

WHITEPAPER

API-led Commerce Drives Next-Gen Digital Experiences

How APIs Enable the Seamless
Integration of Content and Commerce



Executive Summary

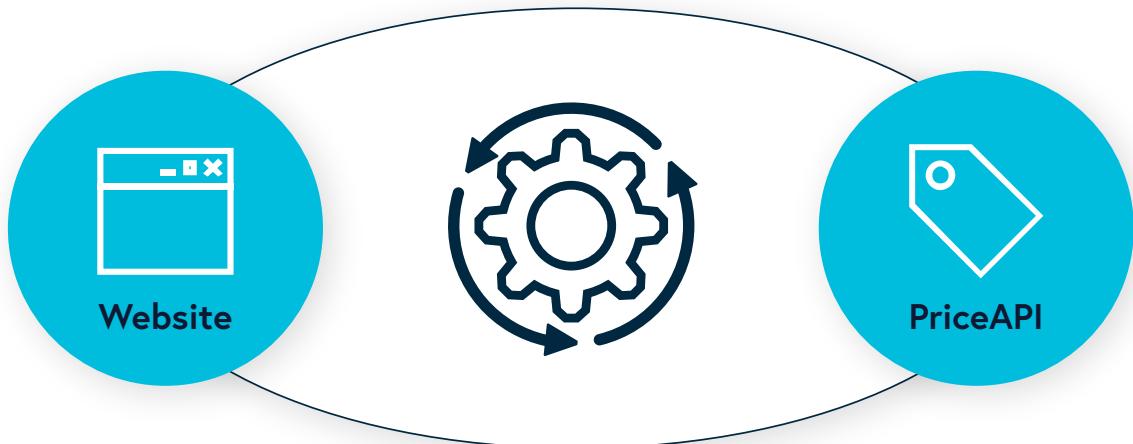
Brands and merchandisers need to deliver inspiring digital experiences across multiple touchpoints to be successful in today's fast-paced world of commerce.

Engaging customers wherever they are is a key revenue driver. To quickly respond to customers' needs and stay ahead of the competition, organizations need a flexible software infrastructure.

Instead of using an integrated software suite, retailers gain agility by following a modular strategy and connecting multiple applications via flexible APIs. These interfaces exchange information in the background and expose their data to third-party applications.

Bloomreach - The Leader in Commerce Experience™ - supports brands and retailers in delivering inspiring digital experiences to their customers. In combination with the commercetools platform, commerce functionalities can be easily injected, creating a seamless integration of content and commerce elements.

APIs (Application Programming Interfaces) make the world go round. Regardless of issuing an order, making a reservation or paying an invoice, the chances are that you are encountering several APIs. In most of today's digital interactions, APIs are serving in the background. In other words, they have emerged as the foundational method to exchange data between web-based software.



What is an API?

What exactly is an API? Generally speaking, it is a contract between different applications, governing how they exchange data as well as how those data are structured. If two communication partners agree on a set of rules, information can run freely between them.

So, for example, if PriceAPI has agreed on returning the current price for a specific product, a commerce website (the second communication partner) can request this information, knowing that content and format have been defined in the contract. It is important to note here that what matters to the commerce website is that there is something behind the PriceAPI, offering the functionality or data promised by it. What is not essential is the way in which this API gathers this information and which technology it is using in the background.

In this example, the website consumes the services of PriceAPI to be able to present

these to its visitors, and as long as the contract is active, this relationship works perfectly.

And here comes the really interesting bit: it is not only a website that can consume this data - but also a mobile app, a chatbot application, or an IoT device. In other words, the data and its structure are completely separated from the way in which they are represented. They can be rendered as pixels on a website, as lines in a messaging app - or even as voice output. In an API-driven world, user interfaces can be as diverse and fancy as they want - thanks to the humble API working in the background, receiving requests and pushing out information to wherever, and by whomever, it is needed.

You can imagine that this underlying principle can give rise to a broad range of applications, especially with regard to online retail and the unique challenges of brands and retailers today.

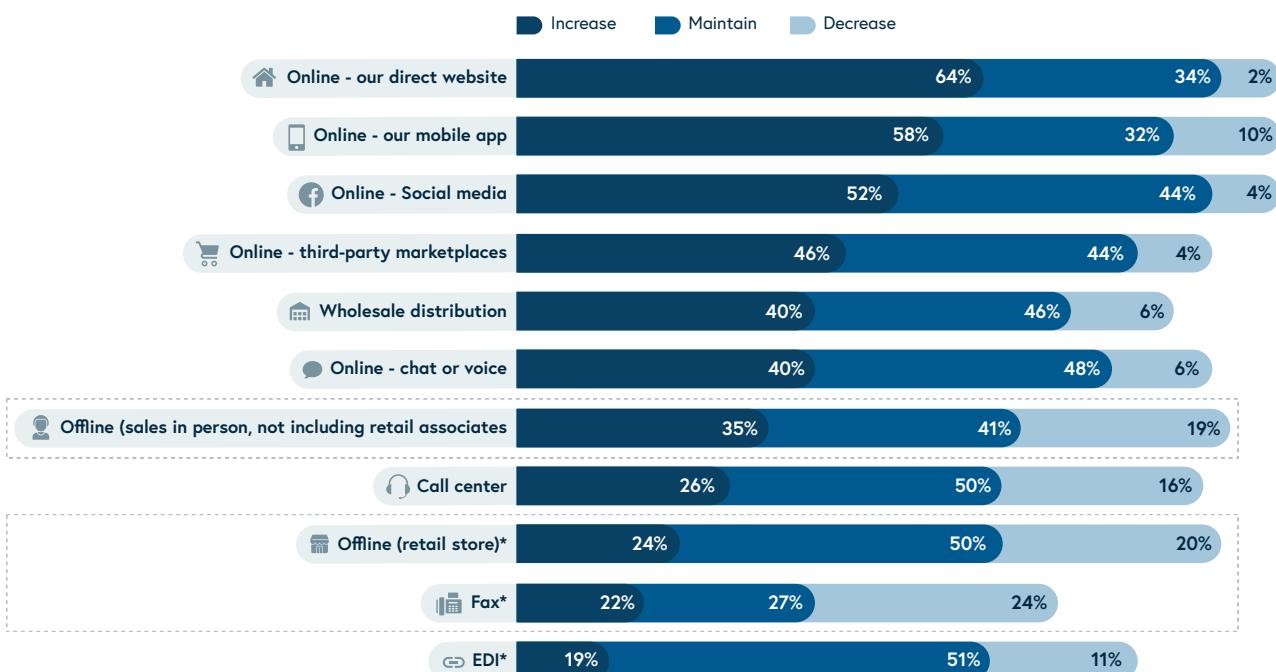
Why Are APIs Relevant in Commerce?

Consumers spend a lot of their time on mobile devices, tablets, wearables and even with "smart" devices like internet-connected refrigerators. In addition, the Covid-19 pandemic has caused businesses to quickly shift spend from offline to online due to global lockdowns that force many to stay at home and turning their connection to the internet as the primary window to information and shopping. Since the beginning of the Covid-19 outbreak, most businesses plan to increase their investment in online channels like web, apps, social, and third-party marketplaces.

On top of that, 60% plan to increase investment in new-to-them digital channels, and 62% will invest in mobile channels, i.e., web or app¹.

Gone are the days when the only way to interact with an organization is through a browser-based website on a desktop computer - which, according to Statcounter², now only accounts for 46% of all web traffic. We have indeed entered what is usually referred to as the Post-Webshop era.

"Effects of pandemic and lockdown: How will you allocate budget in the following areas in the next 12 months?"



Base: 50 global decision makers of digital campaigns, online experiences, and/or eCommerce programs and technology purchases

*Base: 37 B2B global decision makers of digital campaigns, online experiences, and/or eCommerce programs and technology purchases

Note: Not all responses shown.

Source: A commissioned study conducted by Forrester Consulting on behalf of Bloomreach, April 2020

Enabling New Touchpoints

All these new devices and channels need to be able to receive and send data so that they can be used in a commerce context. And this is where the true potential of APIs lies.

We saw earlier that in APIs, functionality and data are decoupled from how they are used and presented by the application. This means that an unlimited number of completely different applications can access the same API and use its information in entirely new environments. The PriceAPI could be consumed by mobile shopping apps, electronic shelf displays or devices we don't even know about yet. If a retailer wanted to create a chatbot which presents prices for specific products, it could use the existing PriceAPI and only build the customer-facing chatbot app that consumes its data. Similarly, a Pinterest integration which would display product prices in "buyable pins" also talks to the exact same API. In other words, the API only has to exist once but can be used across different devices and channels, and the frontends that serve them. Not having to develop the entire pricing logic for every new touchpoint is a huge time-saver, speeding up time-to-market, which is arguably the most critical competitive differentiator in today's digital revolution.

API-First Commerce Platform

To account for this, the cloud-based commercetools platform was made with API-first principles and modern commerce in mind since its inception. With background logic and data kept separate from the presentation layer, brands and merchants can use the flexible commerce APIs in a broad range of scenarios. This provides the primary benefits of minimizing downtime and allowing businesses to deploy and support new devices and channels without retooling the backend. Via a browser-based management interface, called the Merchant Center, retailers can edit even the most complex catalog data via the built-in Product Information Management (PIM) system and make use of a powerful discount logic. They also have access to an integrated Order Management System (OMS) and can view the customer data that are stored in the database. Being a cloud-native solution, the platform can scale automatically, making sure that even during high traffic peaks such as during Black Friday or Cyber Monday, applications stay fast and safe.

APIs Empower Modular Strategies

However, commerce is not only product data, price and stock information.

Increasingly, customers are looking for inspiring shopping experiences which combine commerce elements with editorial content. Images, videos, and entertaining copy add to this experience and let brands build an emotional connection with their customers. When it comes to building out content-rich digital experiences, there are two generic approaches you could take: Either the "suite" or the modular approach.

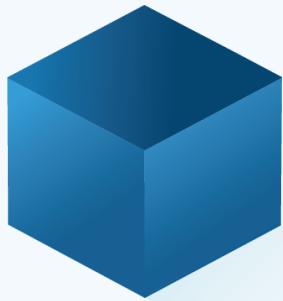
Complex software suites have been around in commerce for quite some time. Their aim is to put everything a retailer might need into one big block of software, containing a ton of features both from the commerce and the DXP realms, often flavored with CRM functionalities as well. However, there are some challenges with this approach. First of all, the features provided might not match the (digital) maturity of your organization. This could lead to features being used the wrong way or not being used at all. In addition, you lose some of the flexibility, mostly because suites are not easy to integrate with third-party solutions.

And Forrester Research even goes as far as heralding the end of unwieldy suites:

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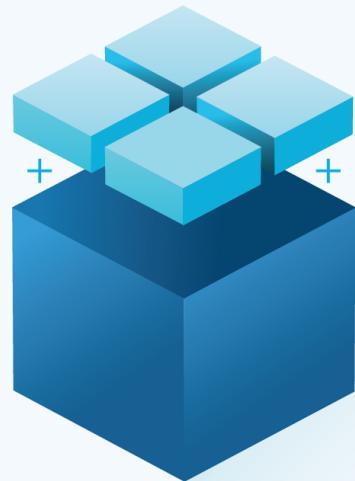
Software vendors will refactor their ancient architectures or be left behind. The old world of closed, proprietary stacks is dead software walking. In the age of the customer, where business responsiveness trumps technology coherence and the cycle times of improvement are measured in days, not years, [...]"³

The modular approach is, by design, way more flexible and makes full use of the benefits of an API approach. In such a solution, the goal is to combine (many) different solutions into one giant environment that completely covers the needs of the organization.



Monolithic Commerce Platform

Built for a single channel.
Slow to innovate. Poor at Experience. Expensive, manual work. Dev ops and upgrades are a constant headache.



Bloomreach BRX + Commerce Platform

The only solution in the market purpose-built to power commerce experiences, drive business outcomes, and empower commerce teams. API-based, modern, and able to manage and personalize across all channels.

Not only does this give you a much more budget-friendly alternative, it also enables you to be flexible with your priorities. This is where understanding your current level of digital maturity becomes critically important. As your organization matures, requirements might very well change. It might even be that one of the new technologies might be invaluable for you and your business. Rather than having to wait for the supplier of the suite (and the following upgrade), the modular approach (and architecture) allows you to quickly innovate by adding new services and applications to the mix.

This is where modern DXP platforms such as Bloomreach Experience (brX) come into play. They typically provide editor workflows, content delivery networks and

a visual interface to let marketers build attractive user interfaces and shape the experience. All the required product data as well as the checkout process are then integrated via the API of a commerce platform, such as commercetools. Following this modular approach, every application fulfills the specialized functions in its domain, instead of having a fully-integrated solution and the "jack-of-all-trades-master-of-none" approach. Furthermore, the suite approach usually requires users to pay for major upgrades while the modular approach provides updates continuously without additional costs.

In the following paragraphs, you will learn how an integration of a commerce platform and a DXP solution can be done in practice.

Building Next-Generation Digital Commerce Experiences

So far, we have primarily discussed the benefits of APIs and why you should consider using an API-based approach to digital commerce. Now, let's take a look at how you can leverage these APIs to build a next-generation digital commerce experience.

WCMS vs DXP

Most people will be familiar with a Web Content Management System (WCMS). WCMS systems have long been the only answer when it comes to managing digital experiences but with the introduction of Digital Experience Platforms (DXP), there is a new way to build out great customer experiences.

As the terminology states, these DXP platforms aren't just for content and aren't just for the web, but are used to share any type of asset, or group of assets, across any digital touchpoint - online, in-store, billboard, kiosks, customer portals, eCommerce systems, and more.

The shift towards DXP is twofold. It is first driven by the natural evolution of technology becoming increasingly agile and able to handle more complex tasks. Secondly, DXP comes from the push



towards a fully connected experience where every interaction a customer has with any touchpoint is fed back to optimize the next interaction. Not only focusing on the interactions that lead to acquisition, but also on every touchpoint that helps maintain customer satisfaction such as service portals and helpdesks. And this optimization is increasingly reliant on AI and machine learning technologies - either built natively into the DXP or through integrations, leveraging the power of APIs.

At the heart of the DXP is the ability to integrate with third-party systems. In many modern digital experience architectures, the DXP will be used as an API orchestration and aggregation layer.

Omnichannel Commerce

The benefit of using a proper DXP becomes really clear when you are using the platform to power all your commerce experiences. The importance of having a connected customer experience using multiple (digital) touchpoints increases

every day. For example, not only do you have to deal with currently widely accepted touchpoints like in-store displays, but you also have to start thinking about more conversational experiences like Alexa or Google Home.

Omnichannel Commerce Experience



There are typically two main challenges when building an omnichannel experience.

1. Time To Market

Time to market is always a challenge, especially for marketers who want to be able to build out amazing customer experiences and respond to customer demands as quickly as possible. Luckily, it is a challenge that can be solved.

In general, eCommerce or digital commerce suites are not the fastest when it comes to time to market. This makes sense, considering that it is the core system that handles transactions. Not only does this mean that new feature requests by marketing need to fit in the queue of IT work to be done but it also requires a very detailed QA process whenever changes are made.

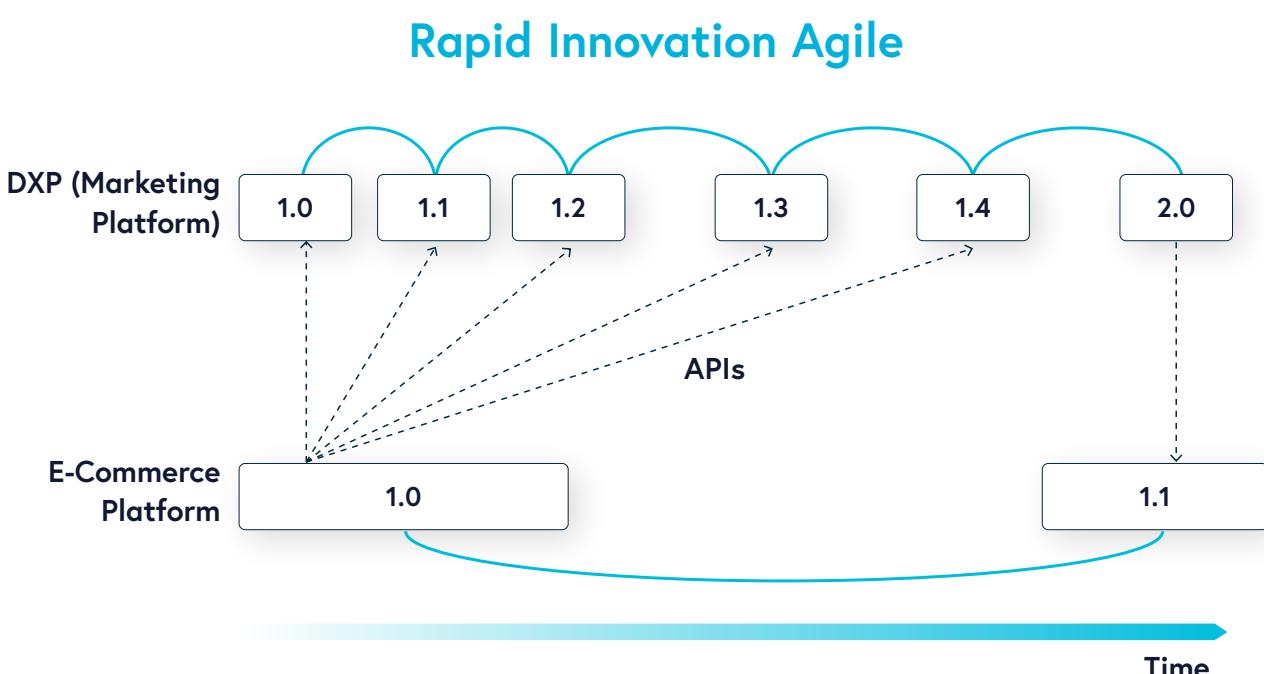
In order to empower your marketing team, it makes sense to separate the transactional side from the experience side. This is where the DXP comes in and the value of APIs becomes really clear.

By leveraging the power of APIs, the DXP can serve as a much more agile marketing platform, allowing for rapid innovation and increasing time to market immensely.

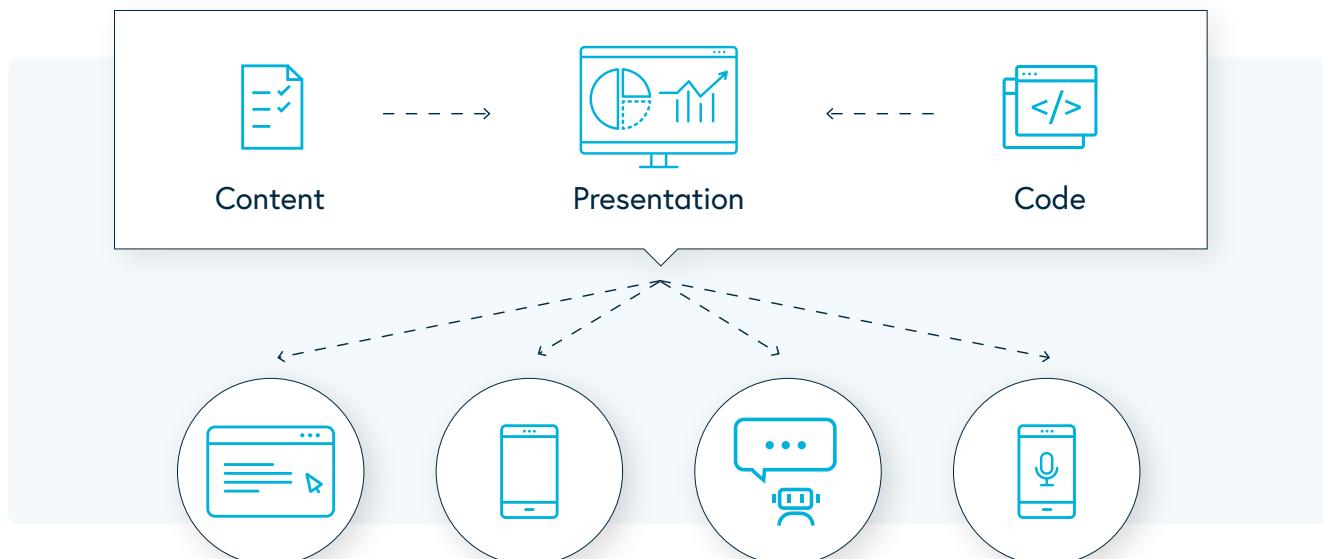
2. Consistency

Keeping the customer experience consistent on all channels requires a platform that has true multichannel support. Consistency can be seen as a combination of the following things:

- Content
- Code
- Presentation (Look and Feel)



Digital Experience Platform



Content

Keeping content consistent in all the different touchpoints requires a platform that separates the actual content from the look and feel. This means that an approach where content is stored in a presentation-neutral format is desirable, because that allows the content to be transformed to any output format using the presentation layer.

Code

The business logic that is executed will have to be shared between the touchpoints as well. Not only because this will lower the initial investment and helps with the ROI, but also because it helps to keep the quality of the overall platform high. Once code is tested and approved, any touchpoint that uses it will have this new feature. When done properly, this could also help with increasing the time to market by enabling the reuse of development effort on new touchpoints.

Presentation

It is very important to keep the customer experience consistent in look and feel so that the entire experience is on-brand. This is another reason why the separation of content in a presentation-neutral format is helpful. Editors will generally not be able to severely impact the look and feel of the channels, as the templating will be done by the platform.

To facilitate this kind of multi-level efficiency, Bloomreach Experience (brX) has been designed to deliver a personalized omnichannel customer experience to all visitors. It has a modular approach to building pages, allowing your marketers to build consistent digital experiences without any IT involvement.

Example: Pacific Home

Let's take a look at an example to make this a bit more tangible. Pacific Home is a great example of where the power of content and commerce come together in a site built on Bloomreach Experience (brX).

The screenshot shows the homepage of Pacific Home. At the top, there is a navigation bar with a search bar and a 'Login/Register' link. Below the navigation, a large banner features a pink background with the text 'Need inspiration?' and a 'See style guide' button. To the right of the banner, there are several decorative items like a blue hat and framed art. At the bottom, there are three service cards: 'Creative Minds' (Contact us 24 hours a day, 7 days a week), '30 Days Return' (We offer you a full refund within 30 days of purchase), and 'Free Shipping' (Automatically receive free shipping on every order). The background of the page shows a blurred image of a room with a sofa and a lamp.

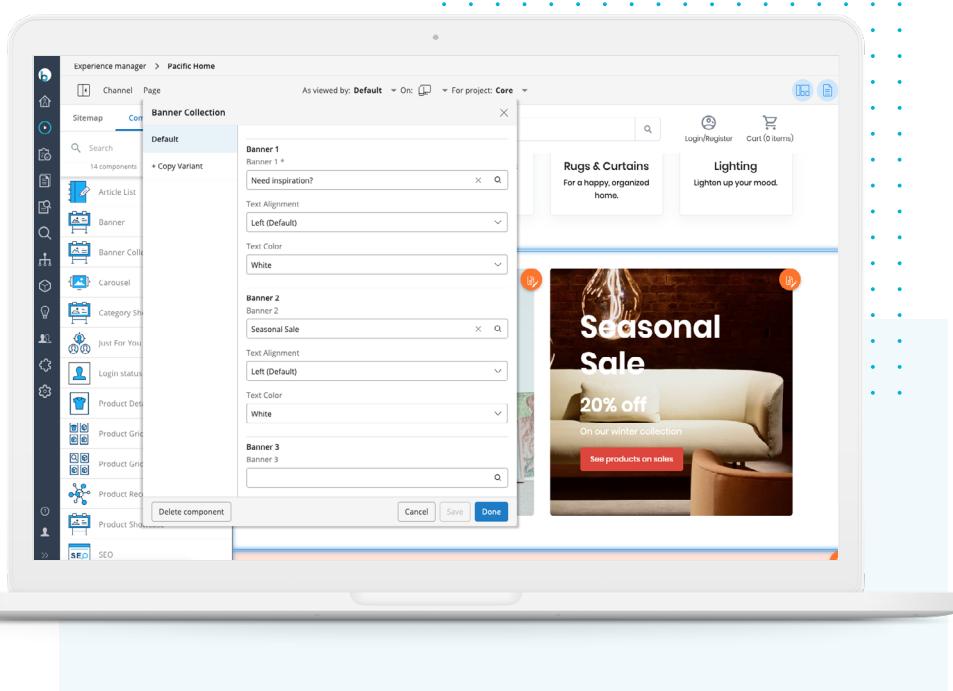
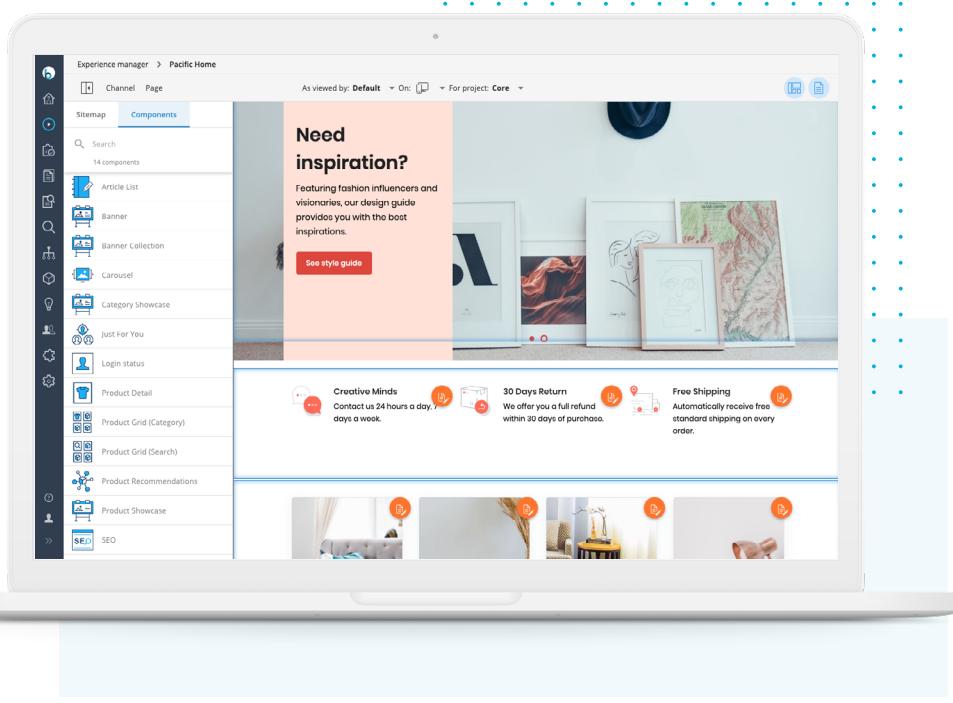
Reusable Modularity

As mentioned, the platform uses a component-based approach to building the site. Think of it like different (reusable) building blocks that your marketing team can use to build pages.

These building blocks can be created from scratch or selected from the extensive library of pre-built components.

As you can see in the picture on the left, components can be configured individually. In this case, to query different products. You can configure the amount of products to show, and even personalize this, using the brX Relevance Engine.

What makes Bloomreach Experience (brX) unique, however, is the ability to use different backend systems in a seamless way. This is where the modular approach really shines.



Let's take a look at some of the typical pages in an eCommerce site:

Home Page

This is where you typically have a combination of content and commerce elements. In our Pacific Home example, we have several banners and a product grid of items that are on sale or that match the campaign we are currently running.

The screenshot shows the homepage of Pacific Home. At the top, there is a navigation bar with the Pacific Home logo, a search bar, and links for Login/Register and Cart (0 items). The main banner features a large image of a room with a painting and a drawing, and the text "Need inspiration?". Below the banner, there are four service icons: Creative Minds (Contact us 24 hours a day, 7 days a week), 30 Days Return (We offer you a full refund within 30 days of purchase), and Free Shipping (Automatically receive free standard shipping on every order). At the bottom, there is a grid of four product categories: Furniture, Décor & Pillows, Rugs & Curtains, and Lighting. Each category has a small image and a brief description. A large call-to-action button at the bottom left says "Need" and has a location pin icon. To the right of the button is a dark banner with the text "Seasonal Sale".

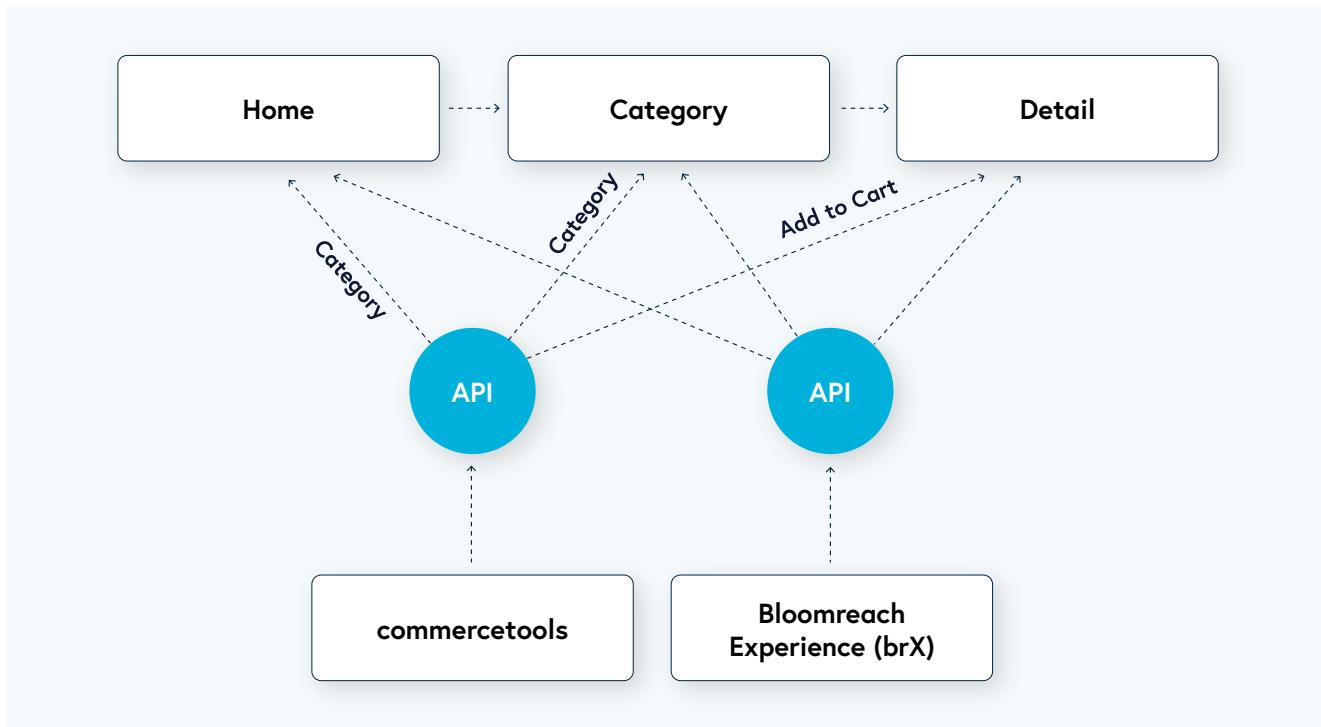
Category Page(s)

Obviously, a very crucial page in eCommerce sites. A listing of products and some filters to help the user navigate the site.

Product Detail Page(s)

The product detail page will display all the attributes of products and images. Another key part of the page is the Add to Cart button, where users can add items to their cart and continue through the funnel.

API-Driven Commerce



The idea is that in the different pages, different APIs are used. In the diagram above, the usage of some of the APIs is labeled. So, by default, the API that is used to supply the products to the product grids could be the commercetools platform. The data themselves are maintained via the built-in commercetools PIM.

An important part of brX are the AI-powered personalization capabilities. brX uses powerful machine learning algorithms to provide personalized search results, category pages and product recommendations all based on the user's browsing behavior.

Because everything is based on APIs, you could switch to a different provider for the category listing, while keeping everything else intact. This enables you to rapidly innovate and optimize the experience.

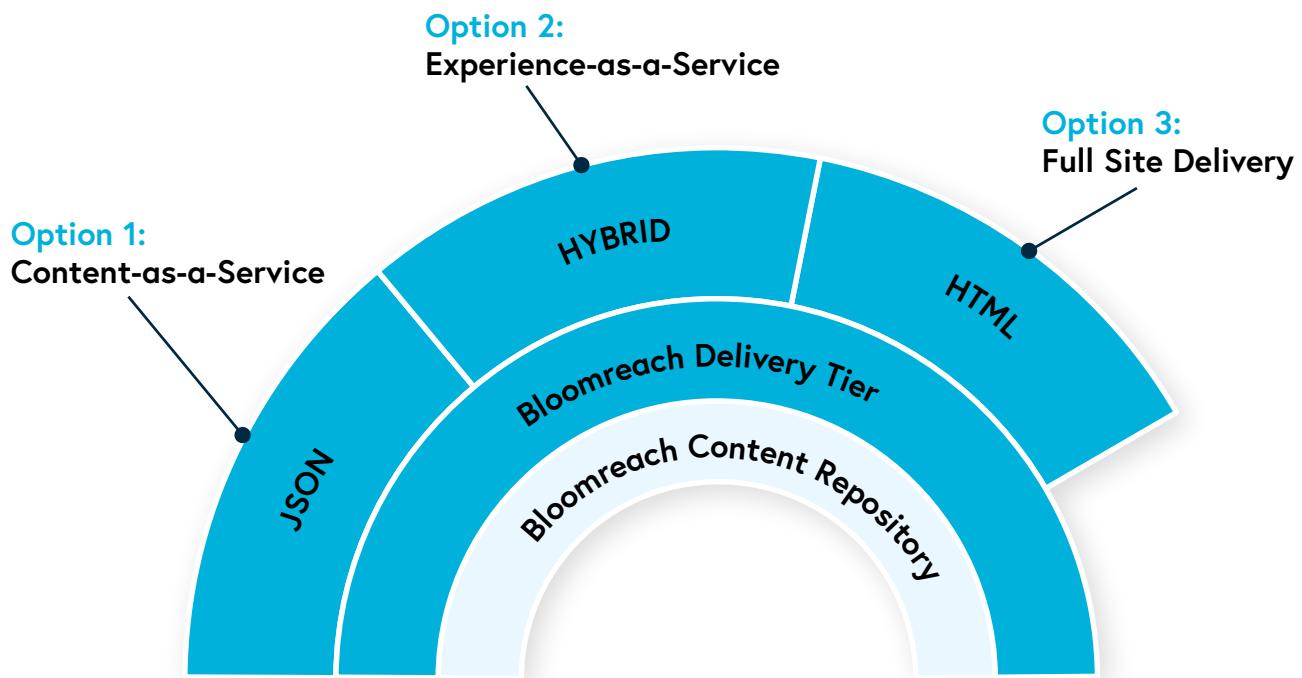
Flexible Delivery

Finally, the API approach allows you to be flexible when it comes to the delivery of experiences as well. Bloomreach Experience (brX) enables your marketing team to control any type of experience, through the Experience-as-a-Service API. You might have heard of Content-as-a-Service, which is typically a way to share content between different sites and devices. While the principle of Content-as-a-Service is definitely valuable (and supported by the platform), the biggest drawback is that it does not allow for a lot of control of the actual experience, unless investments are made to make this possible. In most cases, however, it still is a very disconnected and abstract approach. Especially for marketers, who are used to a very visual approach.

What makes the Experience-as-a-Service

approach so radically different is that you can work inside the Digital Experience Platform, leveraging the benefits of the full WYSIWYG (What You See Is What You Get) interface.

The diagram below shows the different options that are available in the Bloomreach Experience platform.



Option 1: Content-as-a-Service

Allows the retrieval of content from the database in a structured format. Usually mobile applications or external sites.

Option 2: Experience-as-a-Service

Allows the page to be built in a full WYSIWYG approach, but the delivery can be done in both a structured format, for mobile applications or things like a Single Page Application, or in HTML fragments for inclusion in existing sites.

Option 3: Full Site Delivery

This is the most straightforward approach where the full site is handled by the platform.

All these things combined make Bloomreach Experience (brX) extremely well suited to be integrated into any (existing) ecosystem. Flexibility is crucial today, especially when you are facing challenges with delivering a consistent, meaningful customer experience. Integrating new technology or new digital touchpoints is as easy as leveraging the existing APIs.

Recap and Outlook

If they want to stay attractive in today's fast-paced commerce, brands and retailers need to make sure to provide the best shopping experiences possible. They should focus on being part of their customers' everyday lives in order to remain relevant - be it via their own webstore, mobile app or any other device out there. In this scenario, APIs are the glue which hold everything together. They enable fast communication between different software applications as well as hardware devices and make sure that information can travel freely.

For merchants, this is good news: as long as the applications they are using are equipped with well-documented APIs, they can mix and match several applications to mirror exactly what their business model requires. Instead of relying on one, monolithic piece of software which offers everything out-of-the-box, they are free to use a modular approach, choosing specialized software and using it exactly as they see fit.

Bloomreach Experience (brX) in combination with the commercetools platform is a tangible example of this approach. Shop-owners build inspiring shopping experiences with Bloomreach, using a broad spectrum of content elements such as photos, video and

copy. They focus on delivering their brand message across all their chosen touchpoints. The commercetools platform then takes care of the product and transactional aspects of this site: product information, which is maintained via the built-in PIM, can be easily injected into brX. The same is possible for the checkout process, including payment and fulfillment. Both Bloomreach and commercetools have corresponding APIs, which exchange data in the background and are the basis for seamless experiences.

It is hard to tell how, in five or ten years from now, people will discover services and products and purchase them. With APIs, however, brands and merchants are on the safe side. As long as they expose their content elements and their commerce data to the outside world via APIs, these stay usable, regardless of which context. People might be fitted with subcutaneous mind-reading devices in the future - but an API will always listen on the other end.

About Bloomreach - The Leader in Commerce™

Bloomreach is the leader in digital and commerce experience™. Our flagship product, brX, is the only digital experience platform built specifically for brands, retailers and B2B companies who want to grow their revenue online while delivering each of their customers a premium, personalized experience. brX is the only platform that combines content and experience management with market-leading, AI-driven search, merchandising and personalization together in one efficient, modern platform.

Bloomreach serves over 250 companies globally including Neiman Marcus, CapitalOne, Staples, NHS Digital, Bosch, Puma, and Marks & Spencer. A global network of certified partners includes Accenture Interactive, WPP, and market-leading commerce platforms.

More information at bloomreach.com

About commercetools

commercetools is the world's leading platform for next-generation B2C and B2B commerce. To break the market out of being restrained by legacy suites, commercetools invented a headless, API-first, multi-tenant SaaS commerce platform that is cloud-native and uses flexible microservices. Using modern development building blocks in a true cloud platform provided by commercetools, customers can deliver the best commerce experiences across every touchpoint on a large scale.

commercetools has offices across the US, Europe, and Asia Pacific, with headquarters in Germany. Since its founding in 2006, commercetools software has been implemented by Fortune 500 companies across industries, from retail to manufacturing and from telecommunications to fashion.

More information at commercetools.com

Resources

- [1] The State of Commerce Experience, a commissioned study conducted by Forrester Consulting on behalf of Bloomreach, March 2020
- [2] <https://gs.statcounter.com/platform-market-share/desktop-mobile-tablet>
- [3] Make The Cloud A Foundation Of Your Digital Experience Platform Strategy. Push Vendors And Service Providers To Describe Benefits, Not Cloud Marketing-Speak, August 7, 2015 | Updated August 20, 2015. Ted Schadler, Mark Grannan et al