



WHAT'S UNDERNEATH A GREAT DIGITAL COMMERCE SOLUTION?

The technology architecture of future businesses will comprise a headless and flexible design, seamless flow of data across systems, actionable insights derived from those systems, and smooth payments.



A good digital experience is crucial to attract and retain customers, but building that experience isn't easy.

According to Gartner, [four key capabilities underpin digital commerce](#): providing digital user experiences, supporting purchase journeys, managing supply chain integrations, and handling enterprise data integrations.

That sounds straightforward, but how does a company ascertain which user experiences are worth implementing and wanted by its customers, or which organizational tools and platforms need to be integrated? In what ways can a firm combine evolving technologies and solutions to deliver good experiences? How should a business identify its customers' pain points to ease their digital journeys?

Platform design, systems integration, data and analytics, and payment systems are essential elements in creating impactful customer and employee experiences.

To address these, companies need to understand every aspect of their business and technological maturity, goals, desired outcomes, target segments, and organizational culture. Then only, they can identify technologies required to create critical customer and employee experiences. The key elements of that technical architecture are platform design, systems integration, data and analytics, and payment systems.

In our view, companies looking to modernize their digital commerce platforms need to leverage a **Microservices**-based, **API-first**, **Cloud-native**, and **Headless (MACH)** architecture, develop a future-proof **integration** strategy, capture and analyze **data** effectively, and deliver a reliable and seamless **payments** experience.

Platform design

The design or architecture of a technology solution determines its flexibility and adaptability to continuously evolving requirements. Due to rapid technical developments and shifts in customer and employee preferences, businesses keep trying new features to stay ahead of the competition and deliver the best digital experiences. Companies across industries now invest in MACH architectures that provide flexibility and quick implementation of new features.

- **Microservices-based:** For every single function, from managing a wish list to tracking real-time inventory of products, separate microservices are created, which can be modified, tested, and removed as needed.
- **API-first:** The functionalities created through microservices are defined via APIs to stay connected with each other for a seamless flow between services.
- **Cloud-native:** The services are created and delivered on the cloud, facilitating better performance and scalability.
- **Headless:** By decoupling the front-end interface and customer services (the head) from the backend technology infrastructure, companies can create a headless solution where the frontend can be flexibly and quickly customized, as desired through API integrations.

This architecture helps improve the ease and speed of deploying, testing, and modifying new features. Moreover, its modular nature enables businesses to deploy plug-and-play capabilities across customer touchpoints such as product search, adding products to their carts, checkout, and payments.

The “build or buy” approach of creating an end-to-end solution is being replaced with a unified approach involving building some capabilities in-house and mixing them up with the best SaaS providers for each requirement.

This is known as “composable commerce”, and we expect organizations to adopt it as a primary approach to platform design. They are replacing the “build or buy” approach (creating or purchasing an end-to-end solution) with “build and buy”, in which they build some capabilities in-house and get the best software as a service (SaaS) providers for each requirement and use them in an integrated manner.

Systems integration

A digital commerce solution is only as good as the integrations it facilitates with other organizational data systems. Product catalogs, inventory management, invoicing and taxation, customer data, pricing, vendor management, and marketing/advertising systems are just a few of the critical integrations needed. These integrations help improve transparency and visibility into the data from various systems, and draw insights that allow a digital commerce platform to:

- Show live inventory information through real-time updates
- Automate order placement for stock replenishment
- Supply chain visibility to display future availability of out-of-stock products
- Nudge customers with the appropriately targeted ads and offers to drive a purchase
- Display up-to-date product information
- Automate invoicing and tax credit procedures
- Automate pricing, quotations, and even negotiations
- Create a seamless ‘phygital’ presence through connectivity with digital signage, kiosks, and Internet of Things (IoT) devices deployed across stores, warehouses, and logistics.

However, simply integrating various systems into the digital commerce platform isn’t sufficient. Organizations also need to

ensure the longevity of such integrations. Each data system will go through continuous updates and own third-party integrations, which can disrupt the seamless flow of information across various systems. To prevent this, each system must adhere to common development standards and an API-first approach.

Data and analytics

Designing the platform and integrating it with other business systems can only create a foundation. Successful companies delve into the data from those systems to get real-time critical insights that deliver impactful experiences and drive business growth.

Analytics drives the personalization of user interface, promotions, and offers. It helps incorporate many other user preferences across a customer’s digital journey. Meanwhile, good content can drive business through blog posts, personalized notifications, social media posts, and shoppable videos. With appropriate analytics, organizations can curate highly personalized content that’s relevant and timely — making it more effective. In general, companies that excel at personalization drive **40% higher revenue** than those on the other side.

Richer and dynamic analytics also help businesses keep tabs on how products are performing, leading to hyperpersonalized customer experience and efficient stock management.

Companies with effective personalization witness **40% higher revenue** than those that don’t.

At the backend, analytics systems help streamline processes through predictive detection of potential supply chain issues, fraudulent practices, and other customer problems. Early identification of such issues helps improve overall customer experience. Moreover, better analytics improve transparency across the organization through simple and innovative reporting processes that ease users to access and understand data.

Payment system

A poor payment experience can cost a business its customers or consumers or both. This is completely avoidable, but only if companies understand how to select the right vendors and build tools that facilitate multiple payment methods and models in a secure, fraud-proof manner.

Mobile is a key sales channel: as of mid-2022, mobile devices account for **59% of worldwide web traffic**. Globally, half of all e-commerce transactions happen through mobile payments. Cards or bank transfers now account for just **41%**

of the transaction volume. Moreover, local and alternative payment methods such as the Unified Payments Interface (UPI) in India, and mobile wallets have gained significance (particularly in Asia-Pacific).

Businesses need to enable all applicable local and international payment methods and models to ensure maximum retention.

It's critical for a digital commerce business to facilitate payments through every possible method applicable in a region. In addition, the platform must enable customers to use multiple payment models such as Buy Now Pay Later (BNPL), leasing, and subscriptions or recurring billing. These make for a comprehensive payments system that caters to the varying needs of an individual as well as business customers.

Along with offering a range of payment options to suit regional and individual preferences, businesses need to build strong security and fraud-prevention processes and comply with international payment standards. A robust fraud detection system that incorporates sharing of merchant-side data with the issuing banks helps improve decision accuracy, and in turn, payment authorization rates.

Ultimately, decisions must be made about the kind of vendors and capabilities required. Some companies use a single payments service provider (PSP), while others use multiple processors. Fraud detection systems are baked in as a service by some PSPs. However, organizations can build these capabilities in-house. They can also use specialized third-party vendors who offer services ranging from analysis of transaction data and collaborations with issuing banks to predictive fraud detection.

Technology architecture of the future

The future of digital selling lies in personalized and seamless experiences across multiple engagement channels. However, no organization is self-sufficient to match up with rapidly evolving experiences. Therefore, integrations and interoperability with third-party service providers are vital.

APIs, cloud services, and artificial intelligence will play a major role in building digital commerce platforms of the future. Immersive interactions will also gain more prominence over the next decade, which will require organizations to shift the way they interact with customers. We expect companies to move to a model that picks the best of various offerings to suit their businesses and customers. This model will lead to increased business agility and innovation for consumers, recurring revenue streams, better margins, and higher retention rates for service providers.



Infosys' experts believe that the core capabilities needed by any business are offered by most digital commerce solutions. However, the flexibility of a MACH based architecture, coupled with the ability to customize the solution for a business' unique capabilities (their secret sauce) is what drives customer delight, loyalty and advocacy. Infosys terms it as MACH-X or MACH with Extensibility, which adds a multi-cloud open technology stack to the core solution that makes it easy for businesses to swap capabilities and vendors flexibly.

Core capabilities can be easily bought, but it's the unique customized capabilities that drive real value.

Each company requires specific capabilities, depending on the nature of its business and target customers. For example, many product companies now reach customers via a direct-to-customer model, which allows them to own and manage the first-hand data it brings. Armed with this data, they can act quickly on emerging trends and beat the competition through rapid innovation.

Companies should deliver a unified, omnichannel experience to meet the demands of the always-on customers. They must treat every channel as a storefront and connect all touchpoints, from inventory to customer service. To build this omnichannel business, companies need to treat this as a strategic aspect rather than just a technical one.

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