

# The Ecommerce Technology Lifecycle

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*Third-party logistics warehouses are under pressure to diversify for ecommerce fulfillment to meet growing consumer demands. Learn what technologies your warehouse must implement to remain competitive and offer a seamless ecommerce experience to your customers.*

# The Ecommerce Technology Lifecycle

Do you ever wonder what happens between the time you click “purchase” on a website and the time a parcel arrives at your door? Many of us take this for granted. In fact, it may never cross our minds —we simply point, click, and buy without any knowledge of the set of technologies that work together to deliver the seamless ecommerce experience we’ve come to expect.

To meet the rising demands of today’s consumers, third-party logistics (3PL) warehouses use a variety of best practices and technologies to accommodate ecommerce fulfillment. Below, we will outline the technologies 3PLs use to increase productivity and efficiency. These include:

- Shopping Carts & Marketplaces
- Order Management System (OMS)
- Warehouse Management System (WMS)
- Barcode scanning
- Enterprise Resource Planning (ERP)/Finance
- Robotics
- Transportation/Shipping Management

“Today’s best practices are becoming table stakes ... and the cycle is just getting faster and faster.” — Bernardine Wu, Founder and CEO of FitForCommerce

## Shopping Carts & Marketplaces

A shopping cart is a software solution that allows a merchant to sell products online. This piece of software provides customers the ability to browse inventory, select the products they want to purchase, and complete payment and checkout without ever leaving the website. Common examples of this technology are Shopify, WooCommerce, and Magento.

Sometimes companies sell their goods on a third-party’s website, known as a marketplace. A marketplace allows shoppers to browse products sold by multiple merchants in one single location. Examples of this include Amazon and eBay.

## Order Management System (OMS)

Shopping Carts and Marketplaces are both “order sources” – different ways a customer can purchase an item. Now, assume that you sell on your website, on a marketplace, and also at a brick-and-mortar store that you operate. Known as “omnichannel ecommerce”, this means customers can purchase your products via a variety of methods. An OMS allows the merchant to manage orders across all those channels in a single location. Examples of OMS include [TradeGecko](#) and [Ordoro](#).

## Warehouse Management System (WMS)

The next step is for the order source – either the shopping cart or OMS – to send the order data to the warehouse that carries the inventory of the item being purchased. Ecommerce merchants will often outsource inventory management and fulfillment to third-party logistics (3PL) warehouses. These warehouses use a [WMS](#) as a core operating system to [efficiently](#) manage the inventory and execute the fulfillment process. The WMS allows for fulfillment efficiency by automating the inventory lifecycle such as assigning pick tickets, billing



processes, and capturing real-time information from the time of order receipt into the warehouse until order shipment. This includes receiving and storing the inventory before the order and picking and packing the inventory once the order is received. 3PL Warehouse Manager's L Central primary function is as WMS software.

## Barcode Scanning

Warehouses often use ruggedized mobile barcode scanners to improve productivity, accuracy and visibility across their operation. These devices scan barcodes attached to inventory and [efficiently transfer data](#) between the WMS and the warehouse floor. Warehouses often rely on resellers such as [Emkat](#) to manage all of their scanning needs.

## Enterprise Resource Planning (ERP)/Finance

There is, of course, a financial component to this. Both ecommerce merchants and 3PL warehouses connect their ERP or accounting software to the OMS or WMS in order to deliver up to date inventory counts or billing data for invoice generation. [Quickbooks](#) and NetSuite are common platforms in the ecommerce space.

## Robotics

Over the past few years, warehouse automation by way of robotics has grown significantly. Like barcode scanners, robotic solutions can be used to increase that productivity of warehouse employees. [6 River Systems](#) offers robotics solution that work in tandem with a warehouse employee to fulfill more orders with fewer errors.

## Transportation/Shipping Management

Once the order is picked and packed, it's time to get it on a truck headed towards its destination. This is where Transportation Management Systems (TMS) come in. Transportation Management Systems manage the freight and carriers once an item is ready to be shipped. Many can "rate shop" amongst carriers to deliver the lowest shipping rate to users, provide best-way routing, control bookings and tenders, and track and trace packages while en route to their destination. Common TMSs include FreightPop, Kuebix, and 3PL Systems.

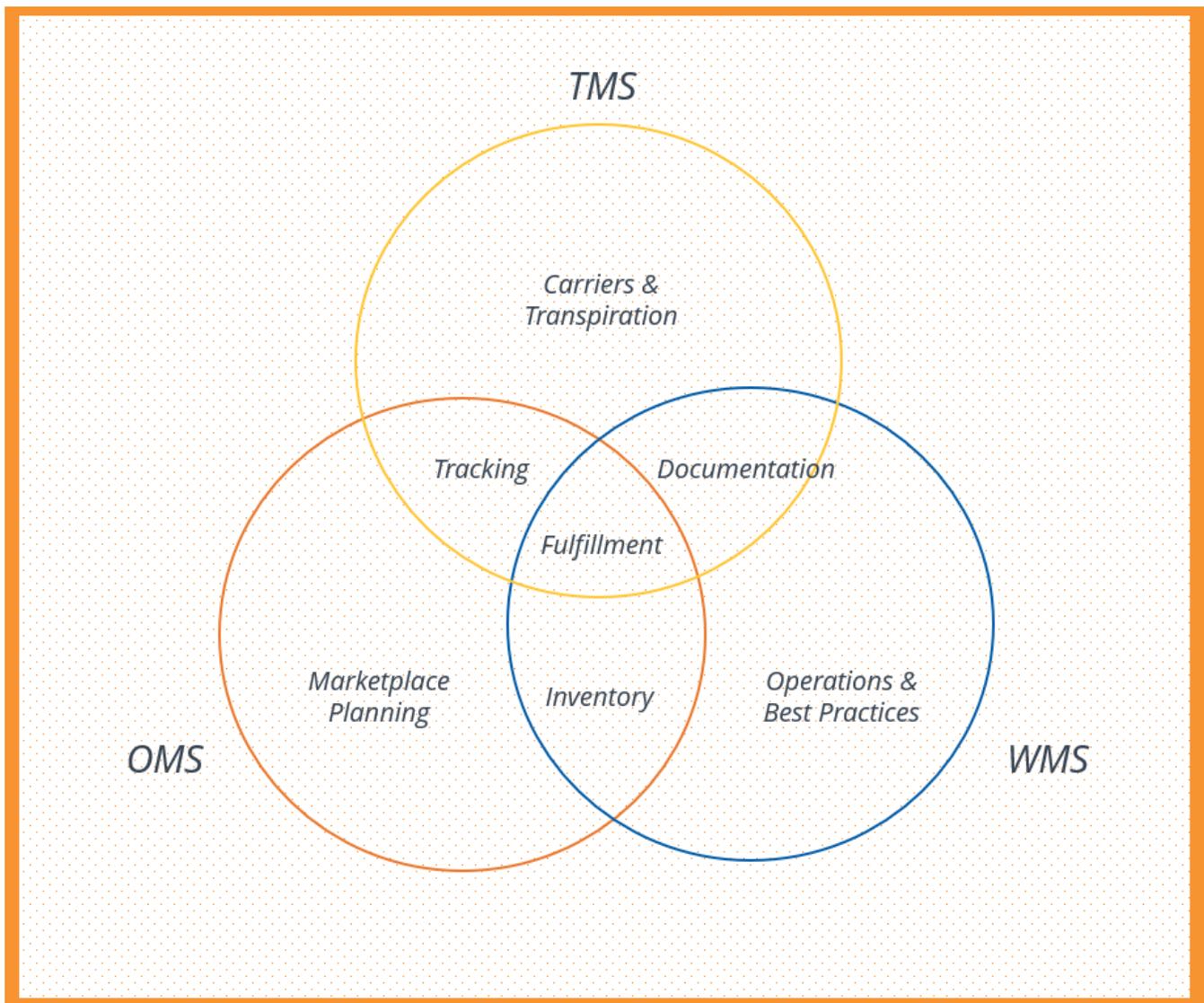


# Considerations for Implementing Ecommerce Technology

**Overlap.** Many of these systems have features of others, as demonstrated by the graphic below. 3PL Central's primary function of a WMS with shipping solutions for small parcels offers overlap and/or integration with near adjacent categories. Ensuring maximum benefit from the system you have for your biggest ecommerce challenge should drive decision and adoption of that system.

**Customizations.** Understanding your workflow and your system needs will drive how you customize your system as this process is not the same in every instance. For instance, some firms take orders into their ERP before sending to WMS, whereas others will directly integrate their WMS into the relevant shopping carts and marketplaces. Use best practice workflows to ensure scalability and sustainability.

**Integrations and APIs.** Application Programming Interfaces (APIs) allow these systems to "talk" to each other, allowing for seamless, automatic communication of information. In an ideal workflow, orders get received, fulfilled, and shipped without any manual update of systems and with full visibility to the end consumer.



# Selecting the Right Software

Savvy companies will focus on one of these as their “core system” and “bolt-on” others to create a comprehensive suite. Best practice recommends companies pick a core system, either WMS, OMS, or TMS, that overlaps with the other two functions and provides easy integration points. For example, 3PL Central’s WMS, [3PL Warehouse Manager](#), serves as the command center for core warehouse processes such as invoicing, but also provides rate-shopping capabilities similar to many TMSs and integrates with shopping carts and ERPs like Shopify and Quickbooks.

Investing in technology that offers application programming interfaces (APIs) will allow your business to create connections to platforms without standard integrations to create a seamless technology experience. Furthermore, users can leverage APIs to layer on value-added technology services like automated billing and reporting that can prevent 3PL warehouses from being commoditized as a pure logistics provider. When integrated effectively, OMS, TMS and WMS can provide a seamless experience for users that streamlines operations and provides the foundation for growth.

In the ecommerce world, an integrated solution is a must. These types of systems can work together to create dynamic workflows to navigate an increasingly complex supply chain ecosystem. Logistics professionals can enforce a wide range of compliance and service level agreement (SLA) requirements, increasing the quantity and quality of carrier and supply chain relationships. This creates a variety of ways that vendors, shippers, and 3PL warehouses can generate a great return on investment and keep up with the demands of their customers across the globe.

## Want to learn more?

*Contact one of our 3PL experts to learn how we can help your warehouse diversify for ecommerce fulfillment and stay ahead of the competition.*

Request a demo by calling us at **(888) 375-2368**  
or visit us at [www.3plcentral.com](http://www.3plcentral.com)

## About 3PL Central

3PL Central is the leader in cloud-based warehouse management system (WMS) solutions built to meet the unique needs of the 3PL warehousing community. Serving as the backbone of our customers' operations, our platform quickly transforms paper-based, error-prone businesses into service leaders who can focus on customer satisfaction, operate more efficiently, and grow faster. Offering a comprehensive warehouse management platform, we make it easy for 3PLs to manage inventory, automate routine tasks, and deliver complete visibility to their customers. As the proven industry leader for over a decade, 3PL Central accurately manages billions of dollars in inventory and processes more than 1 million orders a week from any of our customers and their customers' systems. To learn more, please visit [www.3plcentral.com](http://www.3plcentral.com).

