

# NIQ



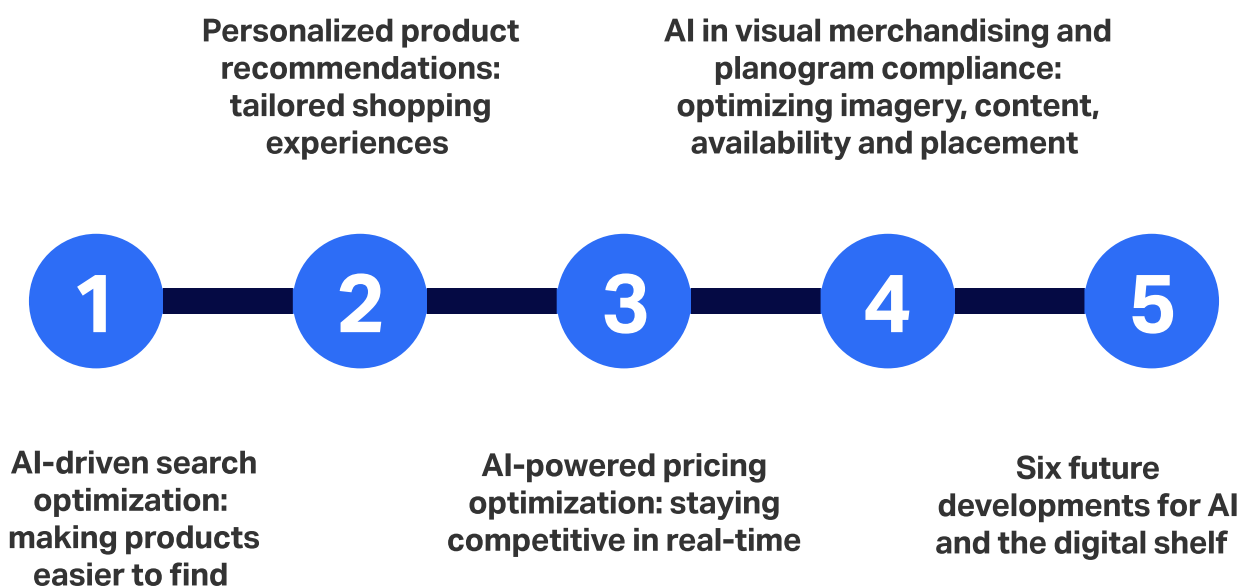
**5 applications  
of AI for the  
digital shelf.**

# Introduction

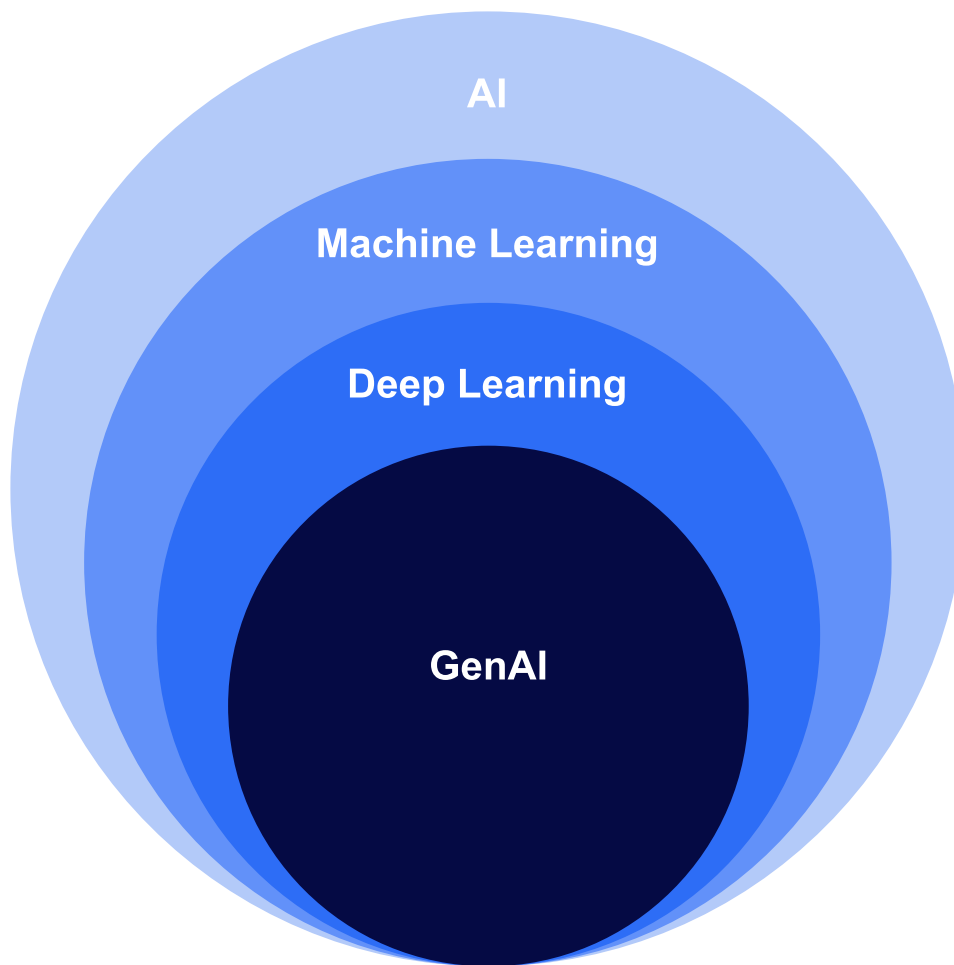
## AI and ecommerce

Thanks to AI, changes are coming in fast for ecommerce right now. **Retailers, fast-moving consumer goods (FMCG), tech & durables (T&D) and shoppers** are all affected. As in many other sectors, AI, especially generative or Gen AI, is transforming how everything from product development to their online presence is managed. Optimizing product placement, enhancing customer engagement, fine-tuning pricing strategies and identifying the digital shelf causals responsible for sales are just a few of its applications. For brand manufacturers that want to stay competitive, **AI is critical**.

In this guide, we'll explore **five ways** AI is revolutionizing the digital shelf.







## **1. AI-driven search optimization: making products easier to find.**

In the crowded arena of ecommerce platforms like Amazon, Walmart, and others, standing out from other products is an ongoing challenge. This is where AI-powered search optimization comes into play.

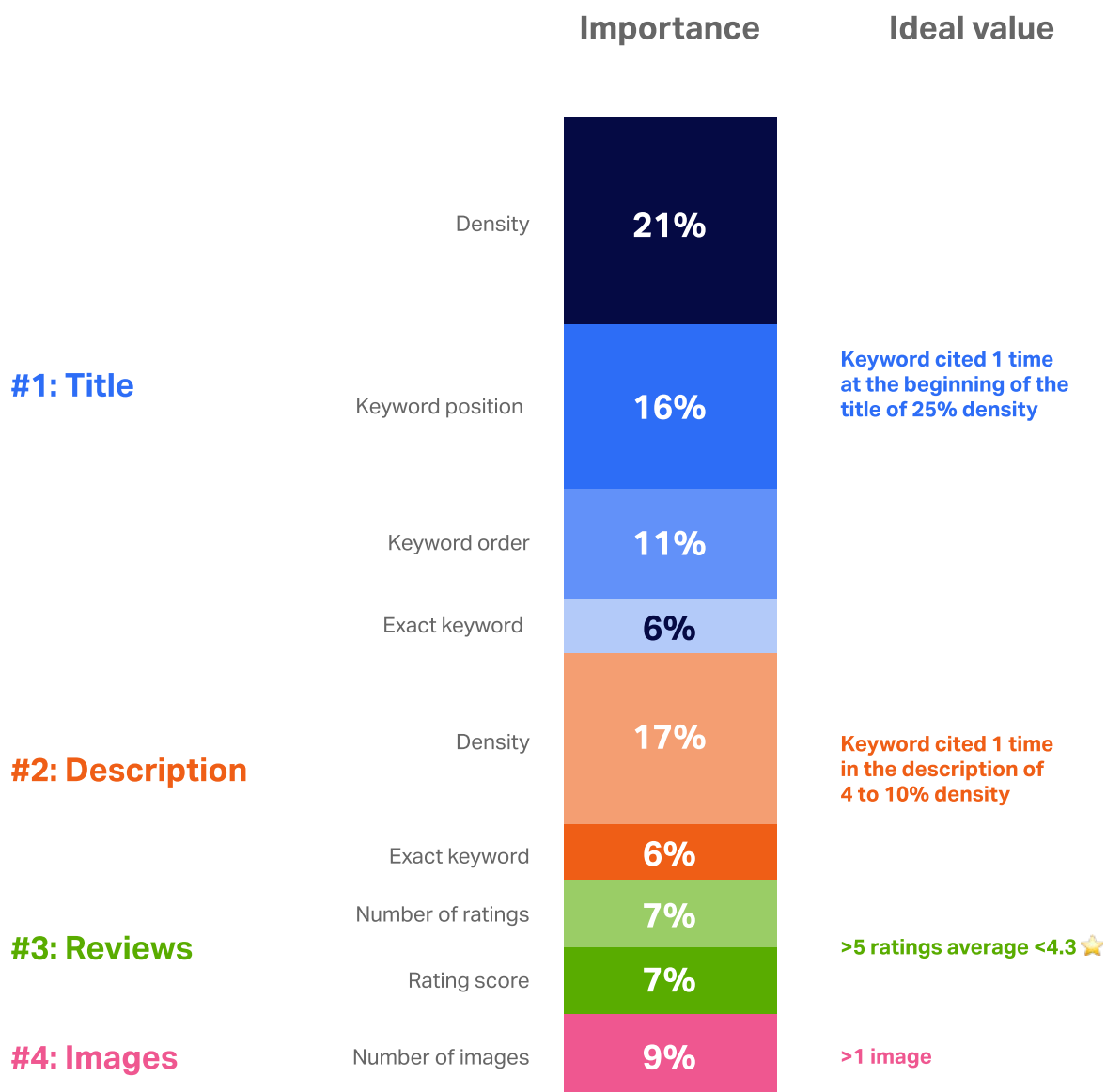
Brands are leveraging (and have been for some time if they have a good digital shelf solution provider) AI algorithms to improve search rank on major retailer platforms.

You may be wondering what power brands can exert on retailer SEO...

## AI application: decrypting retailer search algorithms

**Objective:** Define the ideal values of the product content to define brand manufacturer guidelines.

**Note:** Each retailer has a different algorithm, and the importance and ideal value vary by retailer and category depending on brand strategies.

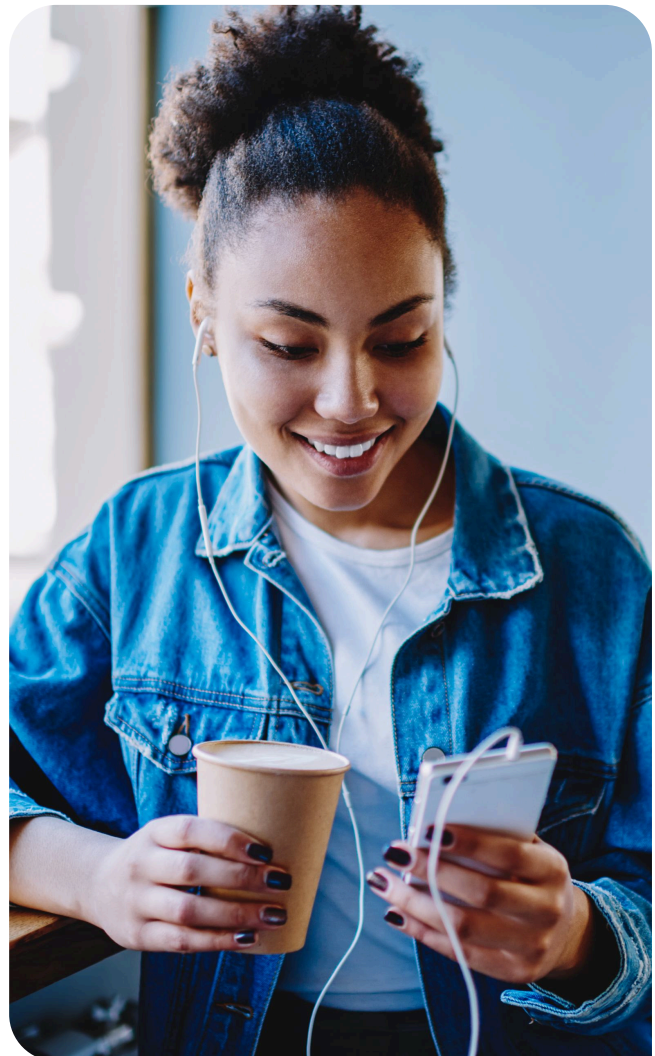


These values apply to one category at a French retailer.

Search engine algorithms use a variety of factors, such as **user behavior**, **search terms**, and even **browsing history**, to determine which products show up first. AI helps brands fine-tune their product listings by **analyzing trends**, **keywords**, **customer interactions**, and **optimizing content** for an improved rank. The result is a better search position that translates into sales.

For even better results, service providers can retro-engineer retailer algorithms, providing ideal product detail page (PDP) values, customized for **category** and **retailer**.

**AI is indispensable  
for gaming  
retailer's product  
SEO algorithms.**



## 2. Personalized product recommendations: AI agents and tailored shopping experiences.

Gone are the days of one-size-fits-all marketing. Thanks to AI, brands can offer highly personalized product recommendations based on customer behavior and preferences. By analyzing massive amounts of data—such as **browsing history, past purchases, and even social media activity**—AI can predict what products a customer is most likely to be interested in. This not only boosts sales but also enhances the customer experience by offering them products they are **genuinely interested in**.

Amazon is a leader in this space, using machine learning models such as Rufus to continuously refine and improve product recommendation algorithms. The more a customer interacts with the platform, the better the AI becomes at predicting what they'll want next. This level of personalization not only drives conversion rates but also helps build **long-term customer loyalty**.

**AI uses both on and off-site data to propose products and price points based on individual purchase history.**



AI-driven personalization isn't limited to just product recommendations; it can also help tailor **marketing campaigns, email outreach, and promotions to individual users**, making every interaction feel custom-made.

For brands, this means they can deliver the **right message** at the **right time**, maximizing engagement.

## AI applications for brands



### Analyze

- Data harmonization
- Optimize content to adapt to retailer search algorithms
- Sentiment analysis
- [Automated retail media campaign optimization](#)
- [Sales causals analysis](#)



### Estimate/predict

- Search algorithm decrypting
- Amazon sales & share
- Marketing mix modeling (performance analysis)
- Targeting
- [Out of stock forecasting](#)



### Content creation

- Identifying important keywords
- Creating product content
- Creating contextual imagery

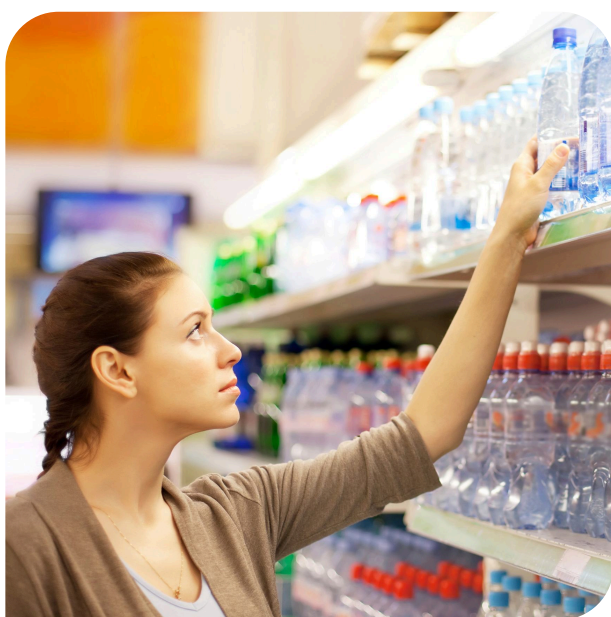


### 3. AI-powered pricing optimization: staying competitive in real-time.

Pricing is one of **the most critical factors** in influencing purchasing decisions, especially in the competitive world of FMCG. With so many options available at the click of a button, consumers can easily compare prices across different platforms. This makes it crucial for brands to have a dynamic pricing strategy that can respond to market changes in real-time.

This is where **AI-powered pricing optimization** comes in. AI algorithms can **monitor competitor prices, analyze demand, and adjust pricing accordingly**. Machine learning models can even predict when prices should be lowered to clear inventory or raised during periods of high demand. By doing so, brands can stay competitive on the digital shelf while maximizing their profits.

Platforms like Walmart and Amazon use AI to constantly adjust prices on thousands of products, ensuring they remain competitive while also driving profits. This real-time pricing flexibility is essential for brands operating in the fast-paced world of online retail, where prices can fluctuate by the hour.



**AI can recommend when to lower prices to clear inventory or match competitor pricing, and when to raise it due to traffic and demand.**

## 4. AI in visual merchandising and planogram compliance: optimizing imagery, content, availability and placement.

One of the most overlooked aspects of the digital shelf is **how products are visually presented**. Just like in physical stores, **product placement matters in online environments**. Ensuring that products are correctly displayed and that their digital "shelf" space is optimized is crucial for catching a consumer's eye and driving sales.

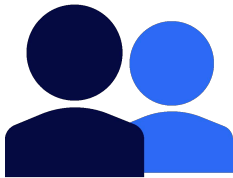
AI-powered visual recognition tools are helping brands ensure that their products are **correctly displayed across multiple online platforms**. These tools can analyze product images and descriptions to ensure they comply with the intended planogram—a **visual map used to dictate where products should be placed for maximum visibility**. For instance, if product imagery isn't optimized for mobile phones, sales suffer.

AI can track **out-of-stock items and flag issues in real-time**, ensuring that products are **always visible and ready for purchase**. This minimizes the risk of lost sales due to stock availability or improper product display, which can severely impact a brand's digital shelf performance.

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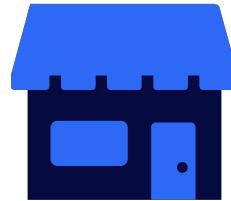


## AI for shoppers and retailers



### Shopper

- **Basket building**
  - Virtual assistant
  - Consideration of requests by type of event “I’m organizing my six-year-old daughter’s birthday” (Walmart)
  - V-commerce
  - InHome Replenishment (Walmart)
- **Budget management**
  - Product swapping anti-inflation challenge (Carrefour)
- **Product discovery**
  - Identification of product need (L’Oréal)
  - Makeup/coloring test on you (L’Oréal)
  - Targeting
- **Checkout**
  - Avoid cashing out (Amazon Go)

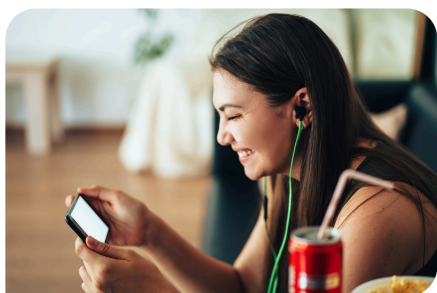


### Retailers/Distributors

- **Supply**
  - Sales forecasting (Monoprix/Verteego)
  - Delivery routing (Picnic)
- **Merchandising**
  - Automatically generate a product page: contextual image, title, description, etc. (Amazon US)
  - Personalization of the banner on the homepage by department (e.g. Auchan +2.5%)
  - Personalization of suggested products (e.g. Amazon)
- **Price**
  - Pricing optimization (Artefact)
- **Client service**
  - Analysis and response to customer reviews
- **Legal**
  - Fight against counterfeiting on the marketplace. Reports by brands have decreased by 30% since 2020 (Amazon)

## 5. Six future developments for AI & the digital shelf.

1. **Retail media networks** are growing exponentially and have transformed the traditional B2C positioning of retailers and squarely positioned them as **B2B advertising machines**. Multiple AI uses are appearing, like automatically cancelling advertising for OOS products.
2. The **metaverse** and **social commerce** will be increasingly transactional. TikTok is poised to become 5x bigger by 2030<sup>1</sup>
3. More and more omnichannel seamlessness and personalization. Omni shoppers in the U.S. average an 80:20 spend ratio for in-store versus online:<sup>2</sup> **Shopper choices will be simplified through personalization**. First party retailer data, in-store mobile offers, saved preferences and historical data enable this. In-store tech including smart carts, and smart displays will further blur the line between online and in-store.
4. **The cost of living** is expected to stay elevated for the foreseeable future. This will lead to retailers continuing to refine and improve their private label offerings.
5. **Environmental, societal and governance (ESG) standards** will become more prevalent in product labelling thanks to tech that can trace sourcing and carbon impact.
6. **Gen AI-powered virtual assistants** can analyze customer interactions and feedback to identify pain points in the buying journey, allowing brands to address these issues proactively. This data-driven approach can allow brands to improve their digital presence, product offering and customer engagement.



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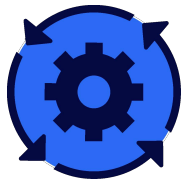
<sup>1</sup> NIQ Ultimate guide to Omnichannel. <sup>2</sup>NIQ Ultimate guide to Omnichannel.

## More AI-driven tech that leading brand manufacturers are harnessing



### Marketing

- Accelerated content development via generative AI (Gen AI) assistants
- Real-time campaign tailoring to consumer segments and demographics



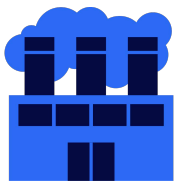
### Organizational effectiveness

- Gen AI-fueled paradigm shift in how the organization operates - less paperwork, fewer PowerPoint presentations, less email



### Digital back office

- Gen AI for all work that involves aggregation, synthesis, and recommendation.



### Manufacturing

- Gen AI assist-bot to manage maintenance
- Identification of defects and anomalies from images



### Omni-fulfillment logistics

- Gen AI-enhanced digital twins to re-simulate distribution network
- Continuous analysis of transportation contracts for performance and risks

# Conclusion

## AI is the future of the digital shelf

AI is playing a **pivotal role** in shaping the future of the digital shelf for brands. By embracing AI-driven technologies quickly, brands can ensure that their products not only stand out but are also **perfectly positioned** to meet the needs of **today's tech-savvy shoppers**.



***New applications for AI on the digital shelf are emerging constantly.***