Headless Commerce: The Key to the Omnichannel Experience

HOW YOU CAN USE AN API SUITE TO DELIVER
HIGH-PERFORMANCE SERVICES
AND STRENGTHEN CUSTOMER LOYALTY

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Introduction

Many retailers face similar challenges: Their sales numbers are falling – even though they are trying to be present at every relevant touchpoint along the customer journey. It seems as if being visible across all channels is not enough (anymore). But why is that? Well, customers are becoming more and more demanding. The major online marketplaces have set new standards in terms of usability and customer centricity – standards by which even B2B retailers have to be measured nowadays.

One measure that eCommerce companies are using to take a big step toward meeting their customers' needs is personalization. Customers expect to have an excellent customer experience on all channels as well as to be addressed in an increasingly more personalized manner. Meeting their expectations requires consistent and up-to-date data to be available at all touchpoints. That being said, the way information is provided and presented depends on the respective frontend – an online store, a shopping app, a wearable, or the like. Implementing and continuously customizing individual frontends is anything but expedient due to the enormous amount of costs involved. This is because every change to the frontend, no matter how small, is usually accompanied by adjustments to the backend.

One way to efficiently provide relevant data at all touchpoints is through headless commerce. The advantage for retail companies is that they can customize the respective frontend without having to make changes to the backend, and thereby give different customer groups the exact customer experience they desire.

In this whitepaper, you will learn:

✓ what exactly headless commerce is all about,

✓ what requirements it entails,

✓ what it has to do with omnichannel commerce, and

✓ how retailers benefit from it.

We hope you enjoy reading this whitepaper and find it insightful.
The Arvato Systems team

1. Headless Commerce in the Omnichannel Age

Although the headless commerce concept is no longer brand new, it is now attracting a great deal of attention in the wake of the advancements being made in digitalization – keyword: omnichannel commerce. This is reason enough to take a closer look at how headless commerce works and the advantages it entails.

1.1 What is headless commerce?

Headless commerce is an architecture that separates the frontend, for example an online store's user interface, from the backend. This means that functional enhancements or the launch of new frontends can be implemented in an agile manner independently of the backend. Backend features, such as creating a customer profile or a billing address, are available as services via a programming interface (API).

What Is an API?

✓ API stands for "application programming interface".

✓ An API connects software and hardware components with one another.

✓ Thanks to an API, programs are able to communicate with each other, to exchange data, and to send commands.

✓ An API specifies which information and data is exchanged.

✓ Developers can use an API to access standardized software components and use them individually.

Thanks to this API-based approach, different product teams are able work on vastly different requirements: UX designers (user experience) are able to improve product presentation in the store's frontend at the same time that the team responsible for checkout processes in the backend performs tasks such as integrating delivery to packing stations as an option. Both teams are able to develop and roll out their new features independently of each other. Not only does this makes eCommerce retailers much faster and more flexible, but they are also able to meet their customers' increased expectations – and consequently stand out from the competition if customers are unsure of which retailer they want to choose.

1.2 How does headless commerce work?

Since frontend and backend are separated from each other, the backend serves as a central collection point for all commerce-relevant data, such as prices, discounts, product information, shipping information, and the like. The respective frontend remains without a head, hence the term "headless". In very practical terms, this means that the data and information kept in the backend are not formatted. This allows them to be prepared for the desired distribution channel as needed. The graphical implementation is done directly in the frontend. It is also possible to output data easily and efficiently in various apps using a generic API. This means that eCommerce companies can quickly and easily implement different frontends, including features tailored to their customers' needs, using one and the same technological foundation.

1.3 What requirements need to be met for headless commerce?

Certain conditions have to be met in order for headless commerce to reach its full potential. That being said, a distinction must be made between strategic and functional requirements.

1.3.1 Strategic requirements

Headless commerce is a concept that basically any company could implement. However, eCommerce operators should take a critical look at the extent to which they actually benefit from it. The question is: Does headless commerce fit your personal business model? If you only sell your products in an online store, you are well off using a traditional shop system. These systems often involve extensive software suites: Retailers receive the shop solution as well as other tools, such as Content Management Systems (CMS) or systems for Product Information Management (PIM), from a single source. The suite approach may appear quite simple at first glance, but companies are loyal to a single software provider. Those who want more flexibility should consider this when choosing a solution suite.

Retailers that are not focused on a single vendor and interact with shoppers on multiple channels, on the other hand, would be well advised to look into the "headless" concept. Headless commerce is particularly recommended when quick adjustments need to be made to various frontends on a regular basis. The API-driven approach makes it possible to connect the desired applications with precision and tailor them to the respective graphical and functional characteristics. This means that getting advice from an experienced service provider in advance puts eCommerce operators on the right track right from the start.

Differences Between a Headless and Traditional System Architecture

In a traditional eCommerce architecture, the frontend and backend are combined in one and the same system. This means that changes in the frontend often entail adjustments to the backend logic, making introducing new frontends a complex process. A traditional architecture also tends to be obstructive in terms of updates. This is because separately providing individual features is not possible. Instead, the entire software has to be updated. This is different than with a headless architecture, in which the frontend and backend are cleanly separated and interlinked by APIs.

1.3.2 Functional requirements

A number of functional requirements must also be met in addition to the strategic requirements:

✓ **API-first approach:** The API-first approach is the prerequisite for seamless and headless commerce processes. The presence of high-performance bidirectional interfaces is decisive for the success of this concept.

✓ **High-performance APIs:** A [technological foundation](#) that supports linking the frontend and backend via high-performance interfaces is needed to guarantee the performance of these interfaces.

✓ **Microservices:** Microservices are a perfect complement for headless commerce scenarios. As small functional components, microservices, such as automatic price and promotion calculation, can also be connected to the backend via APIs. Doing so allows eCommerce operators to easily enhance the functionality of the respective frontend.

✓ **Software-as-a-Service (SaaS):** Yet another requirement should be met at the functional level in addition to those just listed: The backend system needs to be available in the form of Software-as-a-Service (SaaS) in the cloud in order to provide the ideal scenario. This makes it even easier to enable new features.

1.4 Why is headless commerce important for omnichannel commerce?

Customers want store operators to address them personally – and not just in terms of their names, but also in terms of their preferences and recent purchases. Only those retailers who succeed in focusing on the customer at all touchpoints (customer centricity) can look forward to having regular customers who are loyal to them in the long term and, in the best-case scenario, will even recommend them to others.

In practice, this means that customers should have a consistent shopping experience across all channels, be it in an online store, a shopping app, or on social media – and yes, even in the retailer's physical store. Consumers have to be able to freely choose the fastest and most convenient way to make their purchases. And this is exactly what omnichannel commerce is all about. It does not matter where and how customers shop – or whether they do it online or offline. What counts is their cross-channel user experience.

The "headless" concept is perfect for making their shopping experience even more personalized. It even makes it possible to provide customer-specific frontends – as well as precisely tailored product recommendations and a personal approach. All that said, headless commerce paves the way for inspiring omnichannel experiences.

2. What Benefits Does Headless Commerce Offer Retailers?

The biggest benefit of the "headless" concept is most definitely the gain in flexibility and time. Retailers have the opportunity to combine frontends and features that are best suited for their individual purpose as needed. This allows them to react quickly to new market requirements: For example, you can introduce a customer loyalty or bonus program, display personalized product recommendations for the respective user, or provide other customer-specific information – all with a single click. This not only saves time, it also saves costs in the medium term.

This is because using microservices even makes it possible for retailers to extend the customer experience to their physical stores. The store's frontend can also deliver information, such as inventory data, in real time. This makes it possible for the customer to view the inventory of whichever store they want. The result: The API-first approach also supports omnichannel services beyond online touchpoints, for example, click & collect and click & reserve.

There are other good reasons for using headless commerce beyond these two core benefits:

✓ **Maintaining data in one central location in the backend and making it available via APIs:**
All sales-relevant data is stored in the backend and can be distributed from there to the respective frontend via APIs. This makes things such as processing a pending order lightning fast – regardless of through which touchpoint a retailer receives it.

✓ **Outputting consistent data that is adapted for the respective channel:**
Whether desktop application, smartphone app, or social media platform, headless commerce allows information held in the backend to be formatted for the respective distribution channel in a way that is media neutral so that it meets channel's requirements as best as possible. By doing this, companies continue to strengthen their brand – across all channels and at all touchpoints.

✓ **Increasing the store's performance:** The fact that frontends are not created in the backend, but rather are connected via an interface, has a positive impact on an online store's performance. This is because the API only retrieves the data that is actually required to display the respective frontend.

✓ **Implementing customer-specific frontends:** The possibilities an API connection offers mean that there are almost no limits on how frontends can be designed. Online retailers can implement customer-specific frontends as needed in a manageable amount of time and at a manageable cost.

✓ **Integrating new features quickly, efficiently, and with minimal risk:** Having the frontend separated from backend makes it very easy to integrate new features. All it takes is a few clicks.

✓ **Strengthening customer loyalty across all channels:** Customer centricity means that the customer is always the center of focus – no matter at which touchpoint. If they have a consistent customer experience across all channels, customers are able to identify with a brand more and more, which strengthens their loyalty to the company.

✓ **Turning one-time buyers into loyal customers over time:** If a company succeeds in consistently inspiring their customers, the chances are good that they will turn into regular customers who are loyal to them.

✓ **Ensuring consistently high delivery quality:** Microservices are a real asset when it comes to things such as customer service. For example, a component could be connected to the backend to check in real time whether the product the customer requested is in stock, saving the retailer the embarrassment of having to cancel a purchase after the fact.

✓ **Covering performance peaks:** Seasonal events, such as Black Friday, always push online stores to their limits. A backend system will quickly become overloaded if the maximum number of simultaneous orders it can handle is exceeded. In a headless commerce scenario, the frontend always remains accessible and efficient – regardless of the number of incoming orders.

✓ **Scalability:** Scaling the frontend and backend separately is not possible with traditional shop systems. However, with headless commerce, both areas can be independently designed to best meet the needs of the frontend and backend teams.

Example

The fictitious retail company Amporio used the omnichannel-capable Order Management System (OMS) aroma® to modernize its online store and align with the concept of headless commerce. Amporio felt that the traditional approach – connecting the frontend and backend systems – was no longer flexible enough. The company was curious about the extent to which processes could be improved and more efficiently designed using headless commerce.

aroma® acts as a single source of truth by bundling and managing inventory data and all information relevant to Amporio's omnichannel processes. In addition, aroma® also supports the headless commerce approach: It provides an API suite for cart handling at Amporio that makes it easy to manage the shopping cart, wish list, and checkout process in the backend. Meanwhile, the company is able to flexibly provide frontends for different devices – be it desktop PCs, tablets, smartphones, or wearables – as well as for various channels – from the store to the app, to social media, and even VR applications (virtual reality).

For Amporio, the combination of order management and headless commerce is an effective functional enhancement for the omnichannel experience, which has aided in noticeably improving customer satisfaction.

3. Summary: Retailers and Customers Equally Benefit from Headless Commerce

Retailers can use the "headless" concept to provide their customers with a seamless shopping experience. Whether they come into contact with a retailer in an online store, a shopping app, or at another touchpoint does not matter. Accurate information, which is perfectly presented in the respective frontend, makes it so that the customer has a great customer experience time and time again regardless of the channel. This increases the chance that one-time buyers will become loyal regular customers.

Despite all the advantages, blindly hurling yourself into the headless commerce adventure has little chance of success. The headless approach is not the right choice for online retailers who have already found an eCommerce platform that offers them the exact features and customization options they need – even in the years to come. But eCommerce operators who have a high need for customization and regularly want to integrate new features into their store – whether to keep it interesting for customers or keep offering them new added value – should choose the headless approach. For retailers such as this, acquiring an eCommerce system that supports headless commerce is a very worthwhile investment. This is because they are able to offer their customers a fantastic shopping experience across all channels, but they are also able to save time and money – both now and in the future.

4. About aroma®

The aroma® omnichannel Order Management System from Arvato Systems is an all-in-one solution for retailers. aroma® has a modular design. The individual components fit together perfectly – like a puzzle – but they can also be individually integrated into an existing system. This allows companies to adapt their eCommerce system to their individual needs and further develop it as needed.

You can find more information about aroma® on [our website.](#)

5. About Arvato Systems

Global IT specialist Arvato Systems supports major companies in Digital Transformation. About 3,100 staff in over 25 locations stand for in-depth technology expertise, industry knowledge, and focus on customer requirements.

Working as a team, we develop innovative IT solutions, transition our clients into the Cloud, integrate digital processes, and take on IT systems operation and support. As a part of the Bertelsmann-owned Arvato network, we have the unique capability to work across the entire value chain. Through our strong strategic partner network with global top players such as AWS, Google, Microsoft, and SAP, we continuously strengthen our know-how and leverage the most advanced technology.

We Empower Digital Leaders.
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