



Marketplace Technology

Powering Business Lift-Off





This is the second article in a three-part series on marketplaces. The first article looked at vertical marketplaces from a business rationale perspective. In Part 2, we examine the technology enablers behind marketplaces.

Marketplace business models are on the rise, both for B2C and B2B businesses. But once you've decided to build a marketplace, it's critical to get the technical aspects right.

- What are the typical technical capabilities needed?
- What options are available when selecting a marketplace solution vendor?
- What should you keep in mind when defining a marketplace architecture?



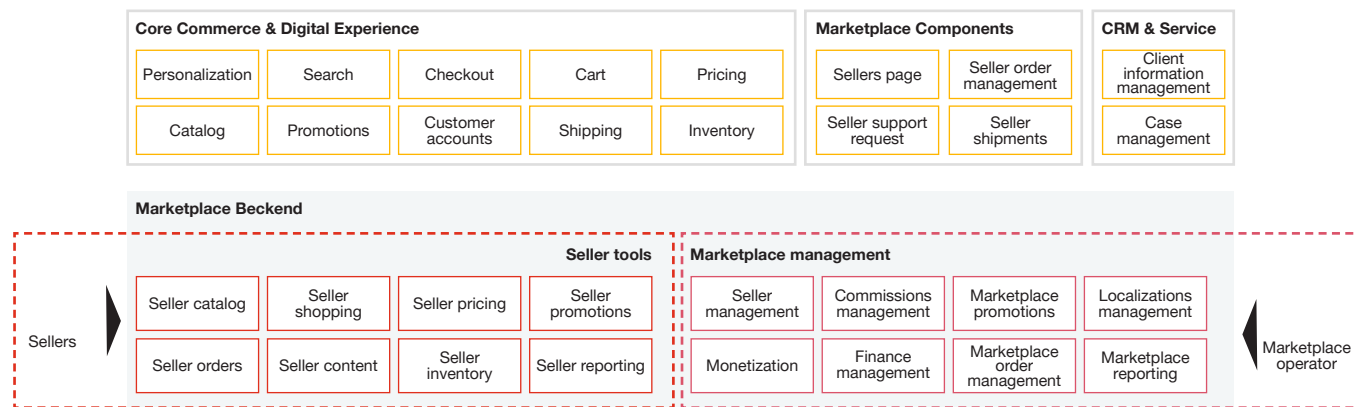


Marketplace capabilities

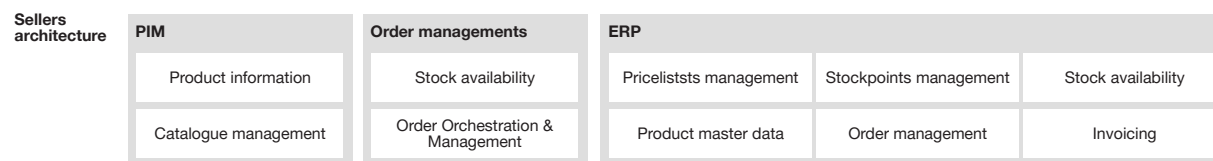
The customer experience around a transaction on a marketplace is similar to that of a web shop with a linear business model. However, you need specific capabilities to bring the customer experience to life in a marketplace.

Architecture by domain

Illustrative



Marketplace architecture





Core Commerce & Digital Experience

Basic eCommerce functionality—like cart, product details page, recommendations, promotions, pricing, shipping, product catalogue, search and payment—allows customers to search and find the right products and to have a personalised customer experience. This includes getting matching product recommendations and seeing the right price. Providing the right payment options has a huge influence on conversion.

Marketplace Components

To make the specific experience of a marketplace come to life, some additional features are needed. Sellers must be able to represent themselves on a seller page and be able to provide support on the products. The platform must be able to split orders, since products from different sellers can be put in the same basket and their fulfilment falls in the responsibility of each of these sellers.

Marketplace Management

Marketplace Management allows the marketplace operator to onboard new sellers, manage commissions and other monetisation settings, and define how promotions are managed on the platform.

Seller Tools

Seller tools allow the sellers to manage their operations on the marketplace within the specified boundaries and rules of engagement. Sellers can upload products and manage their offerings—including catalogues, promotions, pricing, shipping, orders, cases, content and inventory—with additional reporting functionality, depending on the partnership offered by the platform operator.

Customer Relationship Management (CRM)

A marketplace is at least a two-sided business model, with buyers and sellers both customers of the marketplace operator. CRM allows

the operator to manage, nurture and grow relationships with customers on all sides of the business model.

Customer Service

Depending on the business model, customer service for buyers can either be managed by the operator or the sellers. However, since sellers are also customers of the operator, they also need customer service to help them with any issues that may occur.

Product Information Management (PIM)

Depending on the marketplace business model and the level of curation, the PIM provides the processes needed to govern the product data quality. Typically a PIM can be found on the seller side, but sometimes also provides value for the marketplace operator processes.



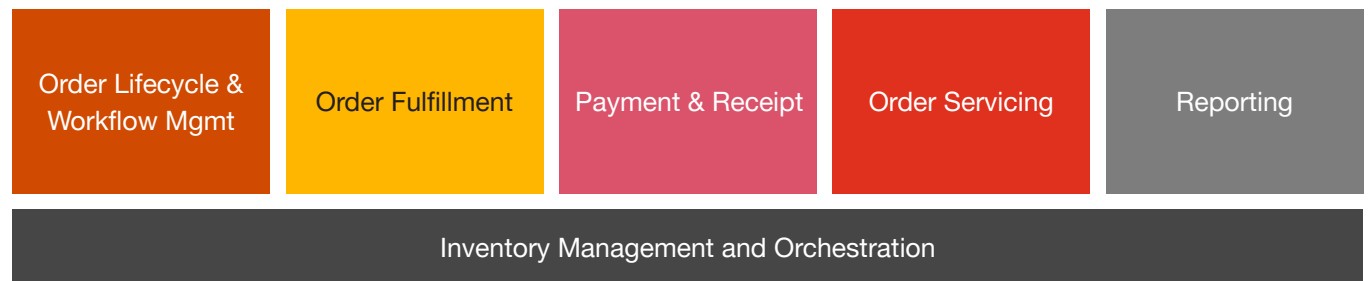
Enterprise Resource Planning (ERP)

Each seller will have an ERP system to manage product data and stock information. This data, together with the data from the PIM system, must be made available on the platform. Depending on the seller's application landscape, orders will be sent to the ERP or order management system.

Order Management Systems (OMS)

Each seller can decide if they need an OMS to manage orders received from the marketplace. Most eCommerce or marketplace solution vendors offer some level of order management capability. Depending on the selected commerce and marketplace solution and the desired business model, a dedicated order management system for the operator may be needed—for example, if you need distributed order management support or exceed the existing capability.

Order Management Systems Capabilities





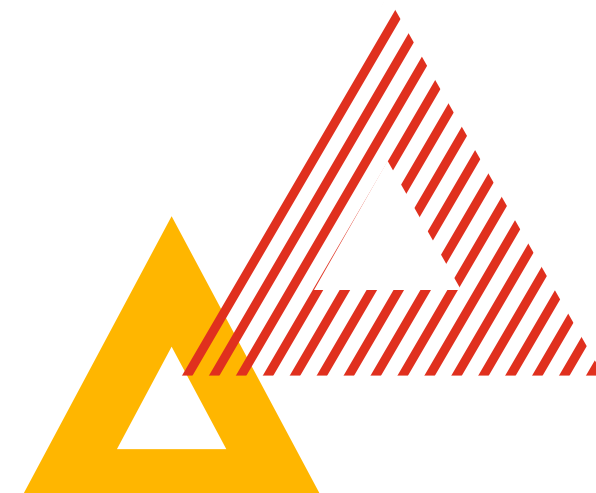
Vendor Aggregation Networks (VAN)

A VAN, also referred to as marketplace integration platform (MIP) or a vendor aggregation platform, is an intermediary platform that allows sellers to easily connect to other marketplaces. That connection brings an alignment in data structures, which is helpful in industries where there are no officially agreed standards, like fashion and footwear. This way, VANs help improve data quality for the marketplace operator. Often, VAN operators also install a 'quality gate' before connected sellers can gain access to the network.

These solutions offer functionality that includes product catalogue, product enrichment, pricing, promotion management, overselling, stock management, order and return management, user activities dashboard and rating / feed management. Advanced functionalities include FBA integration management, serial number management, automatic repricing management, order tracking management and buy box management.

Typically, VANs are independent platforms, but some marketplace backend providers also offer their own network that allows sellers and

marketplace operators to connect to other participants. In some cases, it is worth bringing this service in-house, and offering it directly as part of your marketplace platform.





Marketplace Vendor Archetypes

In your typical domain architecture, marketplace capabilities are an add-on to an existing eCommerce platform. As a result, we are seeing different types of vendors emerging.

Core Commerce & Digital Experience vendors specialise in the commerce frontend. A ‘best of breed’ approach allows organisations to select both a frontend and a backend vendor that best fits their needs.

Marketplace backend providers focus on capabilities to manage sellers and seller operations. The backend solutions must be integrated with the commerce frontend. For this, many vendors provide existing connectors that can be used. However, the lines are blurry, and some offer basic functionality for frontend capabilities as well. It is also possible to have a VAN solution serving as the marketplace backend, depending on the use case and the industry.

Fullstack vendors provide the buyer frontend and the marketplace backend in a single solution. This can reduce integration efforts and complexity in vendor management, and may lead to lower licensing costs.

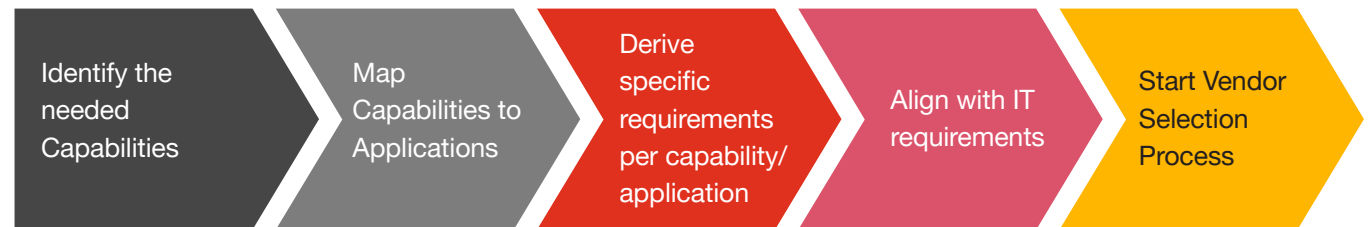
Selecting your respective solution vendors depends on where you start as a marketplace operator, the complexity of your business model, the capabilities needed to support the business model, as well as existing technical skills and IT architecture thinking.



Application Architecture

Defining the target application architecture should be equally owned by the IT department and the business. This is because the target application architecture should follow a capability-driven approach. We see a five-step process.

1. The targeted business model, its complexity and value proposition define the capabilities needed to provide the necessary customer experience and to successfully operate the platform.
2. These capabilities are mapped to the applications that will enable or support them.
3. The specific requirements and expectations for each application are gathered and prioritised.
4. These requirements are aligned and balanced with the existing architecture landscape and IT considerations. Your IT department must have the skills, maturity and ability to create and operate the marketplace tech stack and architecture. This influences your choice of vendor.
5. The vendor selection process is conducted. Here you will validate your requirements against different solutions, look at how your roadmap matches that of the vendor, and consider licences and other costs.





Choosing a vendor depends on your model, approach and desired objectives. Take order management, for example. Most enterprise grade commerce solutions offer some level of order management capabilities. For a simple marketplace, where you only sell third party products, this might be sufficient.

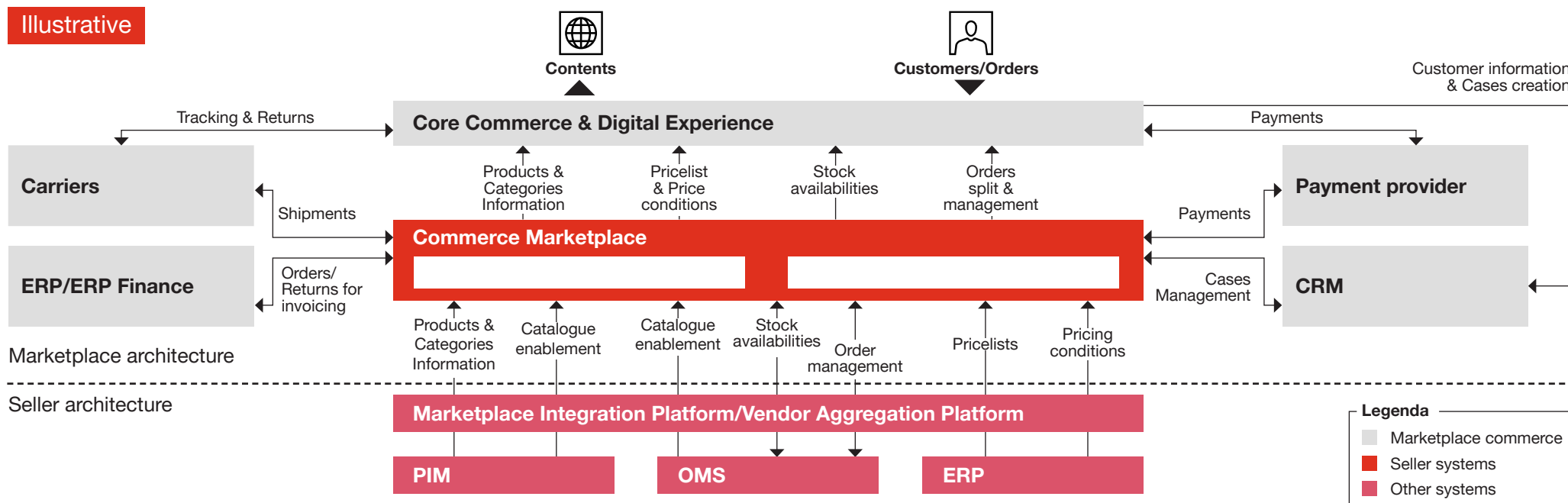
Should your marketplace be one of many channels for you—that is, you sell your products via your marketplace as well as other channels—a dedicated order management system makes sense. Should you then also have different shipment options, e.g. ship from store, your OMS becomes the central point of

coordination and requires a greater level of sophistication.

In other words, your business defines the needed capability. The specifics of your business model then guide the selection of the solution and its requirements.

Target application architecture

Illustrative

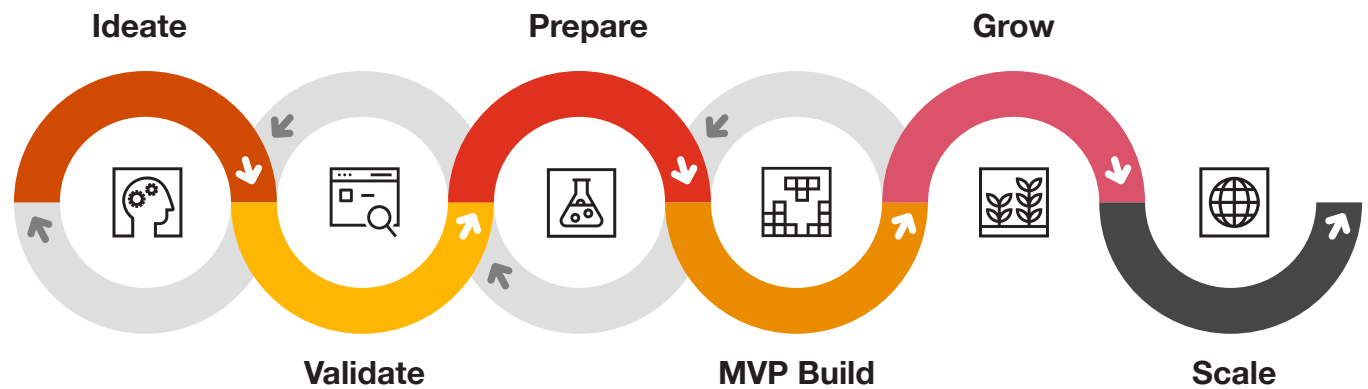




Building the Marketplace

Building a marketplace is not a project that is planned and executed in a straightforward waterfall approach. Even though our overview might suggest a linear approach, it involves a

considerable amount of iteration and the risk of failure at every stage. A business model innovation approach is needed, during which you ideate and validate the underlying assumptions for the different options.





Ideate

At this stage, the organisation ideates the problem solution and market fit. The aim is to understand if the intended solution is valuable for the targeted customers, and if it provides a viable business model that is feasible to build and operate.

Validate

In this stage, key questions are asked. What tax, legal and other regulations need to be incorporated into the business model? Can they be used to create additional value? What are the options to kick-start the marketplace? Is it possible to attract both buyers and sellers at the same time or is there a value proposition that allows to first target one side of the market before expanding into a marketplace model?

Prepare

During preparation, the business assumptions are translated into technical requirements to

select and define the marketplace tech stack while the business organisation is prepared.

MVP Build

Minimum Viable Product, or MVP, is probably one of the most misunderstood and misused terms when it comes to building products. In this context, MVP allows an organisation to release a core value offering as soon as possible with the intention of learning and iterating. The sooner you start building an MVP, the lower your risk of losing time and money.

Grow

When your MVP attracts customers (buyers and sellers) you can start adding additional features and grow your customer base. This stage also requires a lot of ideation, validation and iteration. Typical questions to ask at this stage include: What do you learn from your customers? How can you monetise your services? What is the right pricing strategy?

The goal is to reach a critical mass of customers, because the value of a marketplace comes from the network effect. The more sellers you have, the more attractive your marketplace is for buyers—and vice versa.

Scale

So, you've managed to reach critical mass. Now it is time to own customer access and start building additional value-add services leveraging the access. You can experiment with new services, different membership types or even add marketing or other companies that see value in your platform.

Summary and conclusion



As marketplaces proliferate, a growing number of marketplace solutions have become available. The solutions range across the commerce frontend, the marketplace backend, and the full stack, where providers offer both the frontend and backend in a single platform. Choosing

the right technology and approach depends largely on your marketplace's complexity and objectives. Building a marketplace is not a straightforward project, but requires ideation and validation to reduce risk and increase your ability to build a scalable business model.





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The first article looks at **vertical marketplaces** from a business rationale perspective.

○ Part 2 examines the **technology enablers** behind marketplaces. +

Part 3 explores the **regulatory frameworks** that marketplaces must deal with.

About the authors



Quinton Pienaar
quinton.x.pienaar@pwc.com

Quinton is the Customer Transformation leader for PwC in EMEA and specialises in creating agile, customer focused organisations. He believes that speed is the differentiator in business today and finds solutions to increase speed, productivity and customer experience. Quinton has worked in various countries across 4 continents assisting clients in their cloud, customer, Salesforce, digital and agile business transformations. He helps companies migrate to the cloud and transform and digitise their business models finding new ways to engage with clients and business partners.



Mario David
mario.david@pwc.com

Mario David is a Senior Manager at PwC Italy. He works with his clients on Omnichannel Commerce initiatives, both B2C and B2B, helping them implement Commerce processes and architectures.



Pascal Kohlhase
pascal.kohlhase@pwc.com

Pascal Kohlhase is a manager at PwC Germany, and leads the EMEA Digital Sales Centre of Excellence. He is responsible for identifying market trends and developing go-to-market strategies for sales and commerce. He has experience in delivering sales and ecommerce projects in both B2C and B2B markets.

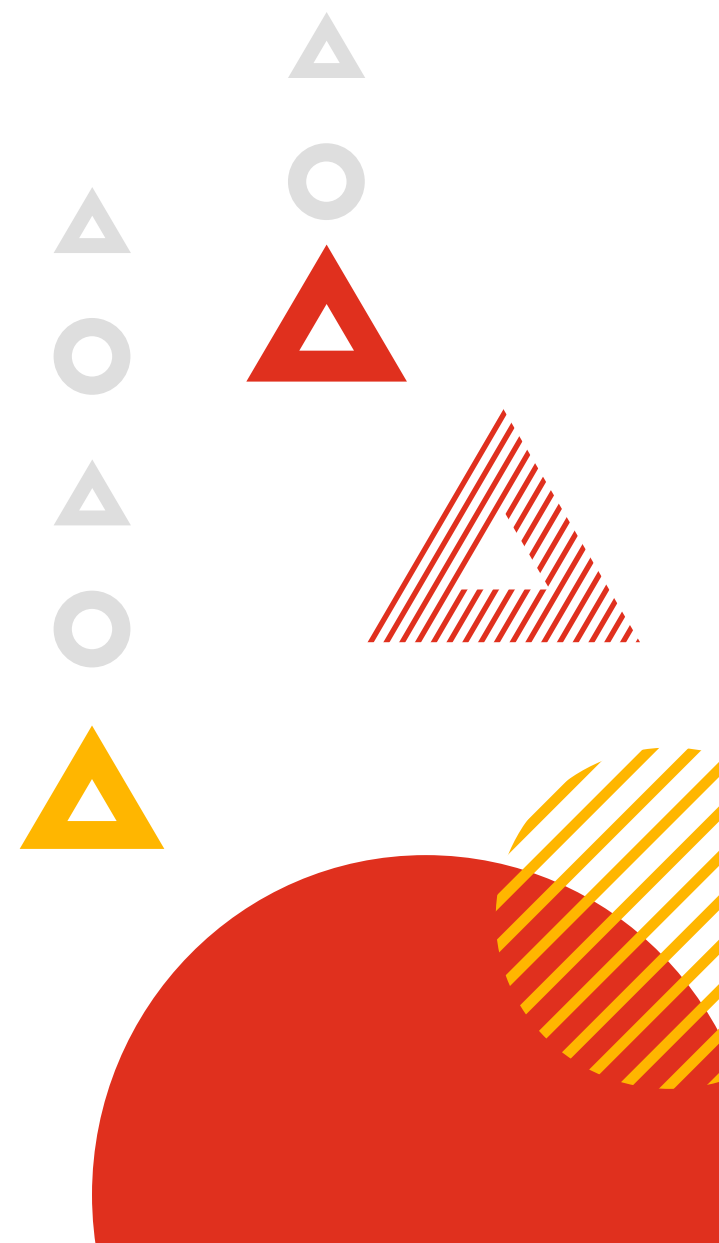


Attilio Maruca
attilio.maruca@pwc.com

Attilio Maruca is a Senior Manager at PwC Italy. He coordinates and delivers transformation initiatives in fashion and luxury retail that involve the redesign of the main business processes and the implementation of IT solutions. He has specific expertise in omnichannel commerce solutions.



Thank you



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