🛛 akeneo

The Next Chapter of Commerce

How AI is Reshaping Shopping, Search, and Customer Experiences

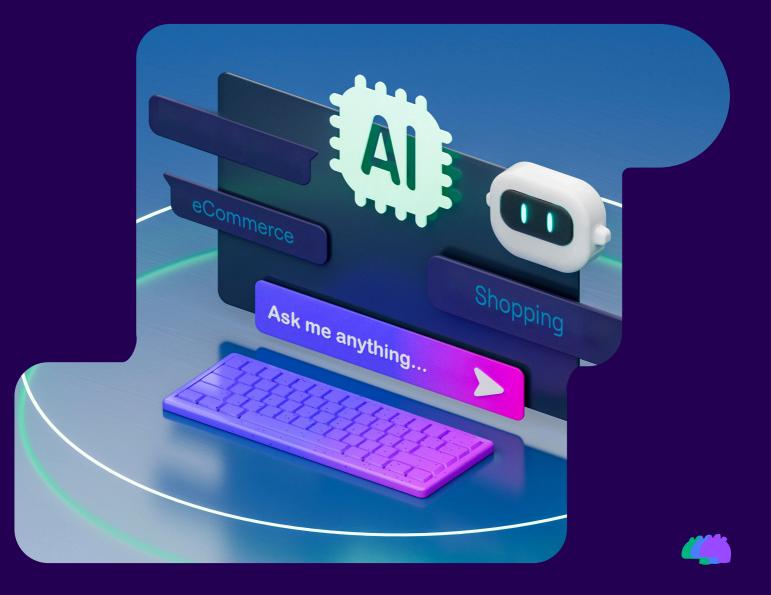


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Introduction

If you've been trying to keep up with Artificial Intelligence (AI) news over the past few years, you'll know it's a bit like trying to chase a speeding train; just when you think you're catching up, another breakthrough accelerates the pace, leaving you scrambling in the dust to figure out what's happening.

From generative AI creating hyperpersonalized content to intent-based search revolutionizing the way consumers discover products, it's no longer a hyperbole to say that **AI is redefining the rules of eCommerce.**

And while some businesses are still debating whether AI is a passing trend or a long-term game changer, many forward-thinking brands are already leveraging its power to **enhance product experiences, streamline operations, and drive deeper customer engagement.**

But here's the catch: **Al is no magic** wand, and is only as effective as the data fueling it.

Without **structured**, **enriched**, **and wellgoverned product information**, even the most advanced AI models will fall short, delivering inaccurate recommendations, poor search results, and frustrating shopping experiences.



The good news is that you don't have to keep chasing that AI train when you're the one in the conductor's seat. With the right approach, businesses can take control, steering AI to enhance product discovery, personalize experiences, and unlock new opportunities for growth.

In this eBook, we'll be exploring the real-world applications of AI in eCommerce and the essential role of high-quality product information in making it work. Whether you're looking to **improve search accuracy, boost personalization, or optimize product discovery,** we'll help you navigate the age of AI with a clear, actionable strategy.

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The brands that will thrive in this new era aren't the ones trying to replace human expertise with AI, but the ones using AI to enhance product discovery, personalize interactions, and build deeper, more meaningful customer relationships. It's not always about automating every little thing – it's about using technology to make shopping smarter, smoother, and more engaging.

Romain Fouache CEO, Akeneo

Key Takeaways



Al is revolutionizing commerce: Al is transforming how customers search, discover, and purchase products, moving beyond traditional keyword-based methods.



Intent-based search is the future: Al enables search engines to understand the underlying intent behind customer queries, delivering more relevant and personalized results.



Data quality is crucial: Al's effectiveness hinges on clean, structured, and consistent product data. Inconsistent data leads to inaccurate results and poor customer experiences.



Close the feedback loop: Al can analyze customer feedback, reviews, and behavior to identify trends and preferences, allowing businesses to adapt and optimize their offerings.



Invest in the right technology: Creating the right foundation of product information with the right amalgamation of tools is the key to remaining scalable and agile, ready to embrace and incorporate emerging technologies as they come.



Data governance is essential: Establish clear policies and procedures for managing product data to ensure ongoing quality and consistency.



Train your teams: Educate all stakeholders on the importance of data quality and consistency, and hold regular training sessions and audits on how to maintain it. Everyone plays a role in ensuring Al success.



Al enhances, not replaces: Al should be seen as a tool to enhance human capabilities, not a replacement for them. Human oversight and expertise remain essential.

Key Terms

Artificial Intelligence (AI)

Refers to the development of computer systems that can perform tasks that typically require human intelligence. These tasks include problem-solving, learning, understanding natural language, and even recognizing patterns. Al systems are designed to simulate human cognitive functions, making them incredibly versatile.

eCommerce

The buying and selling of goods and services over the internet, encompassing a wide range of online transactions like retail shopping, business-to-business (B2B) sales, digital products, and social sales channels. eCommerce platforms enable businesses and consumers to connect across global markets.

Generative AI (GenAI)

A subset of AI that focuses on creating new content or data, often in the form of images, text, or audio. It uses techniques such as generative adversarial networks (GANs) and reinforcement learning to produce creative outputs. A prominent real-life example of generative AI is in the field of art and content generation; genAI can create artwork, compose music, or even write articles.

Intent-Based Search

Refers to the practice of understanding and optimizing for the underlying purpose or goal behind a user's search query, rather than just focusing on keywords through the use of advanced algorithms, AI, and natural language processing (NLP). By analyzing user behavior, context, and query patterns, intent-based search delivers more relevant and personalized results, which improves visibility, engagement, and conversion rates.

Natural Language Processing (NLP)

A field of artificial intelligence that combines linguistics, machine learning, and computational techniques to process text and speech, allowing machines to analyze sentiment, translate languages, recognize speech, summarize documents, and interact with users conversationally. NLP relies on algorithms and models, including deep learning and statistical methods, to extract meaning from language, handling complexities such as grammar, ambiguity, and context. Its applications range from chatbots and virtual assistants to search engines and automated text analysis.

Search Engine Optimization (SEO)

The process of optimizing online content to improve visibility and ranking on search engine results pages (SERPs). It involves a combination of technical strategies, content creation, and link-building techniques to enhance relevance and authority in search engines like Google. Key aspects of SEO include keyword research, onpage optimization (such as meta tags and content structure), off-page SEO (backlinks and social signals), and technical SEO (site speed, mobile-friendliness, and crawlability). By improving search rankings, SEO helps drive organic traffic, increase brand awareness, and boost conversions, making it an essential component of digital marketing.

Learn more in the Akeneo Glossary.

Static Search, Stagnant Results: Where SEO Falls Short

Traditional SEO strategies have historically focused on optimizing content around specific keywords and phrases. But that strategy assumes customers search in a predictable, one-size-fits-all way.

In reality, search behavior is far more complex. **People don't just type in static keywords; they ask questions, use conversational phrases, and phrase things differently depending on their intent, location, or even mood.** If your content is stuck chasing exact matches instead of understanding the bigger picture, you're missing out on opportunities to show up for the searches that actually matter.

Another big issue? **Traditional SEO often oversimplifies search intent.** It lumps users into broad categories rather than recognizing that someone casually researching a product and someone ready to buy might use very different wording.

Yet outdated SEO strategies treat them the same; or worse, force marketers to play a guessing game as to what customers really mean when they search.

And let's not forget how fast search behavior changes. Sticking to a rigid set of keywords means you're optimizing for yesterday's searches instead of adapting to what people are looking for today and tomorrow. **Businesses that cling to rigid keyword strategies may find themselves losing visibility to competitors who embrace more dynamic, Al-driven, and conversational approaches to content discovery.**



Disconnected Data Creates Fragmented Shopping Experiences

The pandemic brought about the 'eCommerce boom', but as consumers return to in-person shopping, many retailers are struggling to connect the dots between online and in-person experiences. **Customers expect seamless shopping,** whether they're browsing on a website, checking an app, or standing in a store aisle.

But for many businesses, that's easier said than done; **data silos, outdated systems, and the challenge of keeping product information in sync across multiple channels often lead to frustrating inconsistencies and costly inefficiencies;** it was found that poor data quality and data silos leads to an <u>average</u> **annual cost of \$12.9 million.** And with <u>84% of retail executives</u> saying they struggle with data silos, this is a problem itself is not siloed, no pun intended.

Personalization takes a hit in a disconnected omnichannel world, too. A shopper who explores a product category online might get recommendations based only on that session without factoring in their past purchases, instore visits, or engagement across other touchpoints. **This kind of siloed personalization leads to repetitive, irrelevant suggestions instead of a truly customized experience.**

Then there's user-generated content—one of the most overlooked gold mines for understanding what customers really think.

If a sneaker is designed for marathon runners but ends up being a top choice for nurses on their feet all day, brands that aren't paying attention to real feedback could miss an entire market. Customer insights from reviews, social media, and community discussions are essential for creating more relevant, engaging, and successful products.

Businesses that tap into this wealth of data can build stronger connections with their customers, while those who ignore it risk being left behind.



Turn Customer Sentiment Into Action

Centralize real customer feedback into a single source of truth, and analyze those insights for opportunities to tailor product information to more closely align with the way buyers think about products.

Learn More

The Age of Al Has Arrived

As we discussed earlier, traditional search engines rely on exact keyword matches to surface relevant products. If a customer searches for "*best trail running shoes for wet conditions*" they'll get a broad list of options that are tagged directly with the keywords 'trail', 'running', and 'shoe', often requiring them to refine their search multiple times before finding the perfect fit when running gels and trail equipment also show up.

But Al is rewriting the rules by enabling intent-based search, which interprets the nuances of what a shopper is really looking for.

Al-powered search engines analyze the full context of a query, taking into account factors like past purchase behavior, browsing history, and even seasonal trends. For our customer searching for *"best trail running shoes for wet conditions"*, the Al-powered search engine will analyze thousands of customer reviews to find the trail running shoe with the most reviews of being waterproof, checking the most frequently purchased sneaker in areas where muddy trail running is popular, and cross-referencing return rates after a particularly rainy season to populate the most relevant products possible. Instead of simply matching specific keywords, Al offers the ability to better understand the intent behind the search, surfacing the most relevant results rather than generic products that contain a single word from the original search.

Companies that leverage AI-driven capabilities like this are already seeing results: businesses using AI are experiencing <u>an average revenue</u> <u>increase of 10-12%</u>, with the technology expected to boost profitability by 59% by 2035. With AI-powered search refining the shopping experience, **companies stand to gain not only happier customers but also significant business growth.**

Al-driven search is changing the game, but it won't completely replace traditional search overnight. Long-time users may stick to what they know out of habit, while newer generations will embrace AI for its speed, accuracy, and intuitive experience. Over time, Al-powered search will become the dominant way people discover products, but traditional search won't vanish entirely; it will coexist for a while, but as AI proves to be the smarter, more seamless way to find exactly what you need, we'll start to see that shift really take hold.

Max Baudry Director of Engineering, Core Al Akeneo

Closing the Customer Feedback Loop

Another one of Al's biggest advantages is its ability to **analyze massive amounts of realworld customer data,** including reviews, product Q&A, and support tickets, to learn how consumers naturally express their needs, **eliminating much of the guesswork that brands and retailers traditionally relied on when optimizing for search.**

Instead of merely predicting which keywords might perform well, businesses can tap into Al's insights to **ensure product information aligns with the way real customers talk about their needs.**

A furniture retailer might describe a sofa as having a "firm cushion," but customer reviews frequently mention it as "supportive" or "good for back pain." Al can detect these patterns and adjust product descriptions, filters, and search terms accordingly, ensuring that when shoppers search for a "supportive couch" or "sofa for back pain," they find the right product even if those exact phrases weren't originally included in the listing.

This is also particularly helpful when it comes to **data enrichment based on real-time trends, customer intent, and market shifts.** Al can continuously **integrate insights from customer feedback, purchasing behavior, and competitive analysis** to ensure product listings remain accurate, compelling, and aligned with what shoppers are looking for. Say a retailer launches a new fitness tracker and at first, product descriptions highlight standard features like heart rate monitoring and step tracking. But as AI processes customer feedback, it recognizes a growing trend; users are raving about the tracker's ability to monitor sleep quality.

So how does the retailer capitalize on this? By utilizing AI to adjust the product description and highlight sleep-tracking features in search filters, ensuring that this fitness tracker now gets recommended to customers browsing for sleep-related wellness products.

For retailers and brands, the implications are huge. **Instead of relying on static product tags and manual optimizations, businesses can leverage AI to continuously refine product discoverability based on evolving trends, customer behaviors, and even emerging micro-seasons.** This is not only conducive to improving conversion rates, but also helps to enhance customer satisfaction as shoppers are no longer left guessing or frustrated by irrelevant results.

The mindset for many businesses in the past few years has been 'sell as much as possible everywhere possible", but the tides are turning. Now, it's all about selling the right products to the right customer at the right time, and AI bridges that gap between guessing what customers want and knowing with confidence, turning intent into action and maximizing conversion opportunities.

Romain Fouache CEO, Akeneo

How AI is Disrupting the Shopping Experience Today: 4 Case Studies

Think this future of an Al-powered search experience is far off? **Think again.**

From intent-based search engines that eliminate the need to sift through endless product listings to Al-powered virtual assistants that offer personalized recommendations in real time, the way that AI can impact the customer experience is no longer speculation but a reality across many industries.

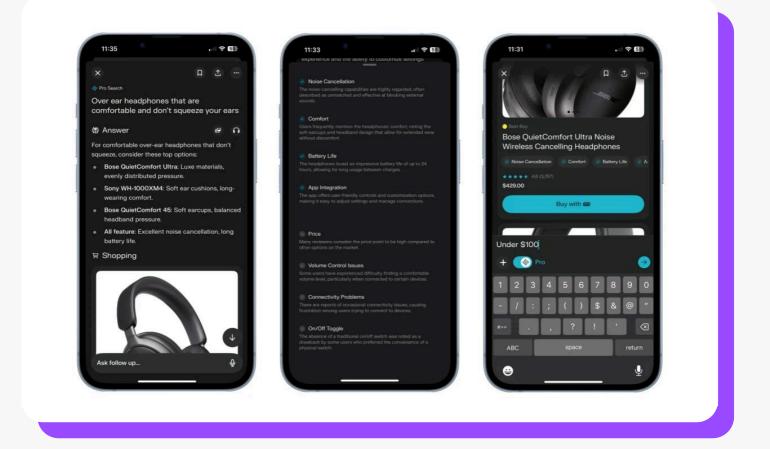
Let's take a look at a few real-life examples of how **forward-thinking businesses are utilizing AI technology** to set new standards for the customer journey.



Perplexity 'Shop Like a Pro': Intent-Based Search & Discovery

In November 2024, AI-powered search engine Perplexity introduced "<u>Shop Like a Pro</u>," a feature that allows users to search for products, receive tailored recommendations, and make purchases directly within the platform. This integration offers a seamless shopping experience by combining product discovery, personalized suggestions, and a streamlined checkout process all in one place.

By analyzing user queries, preferences, and behaviors, **Perplexity delivers personalized product recommendations in a conversational format.** Product cards with key details provide shoppers with all the necessary information at a glance, and the "Buy with Pro" feature enables users to finalize their purchase instantly, eliminating the need to navigate multiple websites.



Perplexity's 'Shop Like a Pro' signals a major shift toward **intent-based search and zero-click purchasing.** Instead of requiring consumers to sift through search results and visit different retailers' sites, Perplexity refines the process, ensuring that shoppers can find and purchase within a single, intuitive interaction. As Al-driven tools like this continue to evolve, consumer expectations for fast, intelligent, and hyper-relevant shopping experiences will become the norm.



Sephora: Virtual Assistance & Experiences

The beauty and skincare retail giant Sephora has been at the forefront of integrating AI and AR into the shopping experience for a while now, offering customers innovative tools that enhance personalization and convenience.

One of Sephora's notable innovations is the Sephora Virtual Artist, developed in collaboration with ModiFace, which allows users to virtually try on thousands of lip shades through their mobile app. By utilizing facial recognition technology, the app accurately maps facial features, enabling users to see how different products would look on them without physical application. Within two years of its launch, the Virtual Artist <u>recorded over 200</u> <u>million shade trials and attracted more than 8.5</u> <u>million visits</u>.



Building upon this, Sephora introduced <u>Color</u> <u>Match</u>, an extension of the Virtual Artist. This feature assists customers in shade matching by analyzing images to find corresponding lipstick colors from Sephora's extensive product range.

Users can upload a photo, and the AI identifies prominent colors, providing a list of matching lipsticks that can be virtually tried on and purchased directly through the app.

In addition to these virtual experiences, Sephora also **leveraged AI to improve SEO and customer outreach.** The company noticed an increase in consumers conducting in-depth product searches and strategically used AI to create landing pages tailored to specific queries, such as "*best foundation for sensitive skin*."

These AI-driven pages provided highly relevant and personalized content to potential customers, resulting in a <u>6% increase in organic</u> <u>search visibility</u>.

Sephora's AI-driven innovations demonstrate how **technology can transform the mainstream shopping experience by making it more personalized, seamless, and engaging.**

These advancements not only **improve convenience for shoppers but also drive higher engagement and conversions** for the brand.

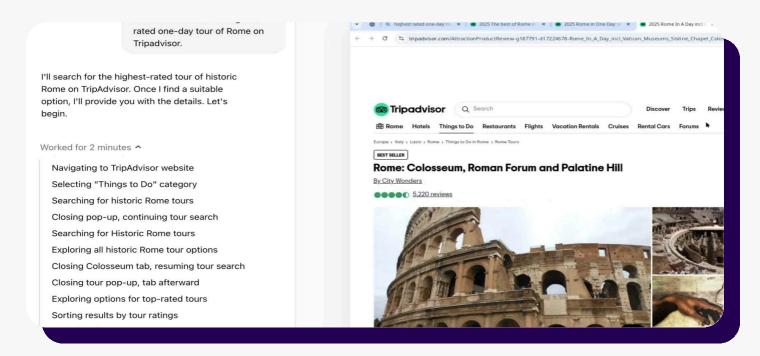
As consumer expectations continue to evolve, Sephora's approach highlights the growing need for businesses to embrace this technology rather than shy away from it in order to stay competitive, create more meaningful customer connections, and deliver **an intuitive, datadriven shopping experience.**

OpenAl's Operator: Independent Al Shopping Agents

OpenAl, the organization behind ChatGPT, has recently unveiled <u>Operator</u>, an Al agent designed to autonomously perform a myriad of web-based tasks, such as filling out forms, ordering groceries, booking travel, and even creating memes.

Users simply describe the task they want to be completed, and Operator executes it within its own browser environment. At any point, users can take over control, especially for actions requiring sensitive information like login credentials or payment details.

Customization is a key feature of the autonomous AI agent. Users can add custom instructions for specific websites or tasks, such as setting preferences for certain airlines when booking flights or specify particular grocery items to reorder regularly. Additionally, Operator allows for multitasking by running multiple tasks simultaneously in separate conversations, akin to using multiple tabs in a web browser.



While Operator is still in its infancy and may encounter challenges with complex web interfaces, we can expect it to become more adept and versatile as the technology evolves, and it's important to understand that **the rise of autonomous AI shopping agents like Operator is fundamentally reshaping how businesses list and optimize their products for online discovery.**

Unlike human shoppers, these AI agents rely on **structured, machine-readable data to extract key product attributes, compare options, and make recommendations,** which means that ensuring clear, standardized, and complete product data will be more crucial than ever before. The brands that fail to adapt risk being filtered out by AI shopping assistants, missing out on a growing segment of automated purchasing.

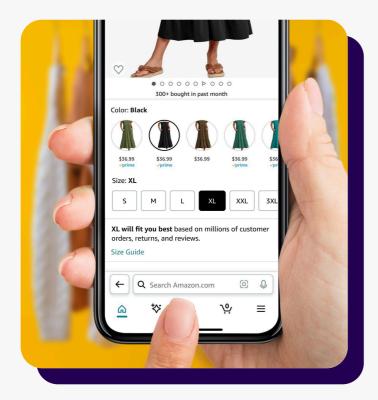
Amazon's Rufus: Personal Amazon Shopping Assistant

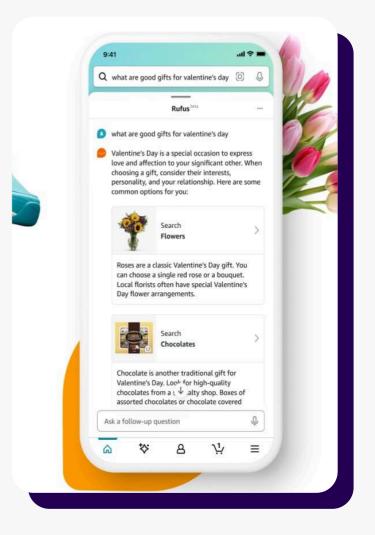
Ever wanted your own personal Amazon shopping assistant? Well, now you've got one. And no, it's not Alexa.

Trained on Amazon's vast product catalog and supplemented with information from across the web, <u>**Rufus</u>** acts as an intelligent shopping assistant that provides **real-time answers, product comparisons, and tailored recommendations.**</u>

Rufus allows consumers to interact conversationally, asking broad research questions like "what to consider when buying running shoes?" or more specific queries such as "is this cordless drill easy to hold?".

By integrating AI-powered assistance directly into the Amazon shopping experience, **Rufus reduces friction in the buying journey.**





Beyond improving the customer experience, Amazon is already using genAl to help brands create **more engaging and informative product listings by enhancing titles and descriptions to better capture consumer interest and improve discoverability.**

They also recently introduced the **Fit Review Highlights feature**, which offers personalized size guidance and insights so customers can determine which size will fit them best. When you have **58% of consumers** said that sizing was the #1 reason for a product return, you can't help but see how an AI-powered feature like this can help **boost conversion rates and reduce return rates**.

The Formula for Al Success: Clean, Structured Data

The reality is that **AI doesn't create accurate insights or flawless automation on its own.** It needs a solid foundation of clean, structured data to operate effectively. Without it, businesses risk AI making decisions based on misinformation, leading to poor product discoverability, inconsistent shopping experiences, and ultimately, lost sales.

In fact, <u>around 40% of users</u> report encountering data inaccuracies, hallucinations, or biases in Al outputs, with <u>businesses experiencing</u> <u>inaccuracies 50% of the time</u> when utilizing large language models. But that's not the fault of the algorithm (usually); it's in the unstructured, unreliable data that the algorithm was fed.

Al thrives on patterns, but if your data is messy, those patterns become unreliable. A product listed as "*navy*" in one system, "*dark blue*" in another, and "#000080" in yet another may seem like small inconsistencies, but to Al, they're entirely different data points.

Structured, well-organized data ensures that AI can:

- Recognize and group similar products, helping customers find what they're looking for faster
- Provide accurate, personalized results, ensuring customers see the right products at the right time
- Power smarter automation, from dynamic pricing to inventory forecasting
- Enhance search and discovery, as the technology can only surface relevant products if attributes, metadata, and descriptions are consistent and well-defined

That inconsistency can lead to faulty product recommendations, inaccurate filters, or even misclassification in search results.

It's important to note here the silent elephant in the room: **data doesn't clean or organize itself.**

Clear governance policies are required to ensure product information remains consistent, accurate, and up to date, and that means defining standards for how data is collected, structured, and maintained over time. A strong data governance strategy starts with **data ownership clarity,** ensuring that specific teams or individuals are responsible for maintaining accurate product information.

While IT teams typically manage the technical infrastructure that supports AI, business teams like marketing, eCommerce, and merchandising are responsible for entering and maintaining product information daily. **If these teams operate in silos, misalignment can occur, leading to AI models trained on outdated, inconsistent, or incomplete data.**

To bridge this gap, **business teams need to** recognize the impact poor data quality has on Al performance and commit to maintaining high standards in data entry and updates. And IT teams need to provide the necessary tools and automation to help enforce data governance without adding unnecessary complexity to business workflows. Once stakeholders are identified, it's time to establish clear rules for how product attributes like size, color, and material are formatted and labeled to ensure AI can accurately interpret and utilize the data, and regular data audits help catch errors, duplicates, and missing information before they can drastically impact processes.

And finally, one last reminder that robots aren't completely taking over our jobs; while AI can assist in flagging data issues, automation should always be paired with human oversight. Al can process vast amounts of information quickly, but human expertise is essential to refine and validate product details, ensuring accuracy and relevance.

Al is only as powerful as the data behind it. No matter how advanced an Al model is, it can't deliver accurate recommendations, relevant search results, or seamless shopping experiences if it's working with messy, incomplete, or inconsistent product information. But when your product data is clean, structured, and well-managed, AI can help customers find exactly what they need, when they need it.

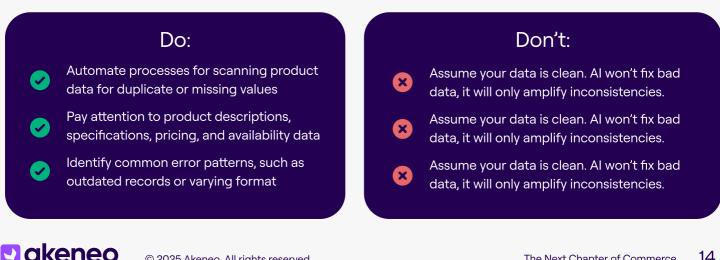
Max Baudry Director of Engineering, Core Al Akeneo

5 Steps to Ensure Product Data is Al-Ready

So we've acknowledged the importance of clean data. But what are some actionable steps you can take to ensure that your data is structured, standardized, and governed effectively? Here are five essential steps to help ensure that your data is ready to act as a foundation for AI success.

Audit existing data to identify inconsistencies

Before implementing any AI-driven strategies, businesses need to take a long, hard look at the data they already have. This means conducting a thorough audit to identify any inconsistencies, errors, or gaps in product information, checking for duplicate entries, incomplete data fields, outdated information, and variations in data formats.



Standardize product attributes and metadata

To enable AI to effectively process and understand product data, it needs to be organized and structured in a consistent way. This means standardizing product attributes (e.g., color, size, material) and metadata (e.g., product category, brand, SKU). By establishing clear guidelines for how product information is captured and stored, businesses can ensure that AI algorithms can easily access and interpret the data.



Create a single source of truth for product information

In many organizations, product information is scattered across multiple systems and departments. This can lead to data silos, inconsistencies, and inefficiencies. To overcome this challenge, businesses should aim to create a single source of truth for product information—a centralized repository where all product data is stored and managed.



Train all teams on the importance data governance

Maintaining clean data is everyone's responsibility. Businesses should provide training to all employees who handle product information, emphasizing the importance of data quality and the impact it has on Al-driven initiatives. By fostering a data-centric culture, businesses can ensure that everyone understands their role in maintaining accurate and reliable product data.

Do:

- Develop training programs for employees who interact with product data, including marketing, sales, and service teams
- Provide hands-on workshops and guidelines on best practices for data entry
- Recognize and reward employees who maintain high data quality standards

Don't:



Assume only IT or data teams need to worry about data quality - it's everyone's responsibility!

Neglect to provide ongoing education. Data governance and standards evolve over time.

Ignore employee feedback - those entering data will spot gaps in governance policies.

Implement governance policies to ensure ongoing quality

Maintaining high-quality product data is an ongoing process, not a one-time task. This is why businesses need to implement data governance policies that define roles, responsibilities, and procedures for managing product information. Data governance ensures that data remains accurate, complete, and up-to-date over time.

Do:

- Establish clear ownership and accountability for product data
- Implement automated quality checks to flag inconsistencies before they cause issues
- Monitor key data quality metrics regularly to track completeness and accuracy



The brands that will thrive in this new era aren't the ones trying to replace human expertise with AI, but the ones using AI to enhance product discovery, personalize interactions, and build deeper, more meaningful customer relationships. It's not always about automating every little thing - it's about using technology to make shopping smarter, smoother, and more engaging.

Romain Fouache, CEO, Akeneo

Conclusion

The Next Chapter of Commerce

The age of Al-driven commerce is here. The way customers engage with brands across the entire customer journey is fundamentally changing.

Businesses that strategically embrace AI, especially through the implementation of intent-based search and dynamic personalization, stand to gain significant advantages in customer engagement, satisfaction, and overall profitability. But this transformation does not happen overnight, and requires a shift in focus to emphasize the importance of understanding customer needs and leveraging technology to create more meaningful and relevant shopping experiences.

While AI is still evolving and shows no signs of slowing down, businesses that build a strong foundation of high-quality data and adaptable technology will be ready to navigate whatever comes next. The key is not just adopting AI for the sake of innovation but ensuring that it is fueled by accurate, enriched product information and aligned with a customer-first strategy.

By prioritizing data integrity, creating a strong foundation of scalable technology, and continuously refining customer experiences based on real customer insights and intent, brands can not only f**utureproof their operations but also create the ultimate tailored, personalized customer experience at scale.** After all, AI is only as smart as the strategy and data behind it.

2025

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About Akeneo

Akeneo is the product experience (PX) company and global leader in Product Information Management (PIM). Leading brands, manufacturers, distributors, and retailers, including Chico's, CarParts.com, TaylorMade Golf, Rail Europe, Kering, and more trust Akeneo to scale their commerce initiatives. Using Akeneo's intelligent Product Cloud, companies can create elevated product experiences with user-friendly and Al-powered product data enrichment, management, syndication, and supplier data onboarding, and an app marketplace and partner network to meet business and buyer needs.

For more information: https://www.akeneo.com



