



Delivering personalization through composable commerce Article 5 | Thrive in the world of eCommerce Customers increasingly expect personalized experiences at every moment in the customer journey from product discovery to buying and post-purchase. To meet that demand, businesses should adapt every aspect of the digital shopping experience to reflect individual preferences and behaviors.

In our last **article**, we talked about the different areas in an ecommerce application that could be leveraged to create a cohesive personalization strategy. This article dives deeper into this concept and explains how businesses can use a composable commerce architecture to support personalization.

What is composable commerce?

A composable commerce architecture harnesses new cloudcentric best-of-breed tools, each designed to excel in a specific function, rather than offering a broad range of services. Designed to boost performance, speed and agility once the foundation is in place, these tools adhere to the philosophy of "do one thing and do it right." With a composable commerce architecture, brands build customized, scalable e-commerce solutions by combining the best individual components, rather than relying on monolithic platforms. As well as boosting flexibility and scalability, composable commerce optimize total cost of ownership (whitepaper on composable commerce) by providing more granular control over direct and indirect costs for e-commerce applications.

Personalization in composable commerce

Traditional monolithic e-commerce platforms often lack advanced personalization capabilities. By contrast, a composable architecture provides greater freedom to select the best tools for personalization, allowing businesses to choose specialized solutions that fit their unique needs. This flexibility empowers organizations to deliver more tailored and dynamic customer experiences by leveraging recommendation engines, customer data platforms (CDPs), personalization engines and other cutting-edge technologies. However, this vast array of options can also make it challenging to determine the right toolset for personalization. With so many specialized solutions available, businesses may struggle to evaluate and integrate the most suitable tools, leading to potential complexity in decision-making and system alignment.

Composable commerce provides the flexibility to select the right tools for crafting an effective personalization strategy. However, the abundance of options raises a critical question: where does the responsibility for personalizing the customer experience truly reside within the architecture? The answer: it is scattered. Different solution components are responsible for personalizing different areas in an e-commerce application.



A typical composable e-commerce ecosystem comprises the following solution components, working together to create a highly personalized customer experience for online customers:



It is important to clearly define which aspect of personalization is taken care of by which solution component. Below we outline how these components should be used to achieve personalization in different <u>areas</u> (see our last article) in an e-commerce application.

The real value lies in an ecosystem where these different components are inter-connected and provide a unified customer experience.



Customer data platforms (CDPs)



Personalization depends on insights about the customer. For the most valuable customer insights, there should be a centralized hub where all customer interactions, profile details and transaction data are gathered to create a comprehensive unified customer profile. This is often known as the "golden profile."

CDPs are capable of unifying and centralizing customer data from multiple sources (front-end channels, CRM, ecommerce etc.). They enable businesses to better understand customer behavior, preferences and interactions through segmentation. The resulting segments/profiles can then in different content platforms, such as a CMS, search, recommendation or commerce platform to tag the related content with these segments.

CDPs provide more features than just segmentation. Some of the use cases for a CDP are omni-channel marketing, real-time decision making and the development of unified customer profiles. If the use cases are limited to personalized product recommendations, personalized email content, or a tailored site experience based on a user's browsing behavior, a personalization engine may suffice.



Personalization engines



It's not always viable to have a CDP for a business, for example, because of limited channels and data sources. In this case, there are specialized tools available which focus on real-time signals from customer interactions with frontend channels and then provide insights and segmentation without the need to consolidate data from different sources. These systems are usually called personalization engines. They are modern, focused on digital touchpoints (such as a website or app), easy to plug in and provide exactly what is needed to enable personalization in ecommerce and other channels.

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CMS platforms are used to manage all the content centrally in one place from where it can be distributed to different channels/applications. Providing real-time APIs for fetching content is critical to enable instant updates and ensure that users are served the most relevant information based on their current behavior or preferences.

Equally important is tagging content with customer audience or segment data, which allows the platform to deliver personalized experiences tailored to specific groups. In this way, a CMS platform can move to more personalized content delivery, drawing on segmentation data from a personalization engine or a CDP.



Commerce platforms



Even in a composable architecture, commerce platforms still have personalization responsibilities in a few areas, such as price lists, checkout and cart experience—displaying tailored promotions, payment or shipping options.

Here's an example: the CDP platform identifies the customers at 'risk of attrition' based on information from a CRM system and creates a segment for this group. The commerce platform then applies a targeted promotion specifically for customers in this segment. When these customers browse the ecommerce site, they see messaging about a promotion to encourage them to stay with the brand.





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Search providers

In e-commerce, search engines ingest product and content data and index it for a faster search experience, enabling users to find relevant content based on their queries. The engine processes the search input, ranks the results, and displays the most relevant information quickly, using algorithms to match user intent with available data.

The ability to absorb real-time signals from front-end channels, such as user behavior or preferences, enables the search engine to dynamically personalize results based on these insights. For example, if a customer has searched for 'gold' on a jewelry web shop, the next time they browse a category, they will see gold products on top of the search list.

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Recommendation engines



The primary function of a recommendation engine is to deliver product/ content recommendations which can then be integrated into any channel, such as an e-commerce front-end. To provide a personalized recommendation, these engines need signals/ insights from the e-commerce front-end and other systems with which the customer interacts. These engines can then absorb those signals/ insights and update the product/content recommendation in real-time so that customers see relevant recommendations when they are still browsing on different channels.



Front-end channels

As this is where the customer interacts, the front-end channels are where the experience must be personalized by tying everything together. In a composable commerce architecture, the front-end of different channels draw personalized content/data from 'single source of truth' systems, such as a CMS or a product recommendation engine, to provide a consistent personalized experience no matter the channel. Another responsibility of these front-end channels is to send signals about the current customers towards a centralized audience segmentation platform (such as a CDP or personalization engine) so that they can learn about the customer in real-time and attach a segment to the customer profile. For example, a key signal could be that the customer has been browsing on a site for more than 30 minutes. **Artificial intelligence** (AI) is rapidly enhancing these tools, enabling them to operate with greater speed and intelligence. For instance, AI models can be developed and trained to learn from customer interactions, enabling search engines or recommendation systems to adapt and respond in real time.

The tools outlined above are key enablers of personalization in a composable commerce architecture, though there are many more that can be leveraged. The real power comes from a unified e-commerce ecosystem, where platforms are interconnected, learning from each other and working together seamlessly.

As the name "composable" suggests, there is no fixed blueprint for how these components should be connected. Each brand using composable commerce assembles its ecosystem in its own unique way, enjoying greater freedom, but also facing a wide array of choices.

For businesses looking to build a composable commerce solution, selecting the best tools and determining the optimal integration strategies can be challenging. Some of the key decisions with respect to tool selection are integration complexity, the likelihood of vendor lock-in, cost and time to market. This is where a hands-on composable commerce expert, with experience implementing these systems on the ground, can play a key role. Such experts can help brands pick the right tool, navigate the complexities, ensure smooth integration, and create a cohesive, scalable personalization solution tailored to the business's needs.

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