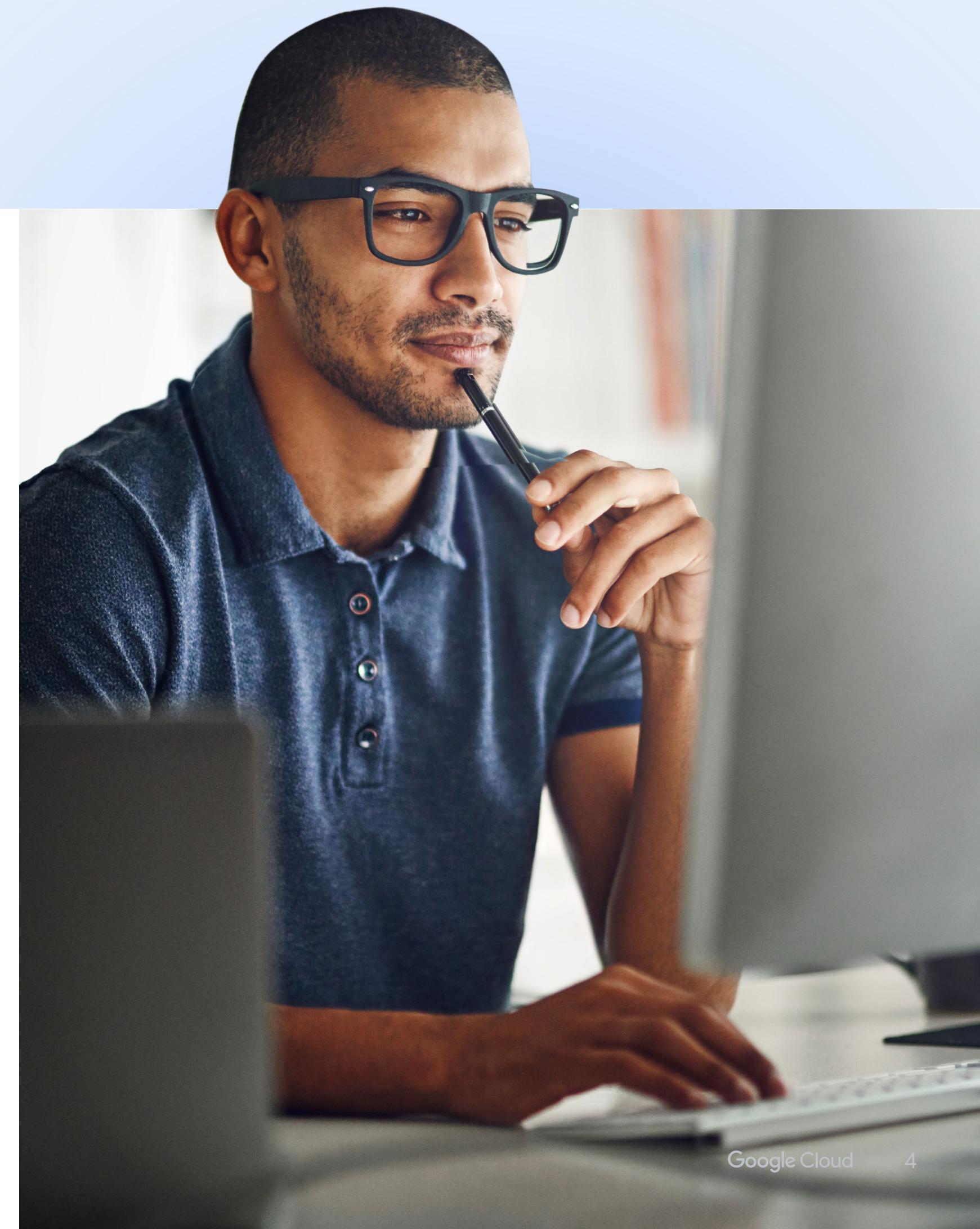
01 Drive digital growth and personalized experiences.

Today, customers expect highly personalized experiences from retailers. Focusing on customer engagement and retention is what can help set successful retailers apart from the rest.

For shoppers, gen AI can improve the discovery, decision, purchase, and post-sale experience — by delivering highly engaging, personalized content recommendations. Leveraging personalized discovery also becomes easier, as gen AI can use unstructured product descriptions to increase the number of parameters per SKU. Chatbots, customized to brand guidelines, can provide relevant responses to common questions using automated response paths, as well as enable human agents to offer more personalized recommendations.

Customer service can also benefit from gen AI. It can speed up call resolution times and reduce escalation requests to speak to a manager. With enhanced insights on customer behavior, gen AI can also strengthen service conversions by prompting agents with suggested topics and questions. Gen AI — via chatbots customized to brand guidelines — can ensure virtual agents reflect the interaction style of a human agent, delivering a better shopping and support experience.

78%

of consumers say they are less loyal to a brand when it's hard to find what they want on a website[4]

75%

of consumers want a seamless omnichannel experience[5]

60%

of senior executives in significant global B2B and B2C sales and marketing organizations estimate "significant" or "very significant" impact of gen AI in lead identification in sales[6]

4. Google Cloud. (2023). New research: Search abandonment continues to vex retailers worldwide.
5. McKinsey. (2023). The world of 'ands': Consumers set the tone.
6. McKinsey (2023). AI-powered marketing and sales reach new heights with generative AI.

Getting started
Personalization

Take a closer look at the current customer journey.

Chart out user journeys across all digital touchpoints and look for areas where buyers may be falling out of the funnel. Using gen AI to review structured and unstructured data — like purchase history, dwell time, and comments — can help identify customer pain points.

Create engaging and personalized shopping experiences.

Customers want a digital journey that understands what they want and guides them to the right choices. This journey should recognize their needs at every touchpoint, using comprehensive data to offer relevant recommendations.

Gen AI can enable these recommendations by leveraging detailed product features, product availability information, and aggregated user behavior and preferences. Gen AI-powered recommendation engines can also adapt in real time to changing preferences and

market trends. This gives e-commerce platforms the chance to provide up-to-the-minute product suggestions — improving customer satisfaction and driving higher conversion rates.

Conversational commerce uses gen AI agents to suggest relevant search results, have natural conversations, and tailor product suggestions.

Make products more discoverable to prevent search abandonment.

Searchable products are purchasable products. And the ability for shoppers to search a website or mobile app and easily find what they need is critical.

Vertex AI Search for retail provides Google-quality search capabilities, reducing search abandonment, increasing product searchability, and improving conversion and order value.

Google Cloud's new Catalog and Content Enrichment tool set can craft product descriptions, metadata, categorization suggestions, and more — from just a single product photo.

Key use cases

💬 Conversational commerce with product discovery

✏️ Content creation

📖 Catalog and content enrichment

94%

of consumers abandoned a shopping session because of irrelevant search results leading to $300 billion in lost sales[7]

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7. Google Cloud. (2021). Research: Search abandonment has a lasting impact on brand loyalty.

Getting started
Personalization

Invest in and enable your customer-facing teams.

Preparing for the future means investing in change readiness and skills training. And a great starting point is off-the-shelf tools for easy on-ramps.
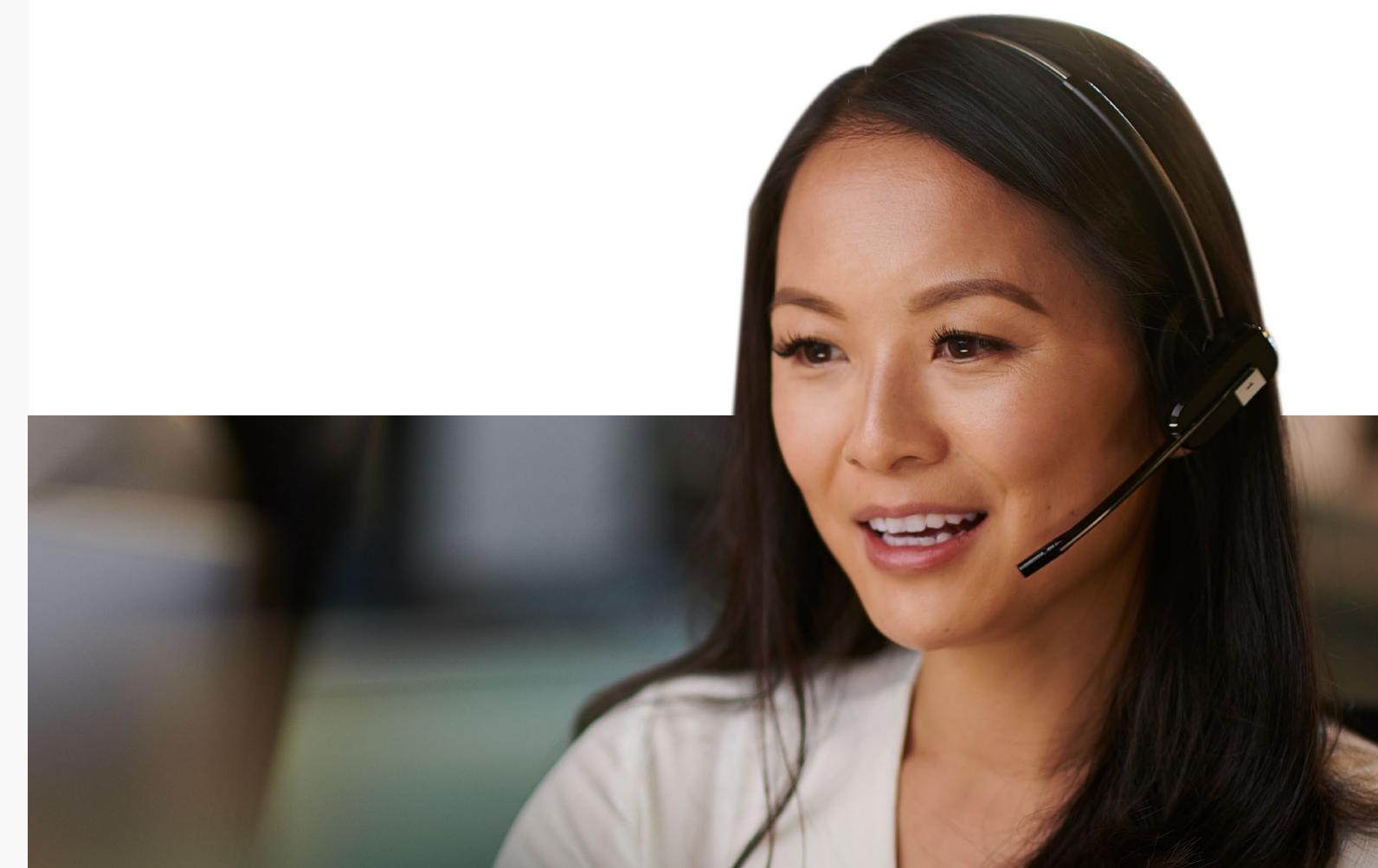
> Google Cloud solutions like BigCommerce offer quick modernization and provide tools like Analytics 360, enabling deeper customer insights and effective data analysis.

Use data to better understand your customers.

More than most industries, retail has untapped data that gen AI can find value in. Gen AI can merge unstructured customer data, such as interactions with service representatives, with structured data to enrich customer profiles — for a better understanding of customer needs and behaviors.

Focus on scalability and integration.

Choose gen AI solutions that can scale with your website's growth and evolving needs. Ensure seamless integration of AI tools with your existing web development stack and retail systems — like inventory management and CRM — for unified operations.

VICTORIA'S SECRET & CO.

"The integration of Google Cloud's AI and generative AI technologies will not only improve the online shopping experience for our customers, but also will empower our internal teams to drive innovation across various business functions. This partnership signifies a new era for Victoria's Secret & Co., where cutting-edge technology meets our passion for enhancing the customer journey and reinforcing our position as a leader in retail."

Chris Rupp

Chief Customer Officer, Victoria's Secret & Co

02 Enhance marketing and customer outreach capabilities.

Personalized marketing is critical to the success of retail companies. And customers expect seamless service across every touchpoint.

Gen AI can personalize marketing and customer outreach at scale — leading to accelerated revenue growth through customer spend, improved engagement, and strengthened brand loyalty. It can automate processes like ad bidding and budget allocation, enable predictive segmentation and targeting, and create dynamic content and advertising. Gen AI can also supercharge creativity and productivity by generating content at scale, while ensuring brand consistency.

For shoppers, gen AI enables a more satisfying shopping experience. From digital self-service channels to agent-supported options and social media, gen AI enables personalized content, ease in finding products, and a great customer service experience.

75%
of customers use multiple channels in their ongoing experience[8]

40%
more revenue for companies that excel at personalization[9]

5-15%
increase in marketing productivity (of total marketing spend) due to gen AI[10]

8. McKinsey. (2023). The next frontier of customer engagement: AI-enabled customer service.
9. McKinsey. (2023). What is personalization?.
10. McKinsey. (2023). How generative AI can boost consumer marketing.

Getting started
Marketing and outreach

Know your customer on a deeper level.

Consumers assume you know who they are and what they want. They have come to expect personalized experiences such as auto-populated carts, product recommendations, and discounts. By thoughtfully deploying behavioral data and previously collected customer data, companies can use gen AI to develop customized marketing content — delivered at the right time — to better engage customers.

Pursue "quick wins".

A good place to start piloting is with projects that are both easy to implement and high impact. For marketing teams, this includes information synthesis, real-time chat conversation, and the deployment of personalized content.

Key use cases

⚙ Marketing process automation

◎ Audience segmentation and enhanced targeting

🖼 Content and creative development

70-80%
of consumers want personalized, omni-channel experiences when shopping[5]

Getting started
Marketing and outreach

Use your data more effectively.

Using your data to generate original content can help with end-to-end customization from campaigns to products to sale, offering a unique competitive advantage. While many retailers are already leveraging structured data to develop actionable insights, the value of unstructured data — such as text from chats or product descriptions — has been harder to tap into. Gen AI can analyze and process large volumes of unstructured data to generate targeted messages to customers or increase the numbers of parameters for a given SKU. This makes it easier for a customer to discover a product online.

Ensure safe governance and stewardship of customer data.

It's important to take a proactive approach to data quality, security, and governance. Consider injecting data quality interventions across the entire data life cycle and establishing data governance procedures for the new types of data you will receive.

The regulatory landscape is evolving quickly. To ensure compliance with new laws, consider monitoring regulations actively.

Balance risk and reward.

There are some risks when it comes to using gen AI for marketing and content creation. A few considerations to watch out for may include:

- Models trained on publicly available data without sufficient safeguards against copyright violations, plagiarism, or branding recognition could lead to infringement of IP rights

- A virtual try-on app using limited or biased data could lead to misrepresentations

- Designers could be criticized for derivative work or copycat designs

- Image-generating tools used in advertising campaigns could produce offensive or inappropriate images

To proactively help address and establish [controls and guardrails](#):

- Use technical approaches, such as classifiers and other gen AI instances, to flag and filter outputs that violate policies

- Seek input from communities early in the R&D process to develop an understanding of societal contexts

- Test early gen AI outputs internally, inclusively, and with a variety of audiences

- Adjust and apply adversarial security testing to address generative AI-specific concerns

41%
increase in click-through rates for personalized SMS campaigns[10]

25%
increase in click-through rates for personalized email campaigns[10]

Canva

Canva uses Google Cloud's gen AI language translation to translate presentations, posters, social media posts, and more into over a hundred languages. These new gen AI automatic translation capabilities, and video creation tools powered by Google Cloud's Vertex AI can enable teams and brands to more quickly build custom content for their websites in Canva.

[Find out more here](#)

ESTĒE LAUDER

COMPANIES

Estee Lauder partnered with Google Cloud to transform the online consumer experience using gen AI. Using Customer Sentiment Analysis, ELC can proactively address consumer concerns, respond to external trends, and ultimately improve consumer experiences.

"Through our collaboration with Google Cloud, we are creating high-touch, personalized experiences online that our consumers expect from every interaction with our brands", EVP Online, The Estee Lauder Companies."

Gibu Thomas

EVP Online, Estee Lauder

03 Improve sustainability and efficiency in operations.

With Gen AI, you can help unlock the potential for more efficient and sustainable operations. A few key areas may include:

- Automating and streamlining back-office processes through better document discovery or next-action-to-take recommendations

- Improving resolution times and lowering customer servicing costs. This can be done by automating service delivery, reducing manual activities in back-end operations, and optimizing supply chain operations

- Reducing maintenance and tech debt by identifying and proposing solutions to bugs

- Driving software engineering productivity by increasing the efficiency of code generation and testing, bug prevention, and automation of CI/CD pipeline

30-45%

reduction in customer servicing costs[1]

20-45%

productivity of software engineering spend (of current annual spend)[1]

35-45%

faster code development[11]

11. McKinsey & Company. (2023). A coding boost from AI.

Google Cloud

Getting started
Sustainability and operations

Boost business operations.

Looking at the departments and stakeholders in your back-end operations, you can chart out pain points that may be affecting productivity. You can use gen AI to automate repetitive tasks like manual data entry, contract review, and invoice processing to free up more time for your team.

Pursue "quick wins" while building a long-term roadmap.

Low-risk, internal-facing tasks can provide quick ROI and also long-term gain — it's a win-win. This can then also help you build the foundation for use cases that need a more complex technical infrastructure to deploy.

Google Cloud's differentiated, grounded, and enterprise-ready AI platform can help integrate gen AI into organizations' suite of back-office apps.

Unlock the potential of untapped data.

For retailers, data is invaluable. Think creatively about what data sources can be used to train or customize models. For chatbots, retailers need data from anonymized customer service conversations to feed into NLP models. Use multimodal data — like images, videos, and audio recordings of calls — to reach harder-to-engage groups like non-native speakers or those with disabilities.

Remember: you have to clean, annotate, aggregate, and group this data before feeding it to AI models.

> Google's Gemini can combine text and visual inputs, and translate between modalities.

Empower back-end teams.

Build a dedicated team to accelerate gen AI adoption. This team would lead change management internally, focusing on communications and training for employees. Reskill your employees as job roles transform — product and software engineering functions will intertwine further as gen AI tools become better in autonomously building products and creating insights. Specific skills to focus on might include prompt articulation, model review and validation, and IT architecture design for gen AI integration.

Key use cases

- 👥 Customer service modernization
- ‹› Improved coding efficiency
- 🚚 Supply chain advising
- 📈 HR, Finance & Legal productivity

Getting started
Sustainability and operations

Enhance trust and security.

There's inherent risk in testing and implementing any new technology.

Consider embedding security and data privacy requirements across your tools. This will help enable the compliance of regulations and preserve consumer trust. Google Cloud Security takes a holistic approach to security with AI focusing on posture, governance, and compliance controls for AI workloads, both those built on Vertex AI and others that customers may bring and deploy in Google Cloud.

Enterprise readiness is the core of Google Cloud's gen AI solutions. It enables customers to control how their data is used, share fate and indemnification for gen AI, prioritize security and compliance, and incorporate responsible AI principles to guide their foundational model development.

Balance risk and reward.

It's important to assess the severity of risks with gen AI in the back end. This could include the use of proprietary data, user privacy and security, and the accuracy of outputs, such as in draft emails and calendar scheduling.[12] After establishing some guardrails. adjust and apply adversarial security testing to address any gen AI concerns.

Adversarial security testing, also known as "red teaming", is a stress-test approach to internally identify vulnerabilities to attacks. Google uses these "ethical hacks" to test its AI systems and support its new Secure AI Framework.

Google Cloud Confidential VMs and **Vertex AI Workbench** with **Confidential AI** allow users to train and deploy gen AI models on encrypted data, preventing unauthorized access even within the cloud environment.

12. Google DeepMind. (2021). Ethical and social risks of harm from language models.

ADORE ME

Adore Me, an inclusive intimate apparel company with a mission to celebrate women for who they are, is using Google Workspace to connect and collaborate in service of that mission, creating products and experiences that support women through every stage of life.

[Read the full story](#)

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Each of our copywriters used to spend 30-40 hours per month writing those descriptions, but AI cuts that time down to about an hour. We use Vertex AI from Google Cloud to develop useful first drafts that our writers finesse before sending to our development team. This frees up our writers to spend more time on pie-in-the-sky ideation. Meanwhile, Duet AI helps us quickly update our website and mobile apps with new products and features by giving our developers and UX designers the ability to draft their own copy."

Ranjan Roy,
VP of Strategy, Adore Me

04 Improve associate and store productivity.

Retail stores have unique operational challenges that gen AI can help solve. For associates, gen AI can drive productivity and enable them to focus on customer-facing priorities and personalized experiences.
An example of this would be helping associates quickly answer customer questions by giving them information faster or identifying where in the store a product is located.

Getting started
Productivity

Augment existing store operations.

Labor intensive and repetitive tasks — like scheduling or manual inventory management — are prime candidates for gen AI applications. Identifying gen AI use cases that can address these inefficiencies can free up your team from tedious tasks and let them focus on the initiatives that drive value.

Unlock the potential of untapped data.

Your existing data is powerful. So powerful that it can be used to train and customize models. When looking to optimize inventory management, warehouse operations, and order fulfillment, retailers need lots of information. They need product SKUs, real-time demand data, expiration dates, and real-time inventory levels.

To be useful for gen AI applications, this data must communicate seamlessly across diverse source systems. For this reason, you may have to invest in data cleaning and aggregation efforts.

Key use cases

✓ Task management

▣ Back of store operations

💬 Talk to menu

70%
of all store tasks will be automated by 2025[13]

13. Incisiv. (2023). *2023 Connected Retail Experience Study: Operational Efficiency is the New Imperative*.

Educate employees for an evolving ecosystem.

Transformation requires an investment in training. Coach your employees around prompt generation, when to leverage AI tools, and how to use them safely in customer-facing environments. Customer service agents can help act as a 'human-in-the-loop' to provide expert guidance to customers on complex cases and prevent bias.

To plan for effective change management, communicate new responsibilities to your employees, update internal policies in line with changing regulations, and create a culture focused on the responsible use of gen AI.

> Google's [responsible AI guidelines](#) offer recommended practices for communicating AI usage with customers.

First steps to get started with gen AI in retail.

Align on vision and commitment from the leadership team to build the foundation.

Identify and prioritize domains based on impact.

Assess foundational capabilities for gen AI such as talent, data and technology, and operating model.

Create a roadmap by identifyinging pilot use cases in prioritized domains and make design decisions.

Plan for scale up of use-cases by outlining business roadmap and objectives, scaling data processing pipelines, building a scalable gen AI tech stack with modular and reusable components, and setting up a gen AI center of excellence (COE) to coordinate governance and capability building.

Plan for adoption and change management, ensuring skill building, cultural change, understanding of risks and mitigation strategies, and timely audit of responsible AI practices.

Time to take action with gen AI?

When a new technology moves as fast as gen AI, it can be hard to keep up. Google Cloud helps you solve for all the considerations outlined in this guide.

Our gen AI tools are backed with frameworks, tools, and governance structures to help you hit the ground running.

→ **Contact us** to set up time to discuss how to get started on your gen AI journey.

Google Cloud