Product Discovery Engine Buyer's Guide

LONDON RESEARCH
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Contents

"An objective set of evaluation criteria, grouped into practical use-case models, and drawing from real-world experience to help you through this decision-making process."

Introduction

Product discovery is one of the most important elements of ecommerce customer experience (CX). It has the power to increase your conversion rates, improve your average order value (AOV) and build customer loyalty when you get it right.

How shoppers find and select products on your ecommerce site varies, shaped by factors including purchase need and product category. When shoppers know what they want, they typically use on-site search. But for those looking for inspiration, browsing through the product catalogue and on-page content is the starting point for sorting and filtering products. When navigating large catalogues, choice can be overwhelming, adding cognitive effort and slowing shoppers down. To address this choice paralysis you can leverage smart merchandising strategies.

The martech landscape is constantly evolving, with a wide range of niche products covering just one facet of product discovery, for example search. On the other hand, vendors such as Crownpeak offer a full-suite product discovery solution so you can manage your search, merchandising, product recommendations and personalisation in one place. How do you decide which platform is the best fit for your business?

Our guide provides an objective set of evaluation criteria, grouped into practical use case models and drawing from real-world experience to help you through this decision-making process. It's not a one-size-fits-all approach; review the use case models, select those most relevant to your ecommerce store, and use them to evaluate vendors.

When referring to the digital shelf, we mean any product listing grid, which includes search results pages, category pages and store-in-store brand pages. You need a flexible solution that provides consistent tooling across your digital store, with the ability to tailor algorithms and ranking factors for single or multiple product grids.

We've suggested a priority level for each use case, based on our experience working with multiple ecommerce businesses. However, it does vary so make sure you assess the priority rating and adapt it as required. We have used the popular MoSCoW rating system:

M	**MUST**	has to be satisfied
S	**SHOULD**	highly desired but can go live without it
C	**COULD**	optional but low priority
W	**WON'T**	use this when you need to de-prioritise a requirement

1. Managing algorithms and business rules

An effective solution will provide a flexible set of algorithms, with the ability to create and apply specific business rules to influence product ranking decisions across the digital store, and vary your merchandising strategies to avoid a one-size-fits-all approach.

Item	Use case	Priority
1.1	AI/ML engine that provides pre-trained algorithms to create default product sort order in the absence of business rules	**S**
1.2	Ability to add business rules that supersede the default algorithm e.g. always show own-brand in position #1	**M**
1.3	Ability to upload historical sales and customer data to warm the algorithms based on your unique data profile	**M**
1.4	Enablement of cold start strategies for businesses without historical data	**S**
1.5	Ability to apply more than one business rule to the same digital shelf to manage different merchandising strategies	**M**
1.6	Replicate business rules across multiple digital shelves to reduce manual effort	**M**
1.7	Ability to set unique algorithms for different digital shelves e.g. prioritise role of product title and attributes for search results	**M**
1.8	Ability to set a cocktail of rules and define the weighting for each rule e.g. sort 50% on margin, 25% on sales velocity and 25% on stock level	**M**
1.9	Pre-set algorithms for popular recommendation approaches, including frequently bought together, bestsellers, other people also viewed, trending, related items	**M**

2. Testing and reporting

It's critical you can validate and measure the true impact of adding a specialist product discovery engine. Make sure you understand the native reporting capabilities and the tooling to execute your testing program.

Item	Use case	Priority
2.1	Integration with web analytics packages like GA4 to push event and user data for analysis	**M**
2.2	Comprehensive reporting suite to enable analysis of performance for search, merchandising and recommendations, including: • Filter usage on list pages • Popular searches and product views • List page CTR and conversion rate • Search no results queries • Low-converting products from list pages • Average product position in list pages • Conversion rate uplift for boosted products	**M**
2.3	Ability to run hold-out tests to compare default product performance vs. when product discovery rules are applied	**M**
2.4	Ability to A/B test ranking rules and provide reporting on the results	**M**
2.5	Auto-selection of winning tests to reduce manual effort of updating ranking rules	**S**
2.6	View product listing reporting data in-line in the grid e.g. CTR, add-to-cart and conversion rate	**S**
2.7	Get AI-generated business suggestions to improve product performance	**S**

3. International and SEO

You need a solution that is flexible and enables localisation of trading strategies for individual markets, as well as providing simple automation to reduce manual effort by allowing you to replicate settings across multiple storefronts and digital shelves quickly and easily.

Item	Use case	Priority
3.1	Ability to apply different algorithms to each country storefront	**M**
3.2	Apply different default sort orders to individual country sites and geographic regions	**M**
3.3	Execute different content strategies on the same digital shelf for each international storefront e.g. translated banners	**M**
3.4	Reduce manual effort by enabling parent content and business rules to be applied across one or more storefronts for quick replication	**M**
3.5	Product data provided by the discovery engine is rendered in readable format for spiders and bots*	**C**
3.6	Product-related structured data is rendered using appropriate markup e.g. ratings & reviews*	**C**
3.7	Business has control over which product shelf URLs, including filtered URLs, are indexable for search	**M**

* Please note it's often not the responsibility of the discovery engine to do this, for example when you have server-side integration and the engine isn't directly injecting content into the front-end. However, it's an important consideration to ensure that the implementation of a discovery engine doesn't adversely affect on-page content and page markup.

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4. On-site search

For large catalogue retailers, search is used in up to 80% of all sessions, and conversion rate is 2-3 times higher than non-search sessions. Your ecommerce store needs to satisfy two key criteria for search results: accuracy and relevance. Unless you have a very small product portfolio, on-site search will play an important role in product discovery, so you need to maximise search efficiency.

We've grouped important use cases into search capabilities that help deliver this efficiency.

4.1 Indexation

Item	Use case	Priority
4.1.1	Control which product data fields are used in the search index e.g. don't include long descriptions	**M**
4.1.2	Support for multiple indices to include different content types in the search results e.g. products, videos, articles	**M**
4.1.3	Automatic updates to the index as the product catalogue data changes e.g. new SKUs added, attribute data changes	**M**
4.1.4	Support for multiple languages to cover global storefronts, including special language characters	**M**

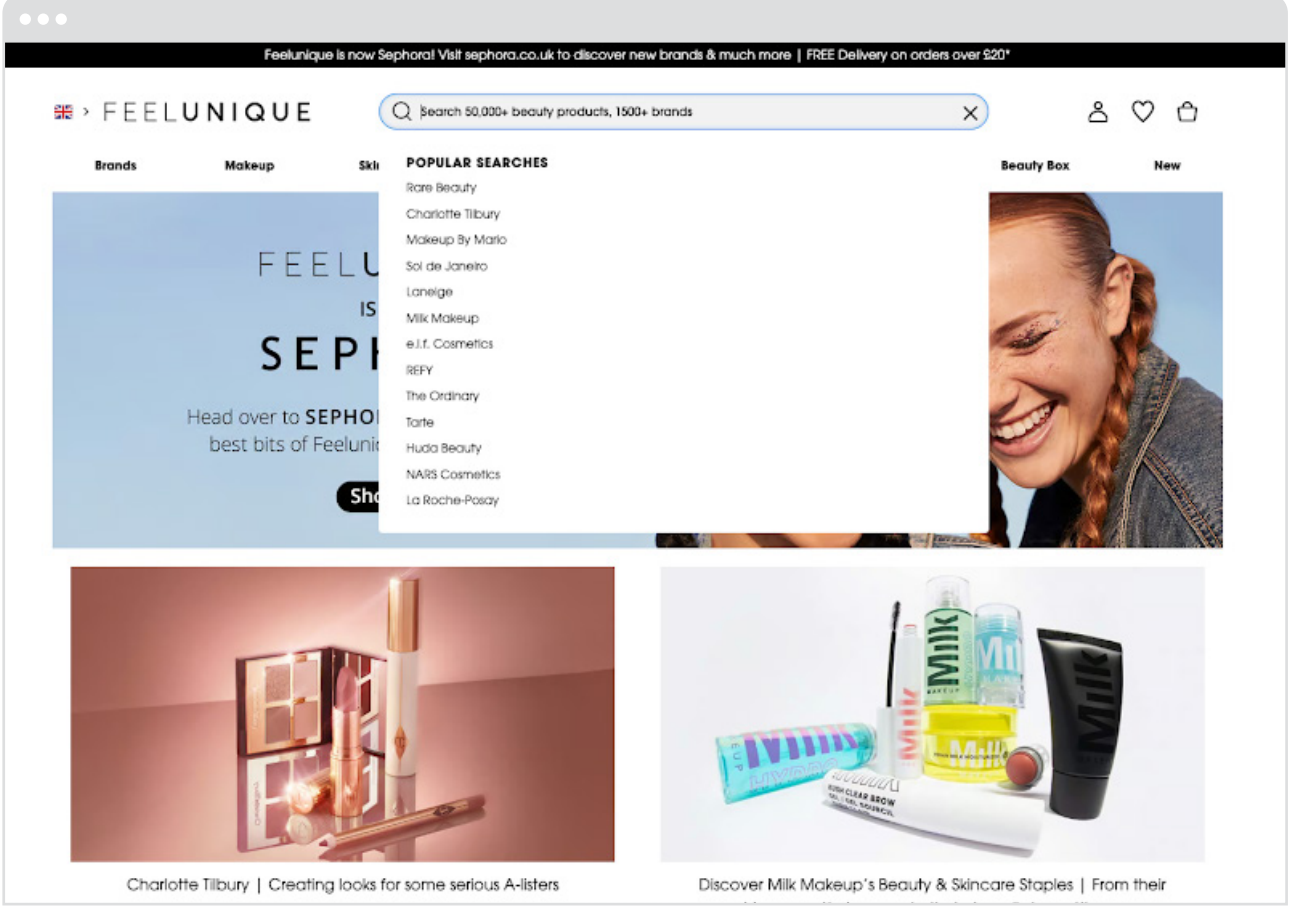
4.2 Search results accuracy and business controls

Item	Use case	Priority
4.2.1	Ability to parse natural language queries and return relevant products e.g. "what's the best moisturiser for dry skin"	**M**
4.2.2	Ability to differentiate between multiple attributes in the same query e.g. "loose fit adjustable floral maxi dress"	**M**
4.2.3	Ability to understand product relations and compatibility for solution-based searches e.g. "soundbar for Samsung UE24N4300 tv"	**M**
4.2.4	Recognition of commonly-used special characters and abbreviations e.g. 32" means 32 inch	**M**
4.2.5	Semantic search capability to handle complex queries by understanding word intent e.g. blue (attribute) dresses (category) size 8 (variant) under £200 (price)	**S**
4.2.6	Ability to create and manage one or more dictionaries to improve search targeting e.g. synonyms	**M**
4.2.7	AI-generated suggestions to append relevant synonyms to products	**S**
4.2.8	Ability to set redirects for search strings or specific exact match queries e.g. redirect query "X" to URL "Y"	**M**
4.2.9	Automatic downweighting of out-of-stock items, with the ability to override this if the product is available for back-order	**C**
4.2.10	Speed up search experience by redirecting users direct to destination URL e.g. product detail page (PDP) when search for SKU is made	**C**

4.3 Type ahead search

Item	Use case	Priority
4.3.1	Control the text that appears within the search bar, and add animation	**M**
4.3.2	Predictive type-ahead search suggestions including category, product and content matches	**M**
4.3.3	Ability to display product visual data such as image thumbnails	**M**
4.3.4	Set a default view in type ahead search for when the shopper hasn't started typing	**S**
4.3.5	Ability to insert custom links into type ahead search and search results pages e.g. Customer Service information	**S**

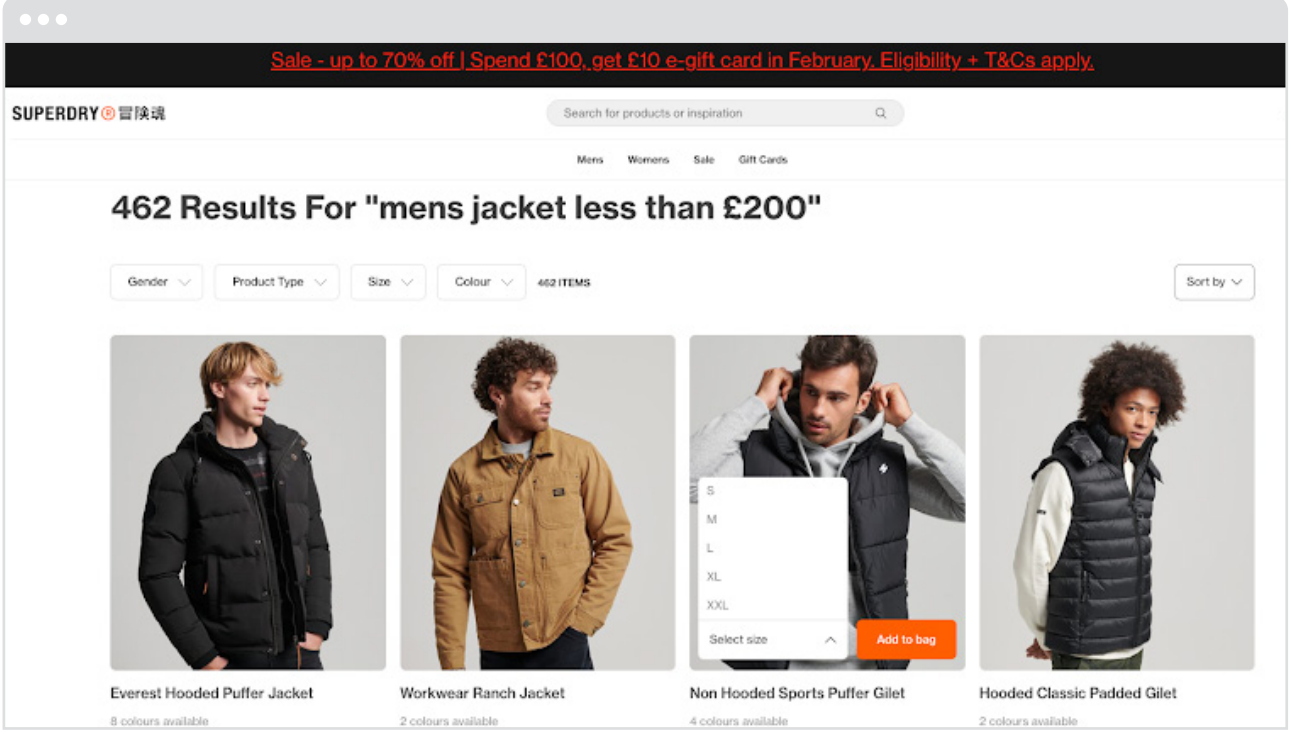
The example from Feelunique shows popular searches in the type-ahead pane.



4.4 Search features

Item	Use case	Priority
4.4.1	Display popular searches and/or recent searches made by the user	**M**
4.4.2	Ability to maintain URL control for search results pages to facilitate analytics tracking	**M**
4.4.3	Ability to exclude or include search results page URLs from indexation for SEO	**M**
4.4.4	Quick view and quick buy enabled on search results pages	**M**
4.4.5	Visual search enabling a user to upload an image and find relevant matches	**C**
4.4.6	Support for voice search to accurately convert voice queries into text strings	**C**

The example from Superdry demonstrates sort and filter options clearly visible on the results page with quick buy enabled.



4.5 Handling zero results

Item	Use case	Priority
4.5.1	Default zero results page template is manageable within the CMS to enable content curation and updating without developer support	**M**
4.5.2	AI-generated product and content suggestions when no matching products are found for a search query	**M**
4.5.3	Ability to make personalised product suggestions on the zero results page based on the search query and user profile	**S**
4.5.4	Semantic capability to parse search queries returning zero product matches and generate search suggestions e.g. Did you mean?, Other shoppers searched for...	**S**

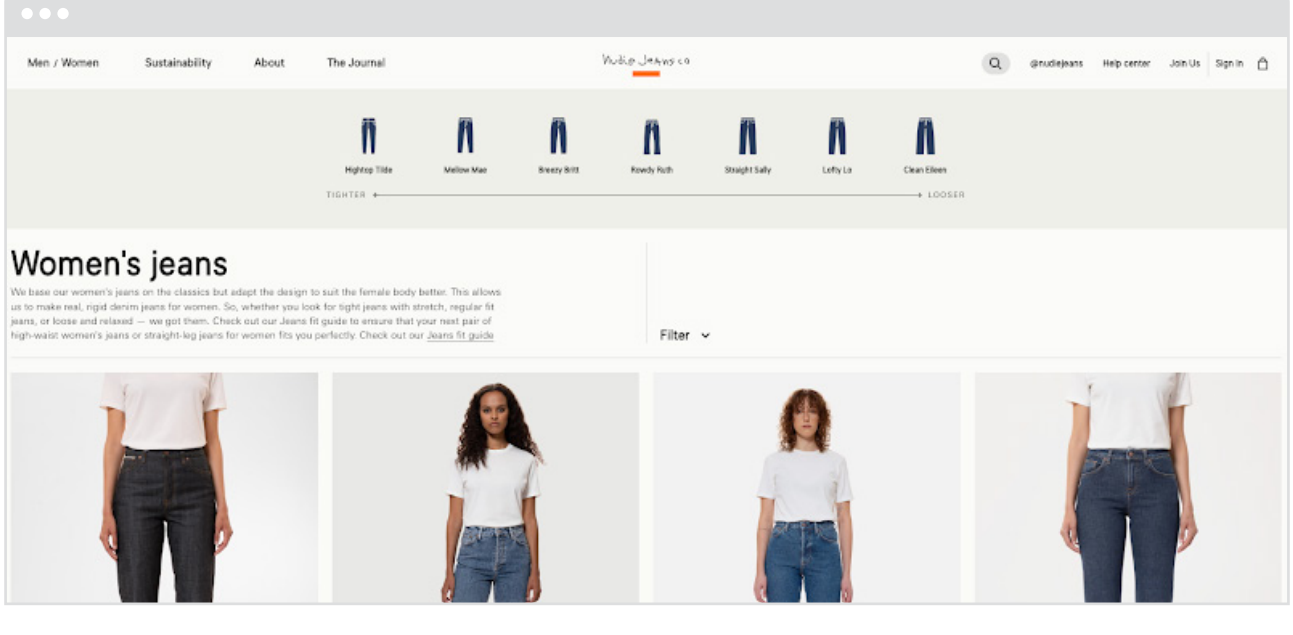
5. Online merchandising use cases

Ecommerce teams need smart tooling to control visual merchandising of product grids. For brands with small product catalogues (less than a thousand SKUs), browse is often more important than search in terms of session usage. Brands need to be able to control the visual real estate and use a mix of algorithmic and business logic controls to determine product sort order and merchandising campaigns.

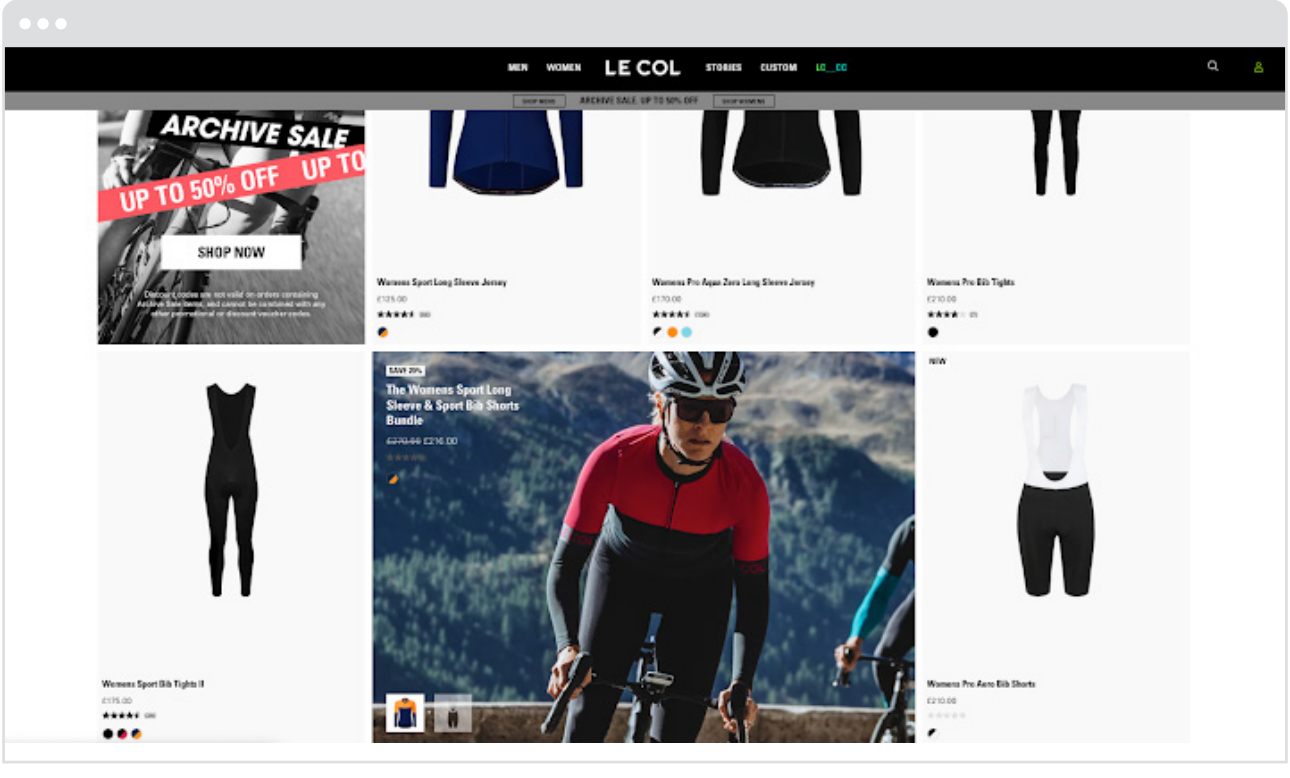
5.1 Visual merchandising

Item	Use case	Priority
5.1.1	Insert user-generated content (UGC) into the grid alongside product cards	**M**
5.1.2	Manually pin individual products to specific locations within the grid	**M**
5.1.3	Preview new merchandising campaigns before they're live in production	**M**
5.1.4	Create hero product layouts to elevate focus products in the grid	**M**
5.1.5	Ability to merchandise specific grid sections according to a visual pattern e.g. each row contains a different colourway	**M**
5.1.6	Ability to group products by themes to simplify navigation e.g. by product sub-category or type	**M**
5.1.7	Ability to boost products that have the best stock availability (including variant stock)	**M**
5.1.8	Ability to add category and product quick links above the grid	**M**
5.1.9	Ability to generate Collection pages based on product attribute data that contain related products across multiple categories e.g. clothing and accessories	**M**
5.1.10	Ability to inject related items into category pages to increase basket size e.g. belts for jeans, hats with scarves	**S**

This example from Nudie Jeans shows product category quick links being added above the product grid to fast-track shoppers to popular product types.



This screenshot from Le Col demonstrates the insertion of hero products into the grid to create a visual point of difference.



5.2. Filtering and sorting

Item	Use case	Priority
5.2.1	Display page sort options to enable shoppers to refine the default view e.g. sort by most trending bestsellers	**M**
5.2.2	Display appropriate product attribute filters with attribute labels and the number of matching products	**M**
5.2.3	Control how many attribute filters are shown, and in what priority order, changing this for specific digital shelves	**M**
5.2.4	Enable attribute groupings to normalise data to simplify the front-end for shoppers e.g. "burgundy", "claret" and "red" are all grouped into a filter by colour option "red"	**M**
5.2.5	Ability to pin sort and filter controls so they're persistent as the user scrolls	**S**
5.2.6	Dynamically re-rank products based on sales performance and conversion propensity	**S**

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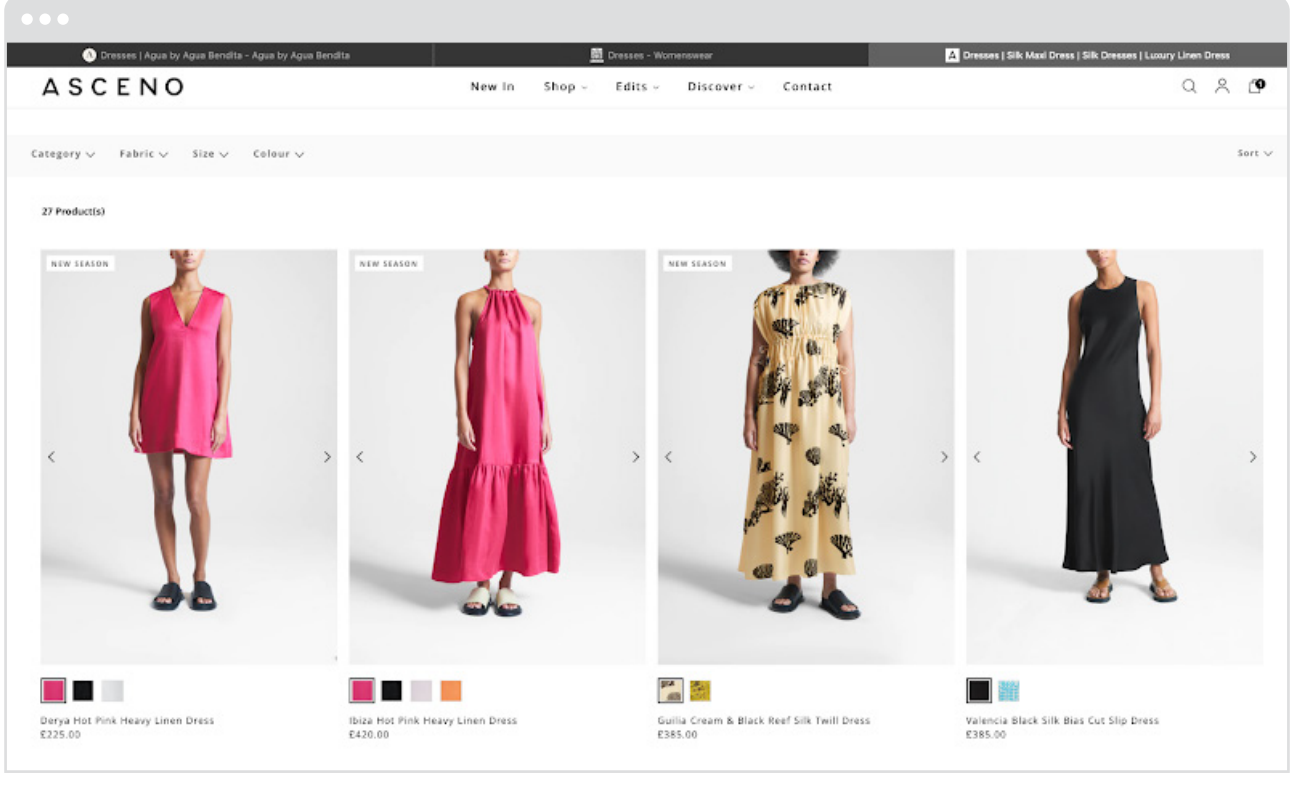
5.3 Product interactions

Item	Use case	Priority
5.3.1	Enable roll-over and interaction state changes on mobile and desktop e.g. change image	**M**
5.3.2	Enable shoppers to browse through each product's image gallery direct within the product listing page (PLP)	**C**
5.3.3	Display product variant options and stock availability, changing image and pricing based on which variant is selected	**M**
5.3.4	Enable quick view and quick-buy	**S**
5.3.5	Add products to shopping lists from the grid e.g. wishlist	**M**

Fashion retailer Asceno enabling image gallery browsing in the product grid.



5.4 Product tagging

Item	Use case	Priority
5.4.1	Add custom tags to product records to enable smart categorisation for merchandising rules	**M**
5.4.2	Generate custom collections based on product tags	**M**
5.4.3	Automate product recommendations on PDPs based on product tag matching	**M**

5.5 Content marketing controls

Item	Use case	Priority
5.5.1	Ability to insert marketing and promotional content above and below the product grid e.g. banner	**M**
5.5.2	Ability to insert hero content into the product grid e.g. free shipping banner	**M**
5.5.3	Automatically display product badges (or labels) on specific SKUs in the grid based on data attributes e.g. new in, exclusive	**M**

6. Personalisation and product recommendation use cases

The key to product recommendations is the ability to insert recommendation blocks throughout the user journey, controlling the rules for what is shown at each step and fine-tuning product selection based on who your shoppers are, and where they are in their purchase decision. The following use cases should be considered.

6.1 Personalisation

Item	Use case	Priority
6.1.1	Tailor the products shown based on the shopper's prior and in-session browsing and purchasing behaviour	**M**
6.1.2	Tailor the products shown based on the shopper's customer segment	**S**
6.1.3	Apply seasonal weighting to products based on when specific items are most popular	**C**
6.1.4	Generate product associations on the PDP based on what other shoppers who viewed it also viewed and purchased	**M**
6.1.5	Make product recommendations based on the browsing behaviour of the shopper based on similar shoppers showing the same traits e.g. Customers like you rate...	**M**
6.1.6	Ability to make product recommendations based on a customer's profile data attribute	**S**
6.1.7	Make content recommendations that relate to products and activities the shopper has clicked on or demonstrated interest in to aid discovery	**M**

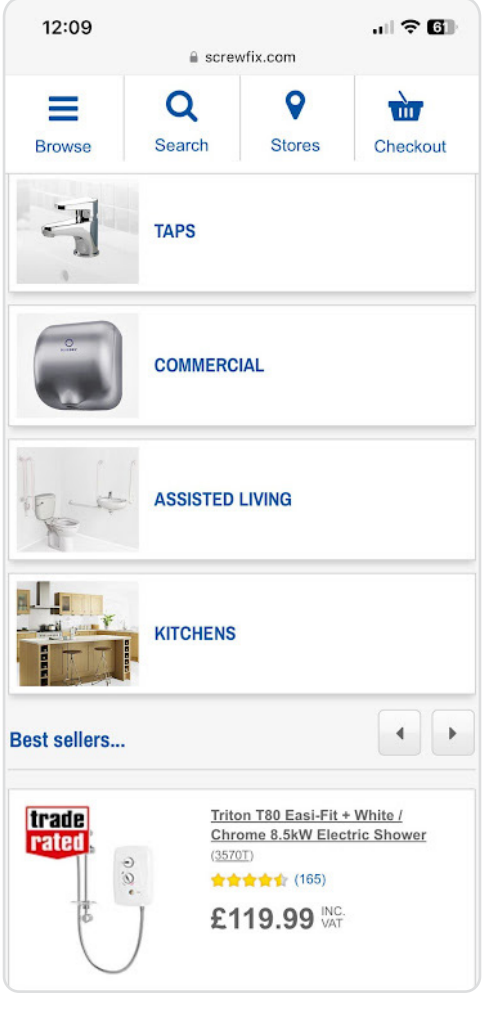
6.2 Flexible recommendation blocks

Item	Use case	Priority
6.2.1	Ability to insert one or more recommendation blocks into all key page types, including homepage, landing pages, category page, PLP, PDP and shopping cart	**M**
6.2.2	Automate product selection in recommendation blocks based on the shopper's profile and prior browsing/purchasing	**M**
6.2.3	Ability to manually set which products display in the block e.g. select SKU numbers	**M**
6.2.4	Ability to set business rules for which products appear in each block e.g. based on category, brand, sales velocity, margin	**M**
6.2.5	Replicate a recommendation block to appear on more than one URL e.g. same block on all PDPs within a category	**M**
6.2.6	Ability to push personalised product recommendations into digital marketing channels, such as email, via integration with existing technology	**M**

6.3 Product bundles

Item	Use case	Priority
6.3.1	Ability to auto-generate related item suggestions based on the product being viewed e.g. Get The Look	**M**
6.3.2	AI image recognition to make product suggestions based on other items contained within the product image	**C**
6.3.3	Auto-generation of popular and trending product bundles based on transaction analysis of items frequently bought together	**S**

Example of Screwfix inserting bestsellers as product recommendations on a category landing page.



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7. Performance and integration

Website performance has a measurable effect on conversion rates. Studies have shown that faster page speed improves conversion rate. When selecting a product discovery engine, do your technical due diligence and make sure you have understood, and can objectively measure, its impact on site speed and performance and the optimal integration path.

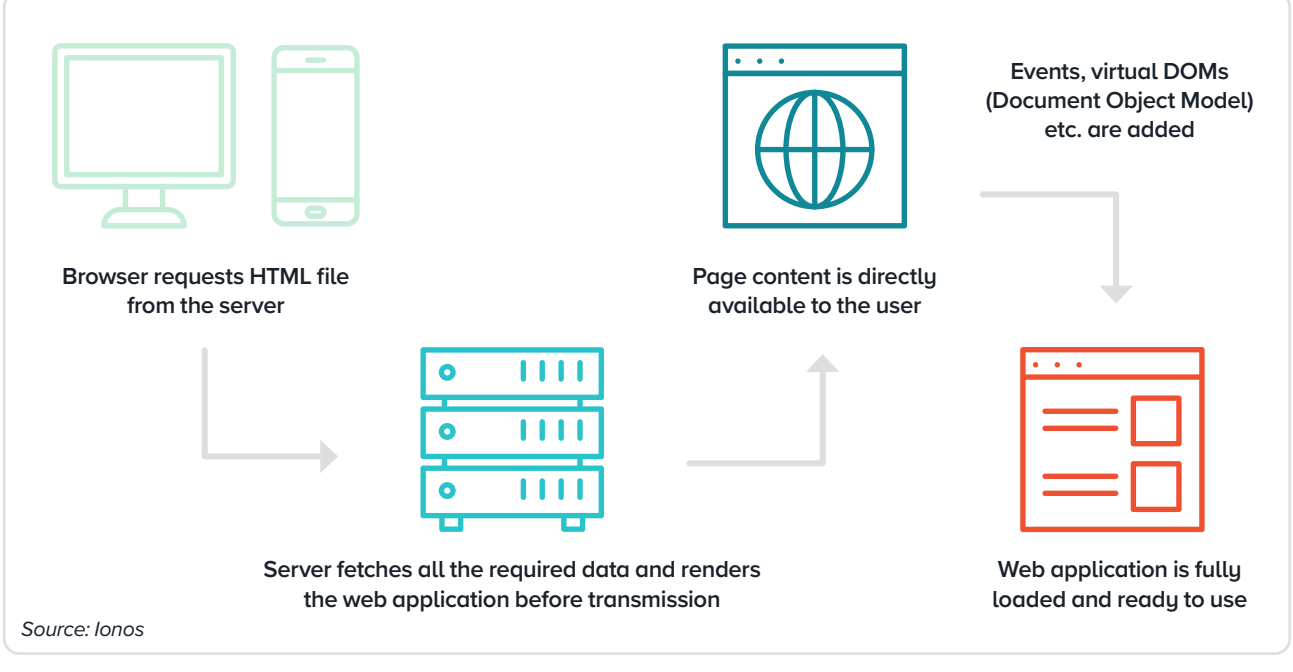
Ask the following questions. What...

- Is the historical uptime availability of the solution over the past three years?
- Are the support commitments in the SLA?
- Are the response times based on incident priority level?
- Provisions are made for local country support for global accounts?
- Does the vendor do to proactively monitor, measure and report on performance?
- Happens if the SLA is not met?

Now consider your integration paths. There are two common approaches to integration:

Server-side rendering (SSR)
The server does the heavy lifting to render data before it reaches the browser, speeding up the browser's ability to show content, which leads to better Core Web Vital (CWV) scores.

Let's consider a product grid for dresses. When the shopper clicks through to your digital shelf, the browser requests data from the server and the server returns the full page content, including the default sort order for dresses and any other content and features the page requires, for example product badges, attribute filters and quick-buy. Your product discovery engine is directly integrated with the ecommerce application rather than relying on client-side JavaScript.



Source: Ionos

JavaScript in the grid
In addition to the known disruption to SEO indexing when pages need to run JavaScript to render content, client-side rendering can also adversely impact shoppers. The more code the browser has to execute to display your digital shelf, the longer it takes for the content to be visible and interactive. If you're considering technology that only works with JavaScript, carefully assess the overall UX, in addition to its impact on page speed.

Validating impact
A good vendor will be open to discussing a proof of concept (POC) phase, a paid trial period during which you can benchmark the results of running their product discovery engine against your current setup. Whilst this requires budget and technical resources from the team supporting your ecommerce store, it ensures an accurate measurement of the real impact. Be sure to measure the impact on site speed and on sales metrics like conversion rate, cart size and repeat purchase rate.

Consider the following success criteria:

- SEO: how accurately can search engines like Google index the full page content?
- UX: how smooth is the content rendering to the user and how quickly can they use the page?
- Speed: what impact does adding new technology have on CWV metrics?
- Performance: what impact does this have on metrics like revenue per visitor (RPV) and conversion rate?

Your happy path is a technology partner with an existing, proven integration with your ecommerce platform. For example, Crownpeak is fully integrated with BigCommerce, Commercetools, Shopify, Magento.

Request a Crownpeak Demo

8. Operational impact

Make sure you assess change management requirements for implementing new technology. Adoption is smoothest when end users are involved in the vendor evaluation because they buy into the new solution. Factor the following questions into your selection process:

- What security controls are there for you to manage user profiles and permissions across and within ecommerce storefronts?
- How detailed are use logs to track and trace what is being done and by whom?
- What tooling is provided, if any, for handling business workflows to control the publishing of search and merchandising strategies?
- How intuitive is the admin panel for end users to carry out daily tasks, such as creating new merchandising rules?
- What is the time impact on key processes i.e. where are tasks quicker vs. where will they take longer?
- How much of your team's daily workload will be self-serve through improved tooling vs. what requires support from developers or the vendor?
- Do you need to recruit new staff to make full use of the solution, or train up existing staff?
- How does the new solution impact your total cost of ownership (TCO)? Go beyond the licence fee, assess your resource costs for using it and ongoing maintenance fees.

Don't underestimate the importance of these operational implications. Product discovery is part of your ecommerce ecosystem, so you need to be sure new technology fits with your overall technical and ecommerce product vision and provides tangible benefits, such as process efficiency and faster execution of merchandising campaigns.

9. Running scenario-based demos

Now you've got a good handle on the criteria for evaluating product discovery engines, it's time to plan how you approach and assess the vendors. Scenario-based demos make it easier to objectively compare vendors based on your specific business needs, rather than listening to generic product feature presentations.

Here's an example of a scenario:

Carla is the ecommerce merchandising manager. She has been tasked with setting up merchandising rules for a new collection launch and letting the business preview this before it's published.

Please demonstrate how your solution will enable Carla to:

1. Create a new Collection listing page
2. Auto-assign products to the collection based on data attributes e.g. brand, category
3. Pin two specific products to the top two places
4. Add a merchandising rule to prioritise products based on margin
5. Visually merchandise the page by colourway
6. Add a product recommendation block and show how we'd manually set the products and create a rule to always show bestsellers in the collection
7. Insert a hero product into the grid
8. Insert a banner into the grid to promote free shipping

We recommend a four-step process for carrying out effective vendor demos:

Step	Description	Summary
1	**Planning**	• Agree stakeholder set, roles and responsibilities • Agree business scenarios to be covered during demos • Create a vendor brief including a detailed explanation of required demo scenarios • Create an RFI sheet that lists all required use cases and the MoSCoW rating • Create a weighted scorecard to enable objective evaluation • Run internal briefing for all stakeholders
2	**Vendor shortlisting**	• Assess market for best-fit vendors (top two or three) • Work with a consultant or agency if external expertise is required • Create shortlist and approach vendors • Submit briefs and book diaries
3	**Vendor demos**	• Run focused demos with clear agendas • Record all sessions • Appoint stakeholder to document actions and follow-ups • Complete actions and follow-ups • Request cost model from vendors
4	**Vendor scoring**	• Each key project team member completes the scorecard • Create an aggregate score comparison • Run internal workshop to review scores and agree preferred vendor • Run follow-up calls with vendors if additional information is required

10. Your key takeaways

Make the right decision for your business by deciding which selection criteria are most important. Agree the process you want to follow using our helpful checklist for guidance:

DO	DON'T
Check your analytics: what's the relative importance of search vs. browse for your shoppers?	Run a tick-box exercise with vendors; you have to understand how they satisfy each use case.
Define realistic business scenarios and brief vendors on tackling these during the product demo.	Accept what you're told; ask for evidence for claims like conversion rate uplift.
Set clear vendor selection and success criteria; create a scorecard to objectively rate each vendor.	Treat all use cases as equal; focus on what will drive value for your business and its customers.
Ask vendors how each use case is satisfied and to provide evidence and case studies e.g. an ecommerce store already doing it.	Rush the process; take your time and assess vendors in sufficient detail to make a confident decision.
Reach out to your network to get independent reviews of vendors in addition to testimonials (testimonials are always positive!).	Accept the first cost proposal you're given; negotiate with vendors to get a fair price for both parties.
Ask for ROI evidence and run the numbers to measure what uplift you need to justify the investment.	Implement new technology without properly measuring the impact on site performance and key metrics.

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Owner and Director, Digital Juggler

James is an ecommerce strategy and replatforming consultant with more than 16 years' experience working with B2C and B2B brands including Pangaia, Victoria Beckham, Dr. Barbara Sturm, Mars, Samsung, The Wine Society, RSPB and RHS. He helps organisations deliver ecommerce growth based on realistic plans and budgets.

James' current focus is guiding organisations through the complexities of new platform builds or replatforming projects, as a technology/solution agnostic independent consultant.

James launched the popular Re:platform podcast in November 2019, a weekly podcast that gives practical advice and guidance for ecommerce technology selection, replatforming projects, and running and managing an ecommerce store. The podcast is in Spotify's Top 10% Most Shared Podcasts globally.

About us

London Research, set up by former Econsultancy research director Linus Gregoriadis, is focused on producing research-based content for B2B audiences. We are based in London, but our approach and outlook are very much international. We work predominantly, but not exclusively, with marketing technology (martech) vendors and agencies seeking to tell a compelling story based on robust research and insightful data points.

As part of Communitize Ltd, we work closely with our sister companies Digital Doughnut (a global community of more than 1.5 million marketers) and Demand Exchange (a lead generation platform), both to syndicate our research and generate high-quality leads.

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Crownpeak strives to enable customers to create tailored digital experiences, to expand their brand and grow their revenue. Clients around the world including Unilever, Bosch, Nintendo, Asos and La Redoute trust Crownpeak's cloud-native SaaS Digital Experience Platform (DXP) solutions to achieve their data-driven content goals and level up their digital experience initiatives. Founded in 2001, Crownpeak continues to expand their product suite, providing Content Management, Digital Accessibility & Quality and Product Discovery capabilities to empower customers to build their own customized and successful DXP. Headquartered in Denver, Colorado, Crownpeak has offices in countries across the globe, including London, Paris, Amsterdam, Münster, Sofia and Dortmund, Germany. For more information, please visit www.crownpeak.com.

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