



On the road to cross-border eCommerce

A guide to global growth with composable commerce and MACH

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1. Executive summary

As the name suggests, cross-border eCommerce is about selling goods digitally beyond a company's domestic market, usually to overcome saturation and create new growth opportunities. While international eCommerce isn't new, the speed at which goods are crossing borders, facilitated by eCommerce, is faster than ever.

As 87% of merchants¹ believe that expanding online sales into foreign markets is one of the biggest growth drivers, the challenge is to find the best strategy for cross-border expansions. No longer must companies invest in a full-blown physical footprint when expanding to new markets. Rather, the focus on eCommerce-only has become the dominant form of international market entries — offering a spectrum of options from adding products to regional marketplaces to direct-to-consumer (D2C) strategies.

In the age of demanding consumers, businesses of all sizes are increasingly adopting digital D2C for foreign expansions. While hybrid brick-and-mortar, marketplaces and D2C models persist in maximizing brand awareness and sales, brands have realized that only by owning the relationship with customers can they understand how new markets tick and sustain long-term growth.

Whether your business is looking to expand internationally for the first time or is already a global player, companies managing multi-country units face immense opportunities and challenges. Companies need to consider:

- Where to expand.
- What market entry strategy to follow.
- How to localize offers, provide touchpoints, manage logistics, payments, returns and supply chain disruptions — in line with consumer expectations.
- How to handle the incremental complexity of global eCommerce.

All of these factors must be reviewed on top of highly competitive, fast-moving markets.

The winners on the global stage will be the ones who can move faster to address untapped markets, create authentic branded moments and tap into customer loyalty for sales growth in the long run. To achieve this, brands must delve deeper into the requirements a modern commerce solution should fulfill.

This paper lays the groundwork with trends, insights, business challenges and commerce technology requirements, as well as an implementation roadmap to help you succeed in your eCommerce expansion endeavors.

¹ Visa Global Merchant eCommerce Study (Visa GME Study) 2019

2. The state of cross-border eCommerce

Cross-border eCommerce keeps breaking records. It remains a key growth engine for businesses, even if it has taken a hit in the last two years due to COVID-19, Brexit and international political tensions.

Between 2020 and 2021, these factors combined put a damper on global expansion growth. Some top 250 retailers sold, closed or halted international trading, with the average number of countries declining from 11.1 in 2019 to 10.8 in 2020². Now, cross-border eCommerce is again open for business — and a top priority for 40% of online merchants in 2022³.

The staggering growth in online shopping is the key driver in multi-country expansions. Digitization has changed how consumers shop, a trend significantly influenced by the pandemic. For instance, global retail eCommerce traffic stood at a record 22 billion monthly visits in June 2020⁴, with demand being exceptionally high for everyday items such as groceries, clothing and retail technology items.

The world's top 250 retailers illustrate this shift⁵. The companies that have quickly moved from physical to digital accumulated double-digit growth in sales. Nike, for example, experienced online sales of up to 60%, while the luxury fashion holding company Tapestry saw its eCommerce sales hike to US\$1 billion, representing a 14.1% retail revenue growth in 2020 in comparison to the previous year. Predictably, the share of eCommerce sales will keep climbing year on year and is expected to reach 24.5% of retail sales worldwide in 2025⁶.



² Deloitte Global Powers of Retailing 2022

³ Verifone Survey Insights - 2022 eCommerce Trends

⁴ Statista

⁵ Deloitte Global Powers of Retailing 2022

⁶ eMarketer eCommerce Forecast 2021

As the shift to online shopping becomes a permanent fixture of commerce, digital-native and brick-and-mortar businesses explore the window of opportunity to grow abroad as fast as possible.

This turning point fuels the lightning-fast pace of the eCommerce technology industry, the backbone that enables customers to purchase goods and services through an interactive and self-service capability. The global digital commerce solution market is due for a shake-up in the years to come: Research predicts that between 2022 and 2029⁷ this industry's valuation will jump from US\$ 3.41 billion to US\$ 7.85 billion, growing at an impressive compound annual growth rate (CAGR) of 12.6% during this period.

Amid the COVID-19 pandemic, the 2020 digital commerce software market grew by 17.3% — higher than its pre-COVID-19 growth in 2019, and almost double the growth of the overall application software market at 9%⁸. Gartner forecasted a CAGR of 15% revenue increase⁹ for digital commerce platforms between 2020 and 2025. In addition, 65% of enterprise professionals¹⁰ say that fostering business innovation is top of mind to invest in digital commerce.

With the need to respond faster to fast-moving consumer demands and cross-border eCommerce up for grabs, companies investing in modern eCommerce solutions will be best positioned to expand beyond domestic markets successfully.



⁷ Market Insights on Digital Commerce Platform Market by FMI (Future Market Insights)

⁸ Gartner Magic Quadrant for Digital Commerce, August 2021

⁹ Statista

¹⁰ Gartner Digital Commerce State of the Union Survey, 2020

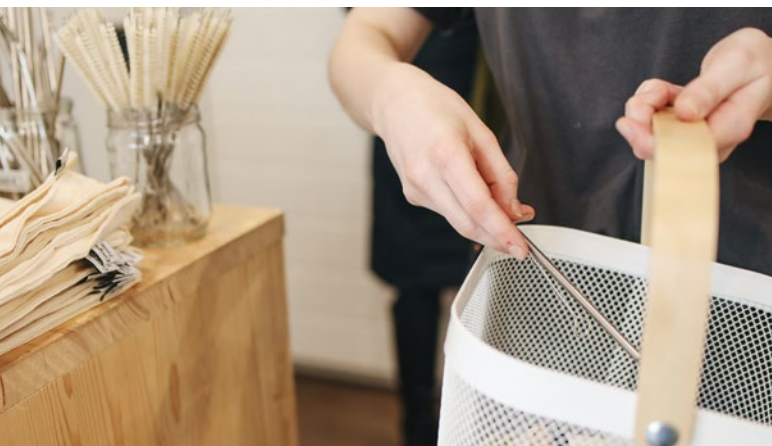
3. Consumer expectations

Today's consumers are in control, dictating the shopping experience they want. With ever-increasing competition for their eyeballs and disposable income, consumers are in the position to make or break brands, domestically and abroad.

An overview of today's consumer demands

The experience economy

Consumers increasingly reward brands that give the shopping relationship meaning beyond the transaction, such as greater personalization, special loyalty programs or company values that are consistent with their own. 86% of buyers would pay a premium for a good experience¹¹, indicating that customer experience has overtaken product and price as the key brand differentiator, especially for non-commoditized goods.



The responsible consumer

The emergence of the responsible consumer, particularly those from the millennial and Gen Z age groups, shows a strong interest in sustainability and expects the same from the companies they interact with. 55% of consumers had purchased a sustainable product or service in October 2021¹², and 32% had paid significantly more for their sustainable purchase than the price of an alternative product.

Personalized experiences

Personalization has changed the game in eCommerce, with 91% of consumers saying they are more likely to shop with brands that provide relevant offers and recommendations¹³.

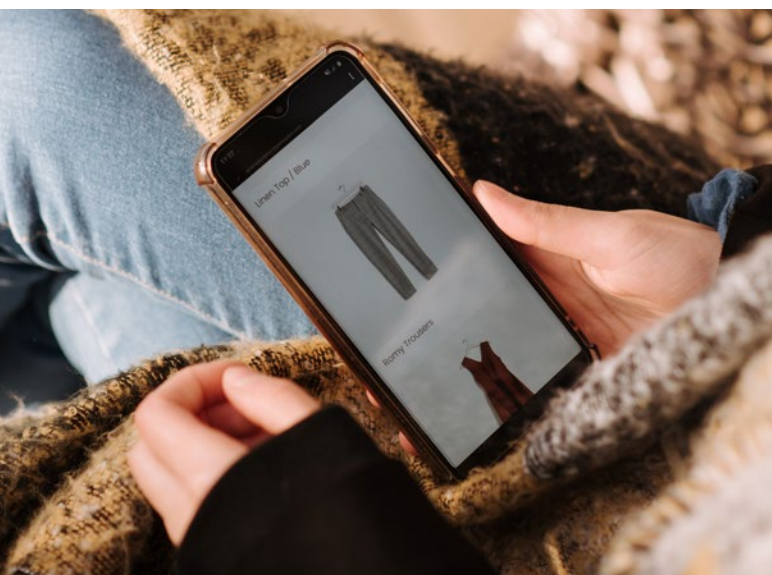
Instant gratification

In a world where consumers can buy with one click and receive their orders in 24 hours, it's no wonder that instant gratification has taken root in eCommerce. The "power of now" is a massive challenge for businesses, especially those operating cross-border and dealing with different demands influenced by local cultures, such as payment methods and logistics.

¹¹ Forbes

¹² Deloitte Global State of the Consumer Tracker

¹³ Accenture



Mobile-first

As consumers' eyeballs remain glued to their mobile devices (smartphones and tablets), it's clear why mCommerce (mobile commerce) is on the rise. Today, 49% of mobile shoppers use smartphones to compare the pricing of products or services, and by 2024 mobile shopping should account for 42.9% of eCommerce¹⁴. However, 67% of mobile phone users¹⁵ stated that pages and links being too small to click on is a barrier to mobile shopping. Mobile responsiveness is a clear consumer need that merchants and brands do not always meet.

Omnichannel commerce

Shopping is not a linear process any longer. 73% of consumers use multiple channels along their shopping journey beyond the brick-and-mortar store and webshop¹⁶, including mobile apps, social media, voice assistants and augmented/virtual reality. In short, consumers want an experience where they can shop anywhere seamlessly.

At the same time, omnichannel doesn't mean companies have to invest in all channels. In international markets, it's vital to plug touchpoints that are relevant for local audiences. In social commerce, for instance, WeChat is the go-to chat app for China, while WhatsApp Business is primarily relevant for Latin America and Western Europe, and Facebook Messenger remains king in North America.

Amazon-like website performance

Consumers want a similar experience to what they see on Amazon when shopping online. Much of the eCommerce behemoth's success is based on hassle-free shopping experiences, from user-friendly design to website speed, convenient checkout and same-day delivery.

Google-like search

Navigating the sea of online products is a daunting task for any consumer, and that's why 43% of users¹⁷ go straight to the search bar on retail websites. Searchers are two to three times more likely to convert. At the same time, 68% of shoppers¹⁸ would not return to a site with poor search experience.

¹⁴ Criteo

¹⁵ Criteo

¹⁶ Study published by HBR

¹⁷ Must-Have E-Commerce Features, Forrester 2022

¹⁸ Google-ize Your Site-Search Experience, Forrester 2015

Consumer-style experiences for business-to-business (B2B)

75% of B2B customers find the purchase experience to be too complex¹⁹. Still, they expect consumer-like experiences: easy navigation, enhanced search, quick ordering, personalized offers and consistent brand information across all channels. After all, B2B buyers are people, and how they buy as consumers also impact their expectations in B2B.

Key takeaways for your cross-border expansion

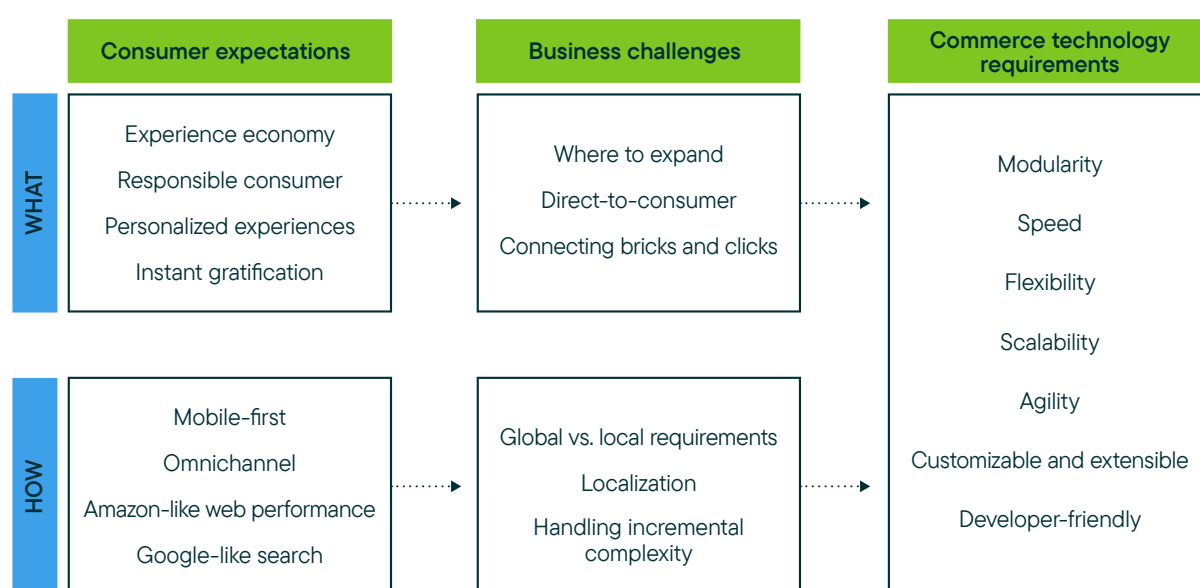
- ✔ Consumers want convenient, personalized shopping experiences combined with meaningful brand relationships, and they're prepared to pay for it. Invest in customer-centricity to de-commoditize through experiences — even in B2B.
- ✔ Mobile is expected to overtake desktop interactions in online shopping in developed economies and emerging markets. No matter where you expand, creating a mobile-first experience is essential.
- ✔ Certain emerging markets may have ever higher rates in mCommerce than developed countries, as many users own a smartphone but not a desktop.
- ✔ Get to know locally relevant digital channels for your market entry and how to bind them together for a seamless experience. For instance, social commerce is widely used and each country/region has its preferences, e.g., WeChat in China, Instagram and Facebook Messenger in North America.
- ✔ When interacting with brands, consumers expect top-notch web and search experiences. Benchmarking market leaders such as Amazon and Google is the way to go.

¹⁹ Deloitte

4. Business challenges

In recent years, mature markets like Western Europe, North America and Japan have become saturated for most industries. The natural course has been to expand to emerging markets in Latin America, Eastern Europe, and most notably, Asia Pacific. At the same time, brands headquartered in emerging markets have expanded their international footprint, especially in neighboring countries.

While a multi-country expansion brings opportunities for fast growth, current consumer demands add new layers of complexity to an already challenging undertaking.



Where to expand

Even if you don't yet serve international markets, interest in your goods and services may have crossed the border. Analyze your current traffic, sales-by-country data and conversion rates using Google Analytics and assess:

- Each country's eCommerce revenue forecast.
- Currency rate volatility.
- Digital maturity.
- Local regulations, e.g., GDPR in the European Union and the California Consumer Privacy Act.
- Political and economic developments to identify potential risks, e.g., unrest in Myanmar, the war in Ukraine.

With these insights, examine where to focus your efforts first and eCommerce market strategies that best fit your budget and goals.

eCommerce market entry strategies: marketplaces versus direct-to-consumer

As each market presents its peculiarities, consider the pros and cons of eCommerce entry options, including marketplaces and direct-to-consumer (D2C).

With 47% of eCommerce transactions happening on local marketplaces²⁰ like Amazon and Alibaba, brands may consider it the safest and cheapest option. Indeed, adding product catalogs to a marketplace presents near-zero investment or risk, which may be ideal for high-risk markets or as a starting point for an international expansion.

Brand-agnostic shoppers — those who know **what** they want but not **who** they want — tend to use online marketplaces, making them a great place to experiment before launching your D2C footprint. In the long run, however, marketplaces are essentially crowded platforms where brands have low visibility, compete on price and have no direct contact with customers.

When consumers get to know who provides what they want, turning from brand-agnostic to brand fans, they demand meaningful and personalized experiences. Thus, a marketplace-only strategy may not be suitable for sustainable growth over time.

Direct-to-consumer (D2C) is the business model of selling products directly to consumers and bypassing third-party intermediaries, such as marketplaces or distributors. On the global stage, brands opt for D2C instead (or in addition to) adding products on marketplaces and/or opening physical stores to:

- Control brand messaging and consumer engagement.
- Create direct access to customers and their data.
- Gain higher margins and strengthen brand loyalty.

Companies can go D2C globally from a single website, which works well when targeting geographically close markets that share a common language, such as the US and Canada or Germany and Austria. A more sophisticated D2C alternative is to create localized eCommerce sites and touchpoints, which requires more effort and investment but is ideal for curating audiences and creating tailored customer experiences.

Ultimately, marketplaces are suitable for introducing your brand and creating early traction, especially in high-risk markets. Creating a D2C approach may be riskier and require more investment, but it provides the foundation for growth in the long run.

²⁰ Webretailer 2021

Connecting bricks and clicks

Blending offline and online shopping is essential for traditional brick-and-mortar businesses to thrive. The majority of consumers start their journeys online, where they compare options from different retailers. Others start in-store and prefer to purchase later online. Physical and digital channels should work symbiotically regardless of how the consumer begins the journey. In local markets, take note of successful strategies such as:

- **Curbside pickup:** When a customer makes an order online and picks up the goods at a designated location, such as a pickup station.
- **Clienteling:** A technique used by retail sales associates to establish long-term relationships with customers, such as a personal shopper service.

Global versus local requirements

When rebuilding a digital commerce system to accommodate international approaches, possibly spanning multiple countries, languages and sub-brands, companies often encounter conflicting requirements from headquarters versus individual countries or brands with unique requirements. These conflicts need to be discussed in detail to find the right balance between central standardization and local individualism.

Typical sources of conflicts are:

- Design
- Payment providers
- Shipping methods
- Address structures
- Catalog structures
- Discounts
- Dynamic Pricing
- Personalization
- Order splitting across multiple ERP systems
- Content creation and management.

Localization

When adopting a D2C strategy to specific markets, localizing your brand and products may be the key to long-term success. After all, 47% of consumers say having a presence in their local market was a significant factor in choosing which brands they shop from²¹. Beyond mere language translation, localization is about refining and adapting to the local lingo, channels and offers to meet local demands.

²¹ eCommerce Market Credibility Study, Forrester 2021

When entering a new market, companies should decide between a single, global website or localized e-shops. When choosing a localized strategy, pay attention to these details:

- Language nuances, e.g., “sweater” in the United States and “jumper” in the UK.
- Imagery with local models.
- Locally relevant digital channels, e.g., WeChat in China and WhatsApp in Brazil.
- Checkout and payment preferences.
- Pricing and local currencies.
- Seasonal campaigns, e.g., Cyber Week in the United States and Diwali in India.

Handling incremental complexity

When expanding internationally, companies account for new complexities. Localization means languages, data, channels, currencies and local customizations — you name it. When chaos sets in the eCommerce backend, invariably, it spills over to the customer experience.

Inconsistent pricing across channels, lagging website performance, lack of responsive design for mobile devices, outdated seasonal campaigns and other scenarios are common issues for companies that have expanded to foreign markets but haven’t matched their ambitions with a commerce platform that can handle this level of complexity.

Most companies have relied on legacy platforms built for desktop-based eCommerce. With consumers’ demands increasing by the day, encompassing mobile and omnichannel experiences, web and search performance, etc., keeping pace with rigid commerce platforms hinders companies from expanding globally.

Powering the consumer and business needs requires a shift in the eCommerce technological backbone. The following section explores new technology requirements and solutions to help you realize your global aspirations faster and hassle-free.

Key takeaways for your cross-border expansion

- ✔ Understand the risks and investment required to enter a new market, the pros and cons of adding your catalog to a marketplace and/or starting your digital-to-consumer (D2C) footprint.
- ✔ Localization is essential, but it brings a new set of complexities. Handling the intricacies of multi-country endpoints needs to be flexible, scalable and customizable to address the fast-moving consumer demands of the present and future.
- ✔ While consumers expect brands to deliver Amazon- and Google-like experiences when shopping online, creating those experiences has been out of reach for most companies due to cost and/or lack of technical expertise. Modern commerce solutions are ready to respond to these demands.
- ✔ Companies exploring ways to expand internationally need to think anew when defining the technical requirements that fit their global ambitions instead of working around a rigid commerce platform that prevents growth.

5. eCommerce technology requirements

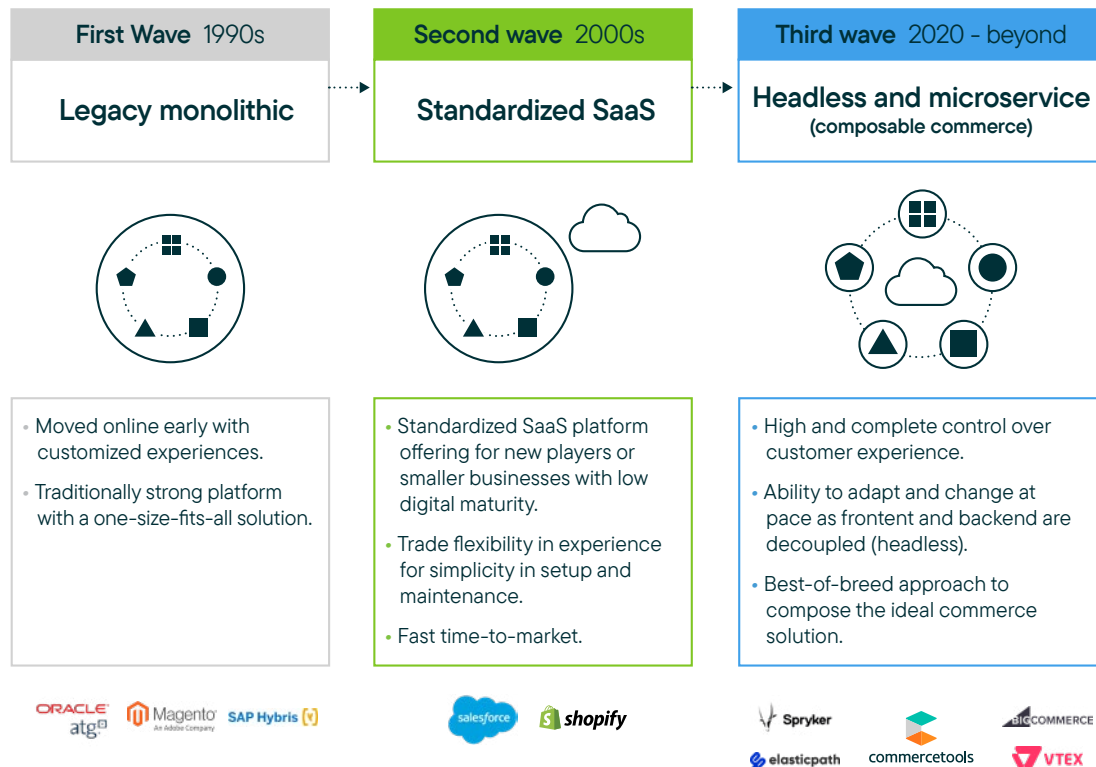
When entering a new market and addressing local needs, businesses require a centralized — yet flexible — eCommerce solution to manage multiple languages and currencies, local catalogs, shipping, prices, specific payment methods, touchpoints and anything else for a successful market entry. For brands aiming at multi-market entries, eCommerce technology must tick the following high-level requirements:

- **Modularity:** Pick and choose components that suit your global versus local business needs. Each local/regional branch may need to implement specific features or touchpoints independently.
- **Speed:** Moving at high velocity is an absolute necessity, so you can respond to customers' demands and navigate local market changes on the fly.
- **Flexibility:** The ability to add features, integrations, run campaigns, customize touchpoints, and perform updates and changes on the go, is vital.
- **Scalability:** Handling web traffic peaks while maintaining high-speed performance is critical for conversion rates.
- **Agility:** Agile releases keep your commerce infrastructure updated and running on the latest version, easing maintenance and simplifying IT operations.
- **Customizable and extensible:** A commerce solution must provide default functionality while offering extensibility to react dynamically to customer interactions.
- **Developer-friendly:** With learning documentation and a language-agnostic solution, developers should access the right tools to build, extend and customize features.

If your current eCommerce technology stack gives you a hard time managing the inherent complexities of a multi-country approach, you should revisit if it's the right solution for you. Start by understanding what commerce solutions are available with a comprehensive digital audit.

eCommerce solution types

Commerce technology has faced numerous innovation waves since the 1990s, when the first platforms came into existence. Today, three streams of commerce co-exist, with companies using legacy systems of yesteryear or having hybrid architectures to enable flexibility, speed and scalability.



Let's explore the ins and outs of each:

Legacy, monolithic architectures

Provide a one-size-fits-all solution, usually installed on-premise or on the cloud. Think Oracle, Adobe Magento, SAP Commerce and IBM WebSphere. These solutions were built in the 1990s to serve desktop-based eCommerce and have become rigid pieces of software that are difficult to update, change or adapt.

- Frontend (presentation layer) and the backend (data access layer) are tightly coupled systems with interdependent functions. In other words, changes in the frontend typically affect the backend and vice-versa.
- Off-the-shelf functions do not offer much space for (easy) customization.
- The full monolithic application is deployed at once, which makes it difficult to independently work on the frontend and backend, let alone on individual features. For instance, functions such as pricing and orders are deployed as a single codebase.
- Installed on-premise or hybrid cloud implementations.
- Vendor lock-in.

Standardized SaaS platforms

Born in the 2000s, the likes of Salesforce and Shopify provide a SaaS platform with a web-based user interface to manage commerce functions. These solutions lowered the barrier for less tech-savvy businesses to digitize commerce and other operations, providing simplicity in setup and maintenance and a faster time-to-market. However, their SaaS platforms are also monolithic in nature with tightly coupled frontend and backend, leading to the same issues with lack of flexibility, scalability and speed seen in legacy solutions.

- Web-based applications and on the cloud deployments.
- Template-like solutions suitable for small to medium-sized companies with low digital maturity and/or simple business models.
- Vendor lock-in.

Headless and microservices architectures (enabler of composable commerce)

Modern eCommerce technology is built following two core principles (an extended overview of this architecture — MACH — is explained in the next section):

- **Headless:** Frontends and backends are unbundled, meaning no customer frontend (“head”) is provided by default. Instead, a headless commerce solution “only” provides the backend capabilities needed for eCommerce processes. Frontend and backend communicate via APIs (Application Programming Interfaces). With headless, you can easily create custom frontends, leading to higher performing websites, brand consistency and extended flexibility to meet customer needs for digital experiences.
- **Microservices:** Microservices break down functionalities into granular and independent pieces, each with its own codebase. They work as LEGO bricks to provide infinite combinations, enabling easy customizations, flexibility and speed.

Combined, these principles enable businesses to:

- Release new functions, updates and changes without any dependencies.
- Handle high complex requirements for companies managing multiple brands, countries, product variations, etc.
- Use the most suitable components for different parts of the business ecosystem with a best-of-breed approach.
- Provide a lower risk of vendor lock-in.

At the same time, however, opting for this architecture usually requires digital maturity and extensive IT and development teams, especially during implementation.

What does it mean for cross-border eCommerce?

Now that you know what eCommerce solutions are available, how do they stack up against your cross-border aspirations? Consider three scenarios:

Omnichannel efforts

When opting for a direct-to-consumer strategy, you need to adapt the touchpoints to local audiences. For example, you may want to add social commerce such as WeChat in China or WhatsApp in Mexico.

- Monolithic platforms (incl. SaaS platforms) take a long time to add new functionalities. The commerce platform has to be updated as a whole for any tiny change, which may lead to service disruption, website delays, etc.
- Composable commerce based on headless and microservices breaks functions into smaller and independent pieces so that you can implement changes faster.

Capacity autoscaling

When launching a campaign propelled by a local festival, e.g., Diwali in India, you may need to add capacity to support web traffic peaks in an automated fashion.

- Monolithic architectures are usually installed on-premise and/or have a hybrid on-prem/cloud environment. Scaling traffic is not automated and needs to be planned some time in advance.
- Standardized SaaS platforms are on the cloud and, therefore, can scale faster than on-premise.
- Composable commerce is cloud-native and every microservice can scale independently as needed.

Localization success

Translating product catalogs into multiple languages and integrating a variety of currencies, payment methods and checkout preferences are integral parts of cross-border eCommerce. Whether you decide on a single, global website or multiple local webshops, you need to integrate localization functions without hassle.

- While monolithic architectures tend to support multi-language and multi-currency in international expansion scenarios, they lack the flexibility required for local customizations and integrations. Built with standard functions in mind, legacy platforms face difficulties in powering customizations.

- Standardized SaaS platforms face the same challenges in adapting to local markets. Companies that have expanded globally with monolithic architectures usually create multiple backends to handle localization needs, leading to a scattered IT landscape, inconsistent data, among other issues.
- Composable commerce provides localization features as single functions such as multiple languages, currencies, brands and storefronts in one backend, making localized customizations possible from the get-go.

In conclusion, while various eCommerce architectures co-exist, as companies become more global — and therefore, complex — modern, composable solutions have taken the lead. By 2023, organizations that have adopted a composable approach will outpace the competition by 80% at the speed of new feature implementation²².

Key takeaways for your cross-border expansion

- ✓ Companies need a technology stack that fulfills core requirements so that you can address local demands and changes with a centralized yet flexible infrastructure.
- ✓ Companies that look for flexible and agile systems are urged to explore composable commerce and MACH architecture (see next section).

²² Gartner Predicts 2022: Composable Applications Accelerate Digital Business

6. Definition and guiding principles of MACH and composable commerce

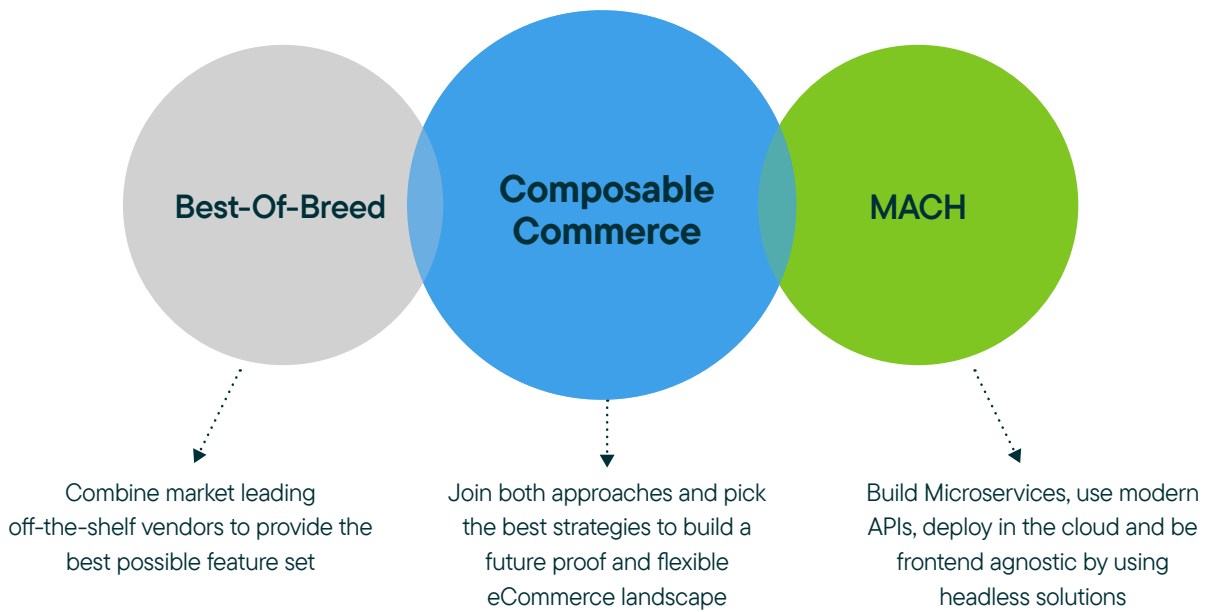
As discussed in the previous section, composable commerce provides modular components to cater to your company's unique needs. Implementing composable commerce requires an architectural approach based on MACH (**M**icroservices, **A**PI-First, **C**loud-Native and **H**eadless) and best-of-breed principles.

- With **microservices**, companies deploy granular and modular services that serve a specific purpose. Because microservices are by default independent services, it's much faster and easier to implement new features, extensions and updates, creating a bespoke experience from end to end.
- With an **API-first approach**, companies easily bridge communications between various frontends and a centralized backend.
- With a **cloud-native solution**, companies can autoscale infinitely and say goodbye to website crashes due to traffic spikes.
- With **headless**, companies decouple the ever-growing number of frontends from the backend for maximum flexibility and speed. It helps create fast websites, handle intricate product data, customize products, launch short notice promotions and release new functions without headaches.

In addition, with **best-of-breed** you combine market-leading, domain-specific software solutions to build the best possible platform.

All these factors combined create the ideal eCommerce ecosystem: **composable commerce**. Often, composable commerce is used interchangeably with MACH architecture. However, it takes a broader approach by selecting best-of-breed commerce components and combining (or "composing") them into a custom application built for specific business needs. In a nutshell, it's through composable commerce that companies can create unique customer experiences.

Following these architectural guiding principles allows for building a flexible and future-proof commerce platform for your customers.



While a composable commerce architecture combines future-proof fundamentals applied in digital transformation projects, it's vital to recognize the pros and cons.

Pros	Cons
<ul style="list-style-type: none"> ✓ Fast time-to-market as new features can be released individually at higher frequencies. ✓ Flexibility and adaptability with the use of microservices. ✓ Automatic scalability in the cloud. ✓ Omnichannel-ready. ✓ Build, buy and hybrid options available. ✓ Feature flag option to support deployment at the feature/function level. ✓ Focus on customer experience with optimal design, performance, accessibility and SEO. ✓ Lower cost of ownership (TCO) over time. ✓ No risk of single vendor lock-in risk. 	<ul style="list-style-type: none"> ✗ Can lead to scattered application landscape from business user perspective, if not organized properly. ✗ Increased integration effort via integration layer, as direct integrations are not desired or pre-integrations are not available. ✗ Potentially increased overlaps between systems. ✗ Increased initial implementation cost compared to a monolithic system.

The accumulated experience from several composable commerce/MACH projects show that the advantages outweigh the disadvantages, and provides key learnings to help your decision-making process:

Decoupling via integration layer

Applications shouldn't directly communicate with each other whenever possible, in order to simplify future component replacements, if needed.

Standard software over microservices

Use standard software whenever possible and build (big) microservices only where needed. Every microservice creates a separate project with own risks, such as delays, bugs, maintenance difficulties, etc.

Keep the business user experience in mind

While architecturally the landscape becomes more flexible and future-proof with MACH, the business user experience may be negatively impacted due to the amount of different applications compared to a monolith or standardized SaaS platform.

Cloud hosting over on-premise

Hosting applications in the cloud usually makes the setup and maintenance easier and cheaper. However, there may be situations in which you need a hybrid solution, combining the cloud with on-prem.

Containerized applications win

Try to package microservices or Single Page Applications into docker-based containers. This will drastically simplify your CI/CD (continuous integration/continuous delivery) pipeline and reduce deployment problems in the production environment.

Standardization over local differences

You'll encounter specific local requirements for your multi-country expansion. Take a step back and ask yourself what local requirements are needed and how much you can simplify and standardize.

Before starting a composable commerce/MACH transformation project, clarify your expectations regarding customer and employee experiences (technical and business users) and how to measure them. For a successful MACH implementation, a balance considering external and internal stakeholders is key.



7. Composable commerce and MACH in action

Using composable commerce powered by MACH for cross-border eCommerce is taking off, enabling retail, automotive, fashion, food & grocery businesses to innovate at breakneck speed wherever they decide to go next.

Audi integrated in-car commerce in 26 countries



Next-gen cars need next-gen commerce. To enable in-car commerce in 26 countries, Audi implemented a MACH-based, location-independent product information management (PIM) to maintain product data, such as prices, descriptions, functions and services, stored and managed via a central data maintenance system. Now, Audi customers can buy and activate new functions in their car via their myAudi app. Audi first launched on-demand capabilities in Germany and rolled it out to 25 other European countries shortly after.

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The Audi commerce platform has been built with 3 core values in its DNA: speed, adaptiveness and effectiveness. With commercetools as the backbone for our platform, we were able to build a scalable, global commerce infrastructure aligned with our values. As a result, we can now leverage new eCommerce business models at Audi in only a few weeks.

MATTHES KOHNDROW, PRODUCT OWNER DIGITAL BUSINESS, AUDI AG

Danone implemented D2C sales to address the baby formula shortage in Europe



As a corporation housing multiple brands and present globally, Danone has historically relied on local distributors to sell its products. In the digital age, however, Danone recognized the need to connect directly with consumers to build loyalty and trust. Its direct-to-consumer (D2C) strategy was fuelled in the wake of the baby formula shortage in Europe in 2013 and, more recently, during the COVID-19 pandemic.

In 2013, Danone turned to composable commerce and MACH to handle the baby formula shortage, offering customized online consumer experiences across multiple markets. Danone added rules to limit the number of units purchased for the baby formula deployment, ensuring the store shortage wasn't replicated online. A similar setup was implemented across markets impacted by COVID-19, adding a cart function to brand websites. These functions helped consumers access nutrition products quickly, boosting brand engagement.

“

We were stuck in the past, with very monolithic decisions having to be made. So we decided to switch to a MACH architecture, which allows us to be modular, to pull components in and out. Fundamentally, we are building a modular system, we are making impactful choices for commerce and we absolutely put commercetools at the heart of this.

LUKE O'CONNELL, GLOBAL ENTERPRISE SOLUTIONS MANAGER, DANONE

Emma built a best-of-breed eCommerce to sell mattresses in 30 countries



The world-leading D2C brand Emma The Sleep Company needed a new commerce system to scale the company's rapid growth and global ambitions. With composable commerce, Emma could choose the best solution for all applications and benefit from an easily adaptable backend. After four months of development, Emma expanded sales to Colombia, Chile and Mexico. Now, the company sells its products in China, Europe and the Americas, spanning 30 countries.

“

In this partnership, we share a high degree of strategic principles and practices in software engineering to maintain the highest level of agility in our fast-growing business. commercetools is the first eCommerce platform that was designed to be headless and cloud-native from the start and that has excellent developer tooling at its disposal. We are pleased to have found the perfect partner for Emma's eCommerce platform of the future.

ANDREAS WESTENDÖRPF, CTO AT EMMA – THE SLEEP COMPANY

8. Roadmap for cross-border eCommerce

While each roadmap for eCommerce without borders is unique, synergies across projects may help you visualize how to organize, manage and launch your growth plans beyond your domestic market.

1. Get all international stakeholders onboard

- ✓ Ensure all (senior) client stakeholders from all countries understand the motivation and long-term target before the project starts with kickoff sessions.

2. Conduct an As-Is assessment of the eCommerce system with cross-border requirements in mind. As-Is assessment helps teams understand the company's status quo, what is needed for future plans and where to start, such as local touchpoints and desired localization.

- ✓ Combine in-depth interviews, workshops and further research to evaluate the current architecture and the pain points to be addressed within To-Be architecture options.
- ✓ Create documentation in the form of integration architecture, functional architecture/capability map, and functional and non-functional pain points (including involved systems).

3. Define To-Be architecture options with identified pain points and local differences.

- ✓ Important domains of the architecture are:
 - Design System
 - Frontend Technology
 - API Layer
 - Headless Commerce Solution and PIM
 - Headless CMS System + DAM
 - Development and Deployment incl. Infrastructure (CI/CD pipeline)
 - Testing Automation
- ✓ Identify customizations, integrations and touchpoints to rollout in local markets, e.g., specialized payment methods.

4. Select the winning To-Be architecture option

- ✓ Compare architecture options with an assessment framework combining architectural and business KPIs.
- ✓ Select the winning To-Be Option with all international stakeholders.

5. Analyze roadmap alternatives & costs for To-Be architecture

- ✓ Analyze dependencies between the current and target commerce systems as the foundation for an implementation roadmap.
- ✓ Define roadmap options based on dependencies. Discuss the differences between an incremental transformation and replacement (strangler pattern) versus a big bang approach (full replacement).
- ✓ Start with a domain that brings the most significant impact, such as the API layer and the frontend.
- ✓ Determine teams and costs per migration option.

6. Define To-Be project organization model

- ✓ What is a suitable project management methodology (e.g., SCRUM versus Kanban)?
- ✓ Which communication channels are to be used and for what?
- ✓ Hold individual sessions with operational stakeholders (such as Product Owners, Scrum/Agile Masters, Architects, etc.) to confirm responsibilities and role expectations.

7. Develop your Minimum Viable Product (MVP)

- ✓ For your MVP approach and pilot market, factor in the initial scope (such as the desired level of localization), local capabilities, market size and revenue generated.
- ✓ Choose between first going for a smaller market or directly beginning with a large target market.

8. Test and rollout

- ✓ Implement automatic tests like unit tests, End-to-End (E2E) testing, integration tests, accessibility, performance and SEO.
- ✓ Implement thresholds in your CI/CD pipeline to block insufficient components.

9. Monitor, measure and improve

- ✓ Once a rollout has been successfully conducted, include hypercare phases where systems are monitored around the clock to quickly react to any errors in the production environment, such as missing or incorrect product and pricing data.
- ✓ Learn from first efforts, and understand what may have gone less optimally than planned and apply these lessons to subsequent rollouts.

9. Why Deloitte Digital and commercetools

Digital transformation projects are inherently complex — even more so when combined with cross-border eCommerce goals. While no single blueprint works for all clients, composable commerce principles and MACH are the foundation to help you in this journey.

Together, commercetools and Deloitte Digital have enabled dozens of companies to switch from a monolith architecture to a composable commerce solution, helping them expand to new countries and/or manage existing markets more effectively. Our combined experience means you get support throughout the complete project lifecycle, from the initial idea to successful rollout, monitoring and hypercare. After all, your digital transformation journey is continuous, wherever you decide to go next.

If you're planning to transform your business with digital commerce, or are stuck in a transformation project and need help, get in contact with us.



About Deloitte Digital

Deloitte Digital is the creative digital consultancy. We fuse technology and creativity to better connect customers with businesses. We meet our clients where they are today, anticipate where they will be tomorrow and together plot and travel the path in between. A path that starts and ends with the customer, in first understanding what drives them, to then shape the business around it. We always look beyond the customer, to the human, to understand the moments that matter in their lives. And by matching insight with creative thinking, industry intelligence and technology excellence, we create outstanding experiences for them.

We do this in partnership, faster and at scale with the full power of Deloitte, with our partners in the world's leading tech companies, and cutting-edge approaches.

We do this with growing responsibility for a changing world, where business purpose, sustainable behaviors and societal impact are vital to success.

At Deloitte Digital, we imagine, deliver and run entirely new business futures.

Find out more at deloitte.digital.de and get in touch at digital@deloitte.de

About commercetools

The inventor of headless commerce, [commercetools](https://commercetools.com) is an innovative technology disruptor that has established itself as an industry-leading eCommerce software provider. Today, some of the world's most iconic brands and growth-focused businesses trust commercetools' powerful, flexible, scalable solutions to support their ever-evolving digital commerce needs. As the visionaries leading the modern MACH (Microservices-based, API-first, Cloud-native and Headless) architecture movement, commercetools provides customers with the agility to innovate and iterate on the fly, merge on and off-line channels, drive higher revenue, and future proof their eCommerce business.

Based in Munich, Germany, with offices in Europe, Asia, and the United States, commercetools is singularly focused on leading a future of limitless commerce possibilities.

Find out more at commercetools.com and get in touch at commercetools.com/contact