Artificial Intelligence Driven E-Catalogues

The Consumer Goods FORUM

End-to-End Value Chain

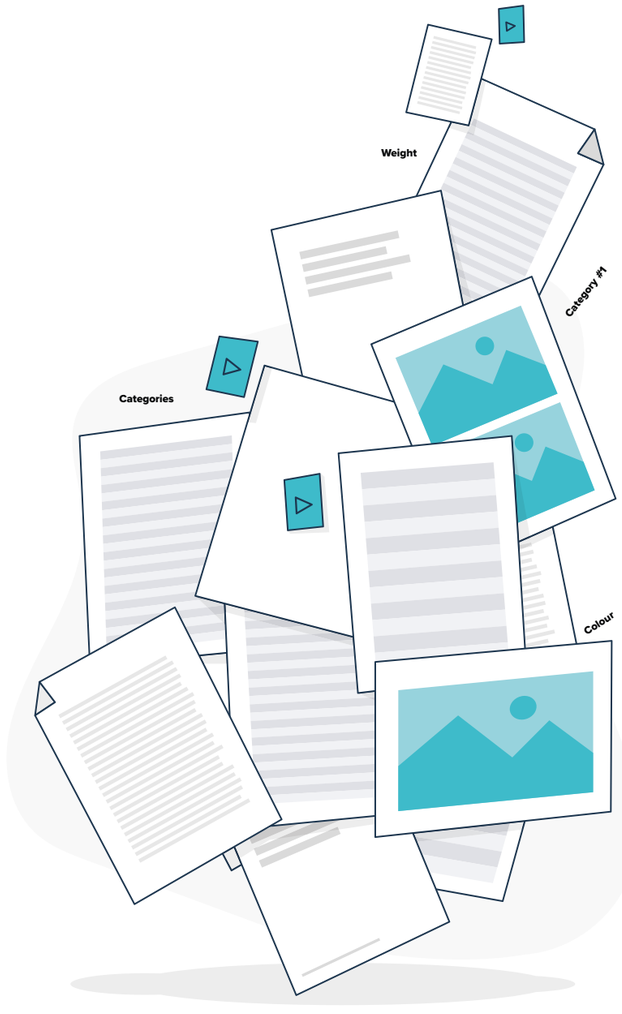
icecreamlabs

Why is Catalogue Product Data Important?

Retailers struggle when assembling the ecommerce product content provided by manufacturers.

Likewise, manufacturers struggle to publish and syndicate new product content through their various sales channels. Retailers often impose specific requirements for the content that they publish in their product catalogues.

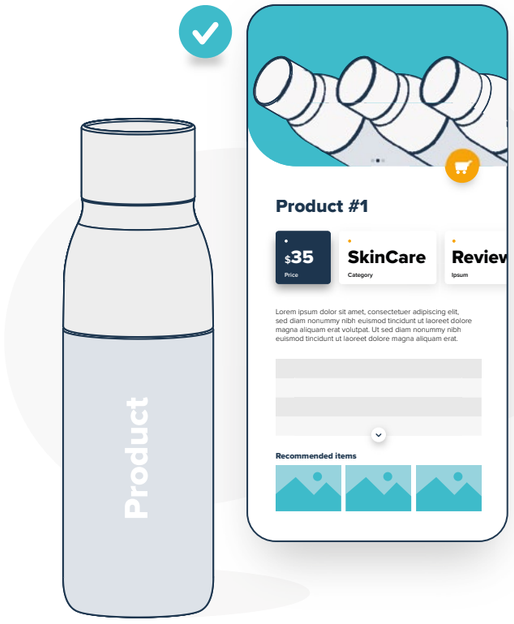
Manufacturers and retailers alike, want to deliver product content to consumers that effectively communicates the product value while optimising product search and broadening selection within the retailers catalogue.

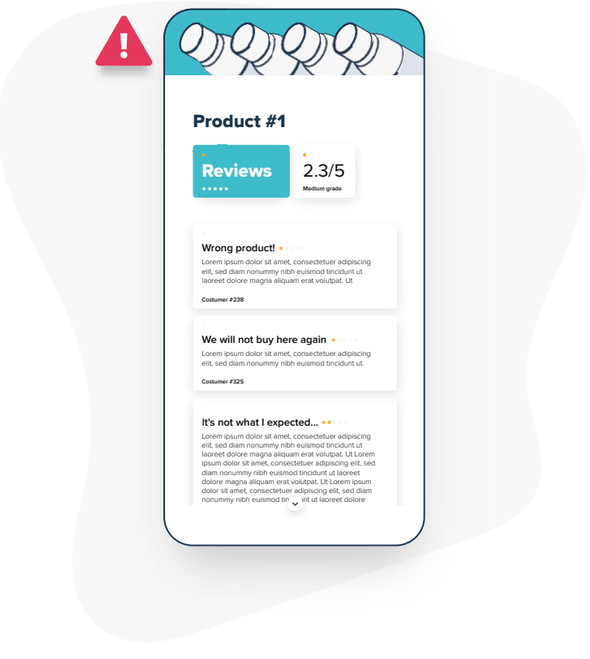


To support semantic search algorithms, retailers require detailed product content which includes product-specific attributes. This requirement complicates the product data creation process. When the product data provided by manufacturers is inconsistent or missing key information, it impacts the entire supply chain.

Incorrect or incomplete product information can result in a customer ordering the wrong product. Order and shipment errors cost the customer, the retailer, the wholesaler and the manufacturer. It impacts customer satisfaction, inventory predictions, restocking processes and leads to lower profitability for the retailer. Returned inventory backs up the supply chain all the way back to the manufacturer.

Retailers must realise that product content errors not only impact individual transactions, but also the perception that customers have about both the retailer and the manufacturer.





Challenges of E-Commerce Catalogue Management

Retailers rely on manufacturers to provide all the coordinating images, videos, attributes, etc. for each of their products. Manufacturers use various methods to assemble and distribute this product content, including everything from a spreadsheet or a PDF document to a JSON file or even an API to their product information manager. This puts the responsibility on the retailer to assemble and reconcile new product data with their existing ecommerce catalogue format.

Third party data providers and online databases of product data also exist to help fill the gaps in product information. However, this also introduces additional opportunities for erroneous content and hampers the new product validation process.

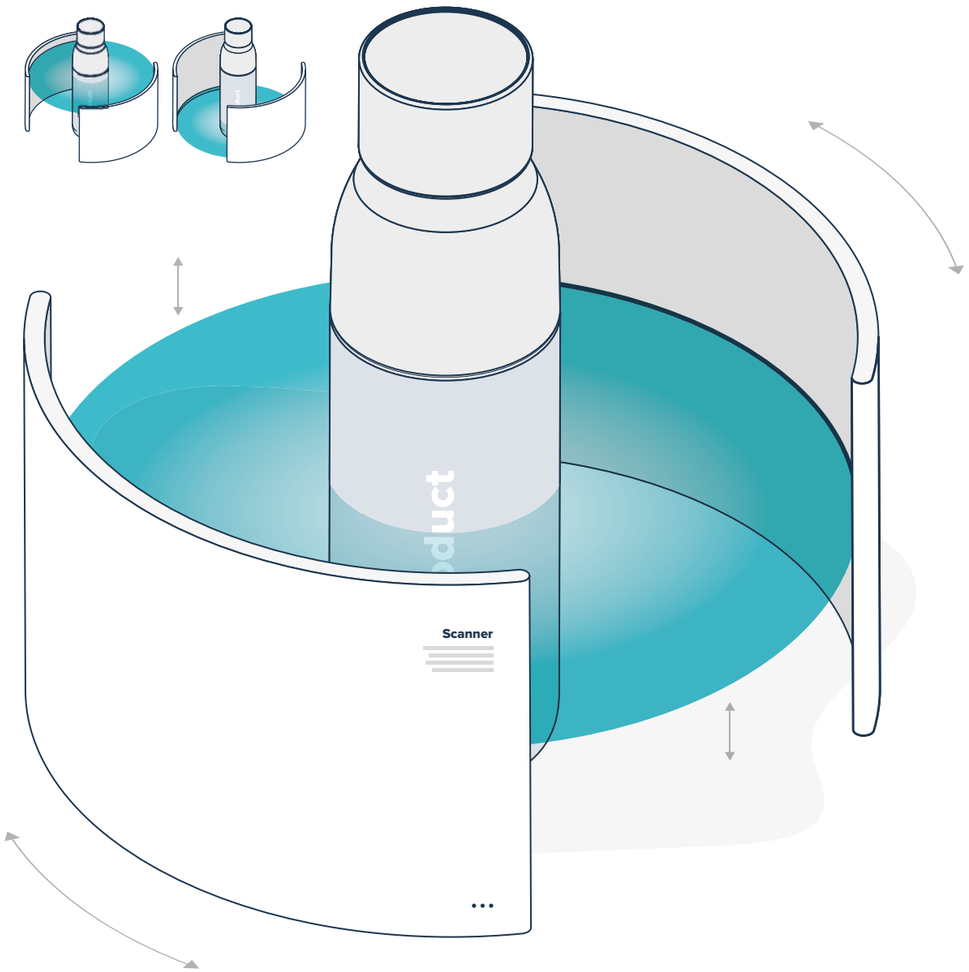
Besides the price of a product, detailed product information and superior quality-images and videos play an important role in a consumer's buying decision online. An online consumer does not have the opportunity to handle a product directly, as they would in-store. However, the physical product packaging has been meticulously designed to provide all of the information necessary for a consumer to make their decision.

Generating the digital content for a product description page is currently a manual process. Human copyrighters review product packaging and/or product images and then generate the content for the digital product record going into an online product catalogue.

However, the technology to augment these human copywriters and automate the content extraction process is quickly evolving such that it is now possible to use machine vision and artificial intelligence (AI) to understand the words on a product package. From this understanding, it is then possible to generate the attributes for a digital product record of the item.

There are numerous technological challenges while extracting content from the product images - including package label design, region segmentation, typography and fonts, lighting conditions, and low-quality images.

What is Intelligent E-Commerce Catalogue Management?

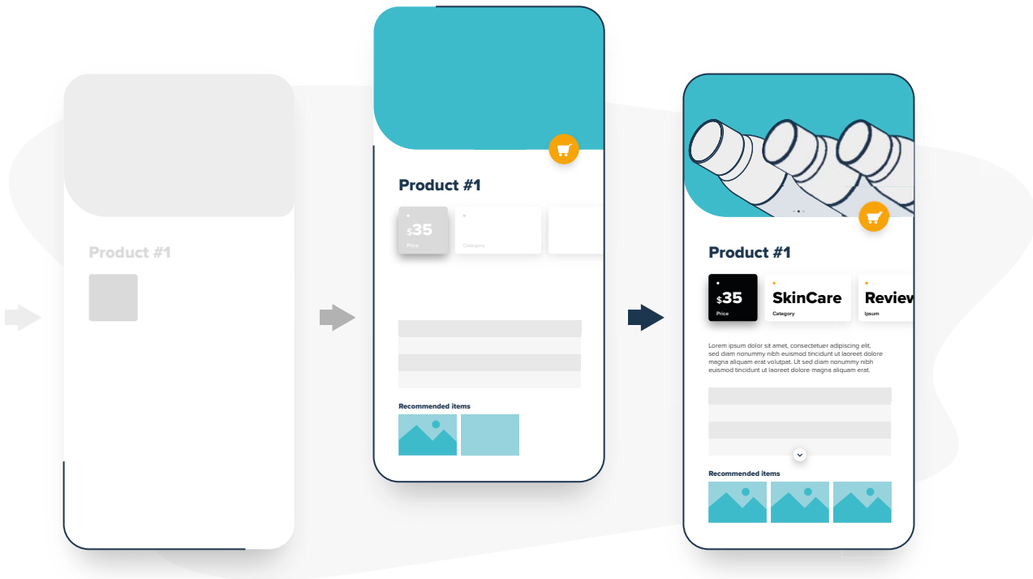


During the content extraction process, intelligent systems can now determine the accuracy of critical product data attributes like product name, product category, and product description.

Images of the entire label set of a physical product are used to extract and generate text which enriches the digital product record. Intelligent systems can complete digital elements such as missing product attributes and search keywords.

Other metadata generated by intelligent systems can enrich the digital product record and optimise the content for the search engine on a retailers website. Facet data is the key information that helps a buyer quickly find the product they are looking for. If searching for home goods, facet data might include the room of the house in which the good could be found, or it could be the colour palette to which the fabric belongs, or it could be a design style/category for the item.

AI systems can be trained to identify facets from both the product image, as well as other attributes of a product (colour, material, size, use, etc.). Search engine optimised (SEO) product titles are one of the most important attributes for any product. SEO-specific content helps the search engine to narrow a search result's list to the buyer's intent. Finally, intelligent merchandising solutions will continually monitor the search trends on a retailer website and then modify product titles to further optimise the matching of products to customers.



Smart Attribute Extraction

The merchandising team at a retailer has a huge responsibility in keeping product content up to date and relevant for their target buyers. As new products are released to the ecommerce store and other items become obsolete, the merchandising team is continually updating catalogue content.

An intelligent merchandising solution augments the merchandising team's workflow. It enables them to more quickly complete their tasks and validates that the content being published is the best possible version.

Merchandising and brand managers continually struggle to properly classify products, ensuring consistency across all of the product categories and properly setting all of the other meta data for a product. With large catalogues and different categorisation systems, it is possible for products to be categorised differently depending upon who ingested a new product that day. An intelligent system can automate this process and provide a completely consistent and verifiable product classification model.

Normalisation of Product Data

Weight	200ml
Colour	White
Pack-size	60x20x40mm
Brand	Product
Image	Image
Category	category#1
Tags	product, beauty, health

Finally, ensuring the consistency of all of the data in a product catalogue can be a huge chore for the master data management team. Normalising attributes such as weight, colour, pack-size, and brand, can be a never- ending task. Normalising and validating product images in your digital asset management system can be another time intensive and expensive task.

This includes tagging and validating product image type (front, back, top, side), product vs lifestyle image; and tagging things found within an image such as objects, people and scenes.

Intelligent systems have evolved to support all of these merchandising tasks and enables the retailer merchandising teams to become more efficient at managing product data. The result is that merchandising teams can focus on higher level merchandising tasks and optimising product sales.

ABOUT

About the Consumer Goods Forum

The Consumer Goods Forum ("CGF") is a global, parity-based industry network that is driven by its members to encourage the global adoption of practices and standards that serves the consumer goods industry worldwide. It brings together the CEOs and senior management of some 400 retailers, manufacturers, service providers, and other stakeholders across 70 countries, and it reflects the diversity of the industry in geography, size, product category and format. Its member companies have combined sales of EUR 3.5 trillion and directly employ nearly 10 million people, with a further 90 million related jobs estimated along the value chain. It is governed by its Board of Directors, which comprises more than 50 manufacturer and retailer CEOs.

For more information, please visit:
www.theconsumergoodsforum.com

About IceCream Labs

IceCream Labs enables Intelligent Merchandising for retailers & brands with its SaaS AI platform. The company's Intelligent Merchandising solution enables eCommerce teams to increase product sales, reduce returns and improve customer satisfaction using Machine Learning, Computer Vision and Natural Language Processing. Product content is critical to eCommerce sales. It directly impacts a consumer's purchase decision and also impacts SEO, Site Search, Marketing, Promotions and Merchandising.

For more information, please visit:
www.icecreamlabs.com
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