

WHITEPAPER

Unleash the Power of Generative AI to Transform Retail & Consumer Industry



Executive summary

The retail and consumer goods industry is on the cusp of a renaissance driven by generative artificial intelligence (Gen AI). As brands face increasing competition, rapidly evolving consumer demands, omnichannel selling, and the digital transformation of commerce, Gen AI presents a transformative force. This whitepaper explores the pro-found impact of generative AI on the retail and consumer goods sector, shedding light on how it empowers businesses to innovate, personalize, optimize operations, and respond to changing market dynamics. We examine case studies, applications, and future possibilities, painting a vivid picture of how generative AI is pioneering the future of retail and consumer goods.



*This is an AI generated image.

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Introduction

The retail and consumer goods industry has always been dynamic, but the pace of change in recent years is unprecedented. The rise of e-commerce, shifting consumer preferences, and the digital transformation of businesses have created challenges and opportunities. In this fast-evolving landscape, Gen AI is emerging as a pioneering force that promises to redefine how retailers and consumer goods companies operate and interact with their customers.

The field of generative AI has experienced remarkable growth and integration. An impressive 11 major Large Language Models (LLMs) have been unveiled, averaging two significant language models every month. Industry giants like Microsoft, Google, Amazon, and Nvidia have introduced advanced generative AI solutions tailored for enterprises.

This whitepaper explores the intersection of retail/consumer goods and generative AI, highlighting how AI-driven generative models are becoming essential tools for innovation, efficiency, and customer-centricity. We will examine various applications of generative AI in the sector, backed by real-world case studies, and discuss the challenges and considerations that come with this transformative technology.

The retail and consumer goods landscape

The retail and consumer goods industry encompasses a wide array of businesses, from brick-and-mortar stores to e-commerce giants. This industry is undergoing significant transformations due to:



Digital disruption

The shift to online shopping and mobile commerce has created new customer touchpoints and business models.



Consumer expectations

Modern consumers demand personalized experiences, rapid delivery, and superior product quality.



Data deluge

The industry generates vast amounts of data, from sales transactions to customer feedback, creating opportunities for data-driven decision-making.



Competition

With global reach, competition is fierce, and businesses must innovate continuously to stay relevant.



Sustainability

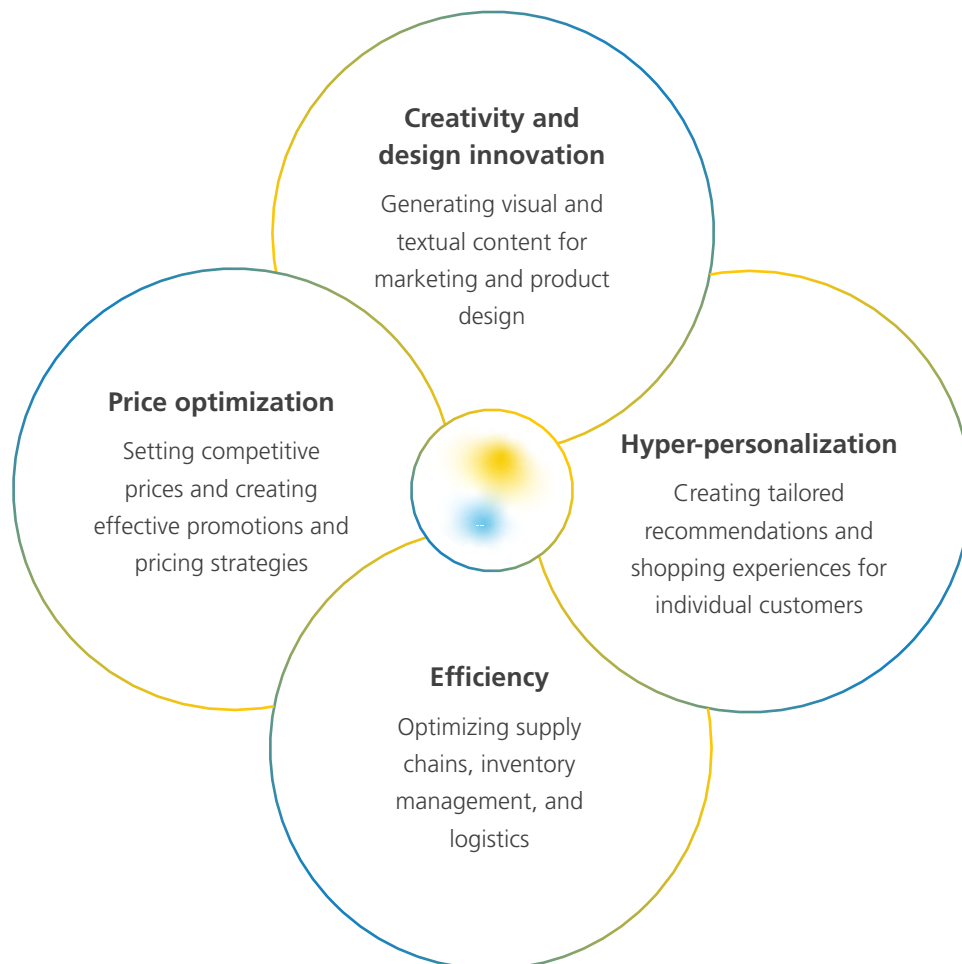
Consumers are looking for eco-friendly products, and retailers are focusing on sustainable supply chains, packaging, and energy-efficient practices.

The retail and consumer goods landscape is characterized by fierce competition, rapid technological advancements, and changing consumer behaviors. Adapting to these trends and focusing on customer-centric strategies are vital for businesses in this industry to thrive in an ever-evolving marketplace.

Generative AI

A brief introduction

Generative AI marks one of the most significant technological shifts in history. It refers to a branch of artificial intelligence systems that enables computers to create original content ranging from images and artwork to poetry, music, text, video, dialog, and even computer code. This technology includes deep learning techniques like generative adversarial networks (GANs) and transformers, which have proven versatile in various applications. In the retail and consumer goods industry, generative AI is a transformative force because it enables:



Traditional AI Vs. Generative AI

Traditional AI systems mostly produce analysis and automation such as:

01. Predictions/forecasts
02. Classification/clustering
03. Process automation via recommendations or automation

Generative AI systems expand to generate new artifacts such as:

01. Video
02. Language and text
03. Pictures, design, and schematics
04. Data and code
05. New learning methods

Gartner's Hype Cycle - Generative AI

Hype Cycle for Artificial Intelligence, 2023

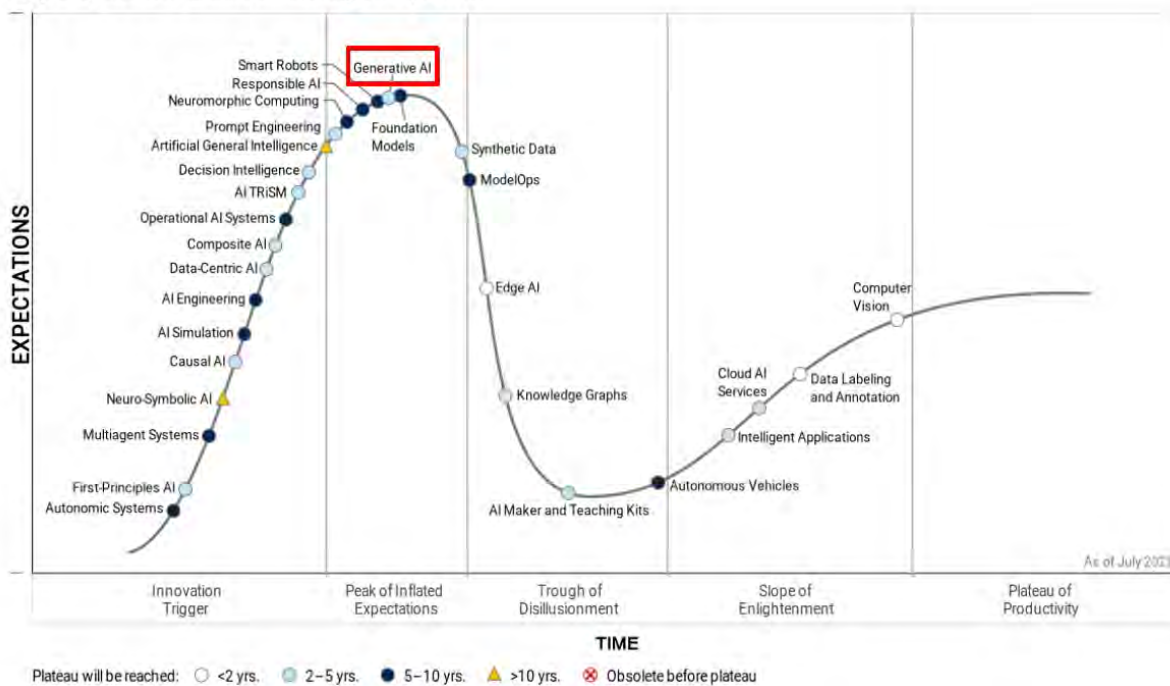


Figure 1: Hype cycle for artificial intelligence, 2023, What's New in Artificial Intelligence from the 2023 Gartner Hype Cycle, Lori Perri, Gartner, August 17, 2023: <https://www.gartner.com/en/articles/what-s-new-in-artificial-intelligence-from-the-2023-gartner-hype-cycle>

As of July 2023, innovations such as "Generative AI" and "Synthetic Data" are plotted on the Hype Cycle for Artificial Intelligence based on market interest and time to commercial maturity. Generative AI is dominating discussions on AI.

How generative AI is transforming the retail and consumer goods ecosystem

Customer Experience

01 CX workflow automation

Gartner claims that generative AI can free up 20-30% of the timeⁱⁱ of CX employees. For example, customer query response, ticket management, order processing, and query routing can be automated, focusing employees on more strategic tasks.

02 Virtual assistants for CX agents and customers

These AI-powered virtual assistants can handle customer inquiries, provide product recommendations, assist with order tracking, and offer personalized support 24/7.

03 Train & Upskill CX agents

Replacing traditional training methods with AI-assisted training can save 50% of training costs (Forrester).ⁱⁱⁱ By analyzing past customer interactions, generative AI can identify areas where agents might need additional training.

04 Customer reviews and sentiment analysis

With Large Language Models (LLM), customer reviews and feedback from various sources are analyzed. Extracting insights from unstructured data, LLM Models can perform sentiment analysis to understand customer opinions, emerging trends, and preferences.

Supply Chain and Operations

01 Conversational supply chain

As per the Aberdeen report, a lack of real-time visibility into the supply chain can cost companies up to 2% of their revenues.ⁱⁱⁱ These Gen AI-powered applications can streamline communication between suppliers, manufacturers, and retailers, allowing real-time updates on inventory levels, production status, and delivery schedules.

02 Supplier risk assessment

Generative AI can assess and predict supplier risks by analyzing financial health, delivery performance, and macroeconomic conditions. It generates risk assessments that help retailers identify potential supplier issues and make informed decisions to mitigate risks in the supply chain.

03 Automated supply chain reports

Generative AI can analyze various data sources, including inventory levels, logistics data, and production metrics. The AI can generate comprehensive reports that provide insights into supply chain performance, potential bottlenecks, and areas for improvement.

04 Fraud detection and prevention

According to a study by the National Retail Foundation, retail businesses lost an average of 1.6% of their sales in 2019.^{iv} Generative AI tools can mitigate fraud by generating alerts for suspicious activities or transactions, helping retailers proactively detect and prevent fraudulent activities, thereby protecting their revenue and reputation.

05 Assortment planning

Retailers spend an average of 12 weeks on assortment planning in a year. They can reduce the cost and effort of assortment planning by employing generative AI to analyze customer demand, inventory levels, and financial constraints.

06 Predict demand, Optimize Inventory, and Improve Logistics.

Marketing

01 AI-generated imagery/graphics/video commercials

As per Cisco's research, people worldwide watch an average of 100 minutes of video daily.^v The Gen AI algorithm creates captivating video ads, saving time and resources while producing targeted, creative content swiftly.

02 AI-generated marketing content

Leveraging Gen AI, marketers can efficiently produce various content forms like blogs, infographics, e-books, and videos.

03 AI-powered market research

Generative AI empowers marketers to automate quantitative and qualitative market research.

04 A/B testing of ads/content ideas

Generative AI improves A/B testing by automating the creation of diverse ad variants and content concepts.

05 Personalization at scale

It is possible to generate tailored offers, product recommendations, and messages, which creates a more personalized shopping experience for each customer.

Store Operations

01 In-store recommendations

As customers browse the store, AI can suggest complementary products or promotions that align with their preferences, increasing cross-selling opportunities.

02 Pricing and promotion optimization

AI can generate pricing models and promotional plans that consider various factors to maximize revenue and profitability while offering competitive prices to customers.

03 Virtual sales assistants and Virtual try-on

04 AI-generated store layouts

Research from the National Retail Federation asserts that poor store layouts cost retailers 1.5% of sales.ⁱⁱⁱ Gen AI can work with 3D visualization tools to provide a realistic rendering of proposed store layouts and help design optimal ones.

E-commerce and D2C

01 AI-generated product descriptions

AI can create descriptions using product images, catalogs, and customer reviews as input.

02 Personalized engagement

generative AI can analyze customer data, browsing history, and purchasing behavior to deliver personalized product recommendations and offers.

03 SEO-optimized content

Gen AI can optimize SEO rankings by analyzing popular keywords, trending topics, and customer search queries to create SEO-friendly marketing and website content.

04 AI-generated product images/catalogs

A Shopify study estimates that an average e-commerce firm spends 10 to 15% of its marketing budget on product photography. Now, these firms can reduce 60% of product photography costs using generative AI.ⁱⁱⁱ

05 AI-generated website layouts

06 Shopping assistants

Product and R&D

01 Product discovery

According to McKinsey, generative AI can help retail and consumer brands reduce product development costs by 20%.^{vi}

02 Synthetic data preparation

The energy drinks company “Eboost” has created “digital twins” for its customers. This was done using synthesized data generated via AI that mimics real customer behaviors and preferences.

03 Market trends analysis

Generative AI can monitor emerging market trends through social media analysis, research reports, and customer reviews.

04 Product design and packaging

Gen AI streamlines product design by automating prototype and iteration creation using diffusion models. These models can generate design, packaging, and branding variations aligned with criteria and customer preferences. This accelerates design, reduces time-to-market, and elevates product aesthetics.

05 Automated experimentation and optimization

IT and Technology

01 Automated reports and insights

04 Automated application development

02 AI-generated UI/UX design

05 AI-based documentation

03 Synthetic data generation

06 IT helpdesk automation

Finance and Risk

01 Contract analysis and generation

02 Financial reporting

03 Automated compliance

04 Earnings reports analysis

05 Financial planning and analysis

06 Automated workflows

Human Resources

01 Recruitment workflow automation

02 Employee sentiment analysis

03 AI-based evaluations

04 Gen AI content for employee branding

05 Virtual assistant for employees

06 Employee training and upskilling

Enterprise and strategy

01 Scenario modeling

02 Data and insight bots

03 Decision automation

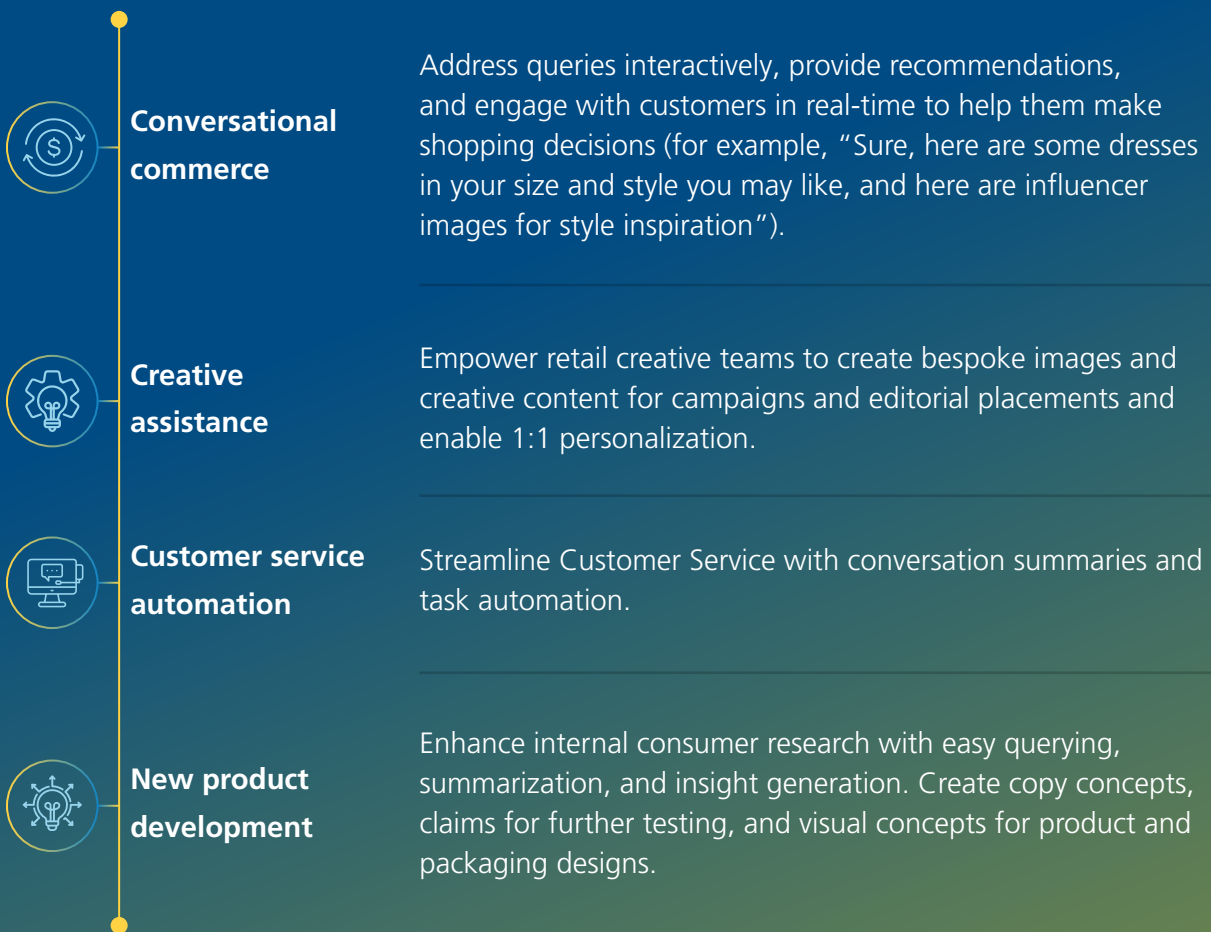
04 Strategic communications

05 Trend-spotting

Customer stories

In this section, we will present case studies of leading brands and Priority use cases in the retail and consumer goods sector leveraging generative AI for competitive advantage.

Priority use cases



Leading brands leveraging generative AI^{vii}



Challenges and considerations

While the potential of generative AI is immense, there are challenges and considerations to keep in mind:

Data privacy and confidentiality

Handling vast amounts of customer data necessitates a robust data privacy and security framework. Any sensitive, proprietary, or confidential information used in prompts may be incorporated in responses.

Unreliable Outputs (Hallucination)

The outputs can be faulty based on Gen AI's LLM's (Large Language Model) inability to understand the content or inaccurate training material.

Consumer Protection

Businesses that fail to disclose ChatGPT usage to consumers (e.g., in the form of a customer support chatbot) risk losing their customers' trust.

Regulatory Compliance

The fragmented, fast-paced AI regulatory landscape makes it challenging to keep up with potential regulations.

Cybersecurity

Bad actors can misuse LLMs to access information at scale or generate malware attacks.

Ethical Use

Responsible AI usage is crucial to avoid biases and discriminatory outcomes.

Technology Adoption

Integrating AI into existing systems and workflows can be complex and costly.

Skill Gap

Developing and maintaining AI capabilities may require a workforce with specific expertise.

Despite its promising prospects, a Microsoft survey revealed that merely 16 percent of Retail and Consumer Goods executives possess a well-defined generative AI strategy. Notable obstacles to adoption encompass talent scarcity, data quality concerns, ethical considerations, and regulatory ambiguities.

Stay ahead with Gen AI

The future of retail and consumer goods will be heavily shaped by Generative AI. Businesses that embrace this technology will have the tools to offer highly personalized experiences, streamline operations, and thrive in the digital age. We can expect even more innovative applications and use cases as AI technology advances.

The outlook is upbeat and promising, and enterprises should consider Gen AI due to the facts mentioned belowⁱⁱⁱ:

US\$ 4.4T: Impact of generative AI on the global economy owing to increased productivity by 2030.

40%: Percentage of average workday tasks that can be automated using generative AI

100M: Human employees will engage with robot colleagues daily by 2026.

60%: The amount of software development tasks will be automated by generative AI by 2026.

US\$ 660B: Economic potential that can be unlocked by retail and consumer brands through generative AI.

A McKinsey report highlights the potential of generative AI^{vi} to contribute an astounding \$13.5 trillion in additional economic activity by 2030, equivalent to 14 percent of global GDP. Among the sectors, Retail and Consumer Goods are poised to reap substantial benefits, with a potential value capture of \$2.9 trillion. Esteemed brands, including Walmart, Coca-Cola, Unilever, Nike, Adidas, and Tesco, have already embraced generative AI, focusing on key areas such as Personalization, Content Creation, Innovation, and Optimization.

Conclusion

Generative AI is ushering in a new era for the retail and consumer goods industry. It empowers businesses to connect with customers deeper, optimize operations, and respond to the rapidly evolving market landscape. As AI continues to evolve and adapt, it will be fascinating to witness how retail and consumer goods companies leverage this technology to pioneer the future of their industry.

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*This is an AI generated image.



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