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The Retailer's Guide to Automating eCommerce Fulfillment Centers

Why Automate?

Ecommerce retailers are under pressure to deliver faster, more streamlined omnichannel experiences to customers that prioritize convenience, delivery times, cost, and customer service.

These customer expectations were already in place and on the rise prior to the pandemic but escalated faster than anyone could have predicted during the global crisis. With a massive shift toward eCommerce during lockdowns—and retailers' efforts to creatively adapt to meet customers' needs— today's shoppers expect more choices and more convenience than ever before.

The proliferation of a mobile-everywhere lifestyle has also driven the demand for true omnichannel experiences where retail brands have connected, integrated, and fully visible operations across all their customer channels (web, mobile, app, in-store). True omnichannel lets customers move among channels in a seamless manner without losing their place in their shopping journey. To enable this, retailers need to have integrated cloud technology in place.

Amazon has cemented customer expectations for two-day or same-day delivery. Customers often base their purchase decisions on shipping and delivery speeds and will choose a different retailer if they can get the same product faster (and they often can).

At the same time, technology has advanced and leapfrogged by an estimated 5 to 10 years since 2020—pushing retailers who were already undergoing core digital transformations to mature faster and enter the next evolution of tech maturity: automation. Artificial intelligence, machine learning, and natural language processing have matured to the point where they can deliver practical, useful, and affordable solutions to businesses.

Lastly, market conditions with high inflation, supply chain disruptions, a challenging hiring market, increased transportation costs, and economic uncertainty have retailers looking to do more with less and consolidate, streamline, and improve efficiency to cut costs and boost margins.

The convergence of these factors has motivated companies to automate.

What is Automated Fulfillment?

Automation enables machines and computers to perform functions or workflows in a streamlined manner at greater efficiency, speed, and accuracy than what humans alone can achieve. In the industrial revolution of the early 20th century, assembly lines and machines in factories were revolutionary automations. In today's world, automation happens through technology, data, and machines.

Today's automation serves multiple purposes. In a customer experience-driven retail world, automating backend systems, customer-facing apps and interfaces, and supply chain technology all serve to create and improve the omnichannel experience. Automation across the supply chain takes a more practical approach of streamlining warehouse processes and using robotics to improve pick-and-pack rates.

Ultimately, every automation decision is geared toward improving the customer experience while also benefiting employees by alleviating them of rote, repetitive work and making their jobs easier and more efficient.

While automation needs to happen across the entire eCommerce business to be most effective, in this guide we're focusing on the fulfillment center.

A retailer's ability to source and stock inventory and pick-and-pack orders to get them out for shipment as fast as possible is key to meeting customer expectations. Automating the eCommerce fulfillment center can improve efficiency, speed up order processing, reduce human errors, and enable retailers to quickly scale quickly during peak seasons.
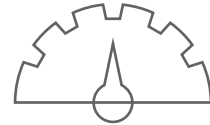
When to Automate

Determining when it's time to deploy automation
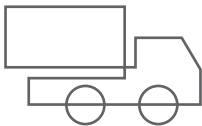comes down to multiple factors:

Is your eCommerce business feeling strained to keep pace with order volumes?

Are you having difficulty hiring or retaining order fulfillment staff?

Are you on a strategic growth strategy that predicts fast expansion or, on the flip side, are you downsizing and need to be significantly more efficient?

Are your competitors beating you with faster order processing and shipment?

Do you have redundancies that could be consolidated?

Are there disconnects or bottlenecks in sharing data and information among your supply chain ecosystem?

Answering yes to any of these may indicate that your fulfillment center would benefit from automation. That said, your business needs to be ready for automation before you can implement it.

Pre-Automation Planning

For cloud-native eCommerce retailers who were born in the cloud and have never operated anywhere else, prepping for automation is much easier. But for traditional retail brands that have added eCommerce to their business models and work with a compilation of legacy, on-premises, and cloud-based systems, preparing for automation takes more time and forethought.

The following are core prerequisites:

Know where you are in the cloud.
Your business is likely already operating with cloud-based systems. However, many traditional eCommerce retailers are running on cloud 1.0 systems, and have a home-grown maze of manual integrations among on-premises software and cloud systems. As your tech stack has grown, so has its complexity, which can make automation more difficult. While it's easy for a request to automate to come down from the C-suite, making automation actionable takes time, work, and investment. IT and information security will need to collaborate to identify where it makes sense to be in the cloud and where the opportunity for automation is best. Automating systems and deploying robotics will require the ability to integrate data and applications.

Integrate with your ecosystem.
Ecommerce subsists within an ecosystem. It does no good to automate your fulfillment center if your supply chain partners are not able to integrate their systems with yours. You need full visibility into inventory, order fulfillment, shipping carriers, reverse logistics, and customer service to be able to provide a true omnichannel experience—and all of this requires integrating data and applications. Once integrations are completed, workflows and processes can be automated so that data flows seamlessly across the ecosystem and everyone stays on the same page.

Think system-wide impact.
Many companies make the mistake of initially taking on larger automation initiatives than they can practically achieve or manage. Start small and think through the system-wide impact automation will have. Talk with key supply chain partners to gain feedback on how the integration and automation will benefit or impact them. Involve cross-functional stakeholders to learn how the automation will impact their processes. If your IT department has a platform engineering function, ask to meet with them. They represent a cross-section of the company and create IT toolsets (including integration tools) that developers can use to make work easier. They will have insight into how automation may impact the larger ecosystem.

Start by solving one small problem.
It can be difficult to know where to begin with automation. Start by identifying where bottlenecks are happening in current workflows. Where would a small change in how data flows among systems have a big impact on the way work gets done, information gets communicated, or on the employee/customer experience? By focusing on one small problem to begin with, it's easier to try out automation, establish a proof of concept, and then gain buy-in for additional automation.

Plan to communicate transparently.
Before you even begin integrating and automating, it's important to have a communication plan in place that will transparently keep employees, partners, and customers educated and updated on the changes automation will create. Employees can be leery of automation and fear it will replace their jobs (and if it will, be honest about it and give them enough lead time to prepare for that transformation). Partners need to know how the changes will impact their systems, workflows, contracts, and security risk. Customers are more willing to adopt new behaviors and processes and be more forgiving when problems arise when they are told about the changes, the intention behind them, and given a way to provide feedback.

Once you are prepped for integration and automation, the next step is to decide what kind of automation you need.

What Type of Automation is Right for Your Business?

To begin to automate, you need to decide what type of automation will have the greatest win in the short-term and set the foundation for broader deployment and adoption in the long-run.

Most eCommerce fulfillment centers will need to begin by integrating data, applications, and systems before they can advance to robotic automation. If you're already there, robotics may be your next step.

Let's look at the types:

Data and application integrations

System and software automation cannot happen without integration, which involves interconnecting data to data, data to application, or applications to applications in a way that enables data to be shared automatically back and forth across them both. Traditionally, integrations (you can think of them as connections) are created by an API—a bit of code from each system that lets connections be made. Developers have had to manually perform these integrations and then manually maintain and update them.

However, if your IT is still using manual integration methods, you may face some pushback from overburdened developers that are hard pressed for time. Manual integrations can take weeks and even months to complete. If your IT is using an automated process for integration, like an integration-platform-as-a-service, don't be surprised if they show you how to easily create the integrations with some drag-and-drop clicks so you'll be able to connect the systems and software yourself within a few hours.

Once data and applications are integrated, you can automate workflows and processes so that data is entered once and continues through a pre-defined order of steps without any need for re-entering the data.

Robotics

Once you have integrated systems, you'll have set the stage for deploying robotic automation. Robotic automation runs on AI and is part of the Internet of Things (IoT), which must be connected to your order management solution and inventory visibility system—as well as your carrier partners (depending on the type of robotic automation you choose). Robotics deploys a system of warehouse organization, inventory storage, and pick-and-pack capabilities that will either augment your employees' efforts, assist them, or perform the duties in lieu of staff.

Ecosystem partners

Some of the most innovative automation happens when partners come together to solve a mutual problem that benefits both companies. Shared automation may involve shared systems or shared technology within the fulfillment center that enables mutual benefit. Talk with your partners to explore their automation needs and ideas and to evaluate if there is cause to collaborate.

Automated fulfillment partners

It may not make fiscal sense for every eCommerce retailer to automate their own fulfillment centers. Some retailers may have other priorities for investment or limited experience so they may not be able to capitalize on automation as fast as they would like. Consider outsourcing fulfillment to a third-party logistics partner that has already invested in automation—including robotic automation—to let them meet this need for you, either temporarily as you take the time you need to automate in-house or permanently.

Wherever you start or expand in your automation initiatives, you'll likely end up working with automation solution providers that either handle the integration, automation, robotics, or automated-fulfillment partner side of things. Knowing what to look for as you vet these providers is important.

Evaluating Automation Solutions

The tech, robotic, and automated fulfillment partner market is flooded with solutions, so choosing the right provider can be challenging. Consider the following factors as you evaluate options:

Cloud-native.
Providers that are cloud-native will be well-situated to integrate with AI and IoT systems. They will also be better positioned to adapt to evolving AI technology without requiring major upgrades to your systems.

Future-oriented.
Many providers will say they can help you "future-proof" your business, but look closer to see how the provider is setting up its technology to be able to last and adapt to change. What technology are they using? Are they practicing what they preach with their own integrations and automations?

Ease-of-use.
You don't need a data science team to automate, and any provider should have a strong emphasis on ease-of-use for the technical and line of business user. If the interface or dashboards look complex, find a different provider.

Simplification.
Modern tech stacks are growing in complexity, which increases the cost to the business. Look for providers who understand the value of bringing simplification to your tech stack, your processes, and your budget.

Partner mentality.
Is the provider transactional or relationally oriented? You want a provider that isn't out to just sell you a solution, but truly invests in your success, your innovation, and in helping you solve increasingly complex problems.

Comprehensive customer support.
Will they be there when you need them? If so, at what cost? Automation solutions can't afford downtime, which means support needs to be available 24/7. How easy is it to access the support you need? Have they automated their support process?

Continually invests in their own development.
Most providers continue to invest in product development. But does the company practice its values and invest in automation for its internal processes? Companies that do show a level of commitment that others do not.

> **Finally, we would recommend that you ask for customer references and speak to peers regarding their experience with the provider in question. There's no better knowledge than first-hand knowledge.**

Radial Provides Automated Fulfillment and Technology Solutions

As an eCommerce fulfillment partner, Radial provides automated fulfillment solutions, services, and technology to help eCommerce retailers deploy automation while delivering on customer expectations faster and easier.

Learn how we can help you automate and improve eCommerce fulfillment.

About Radial

Radial is the pre-eminent B2C eCommerce fulfillment solution provider powering some of the world's best customer experiences. Global brands have trusted us for 30+ years to help them deliver a distinctive consumer experience through tailored, personalized, and scalable solutions. We partner with clients across Europe and North America with technologies such as advanced order management and omnichannel, payment and fraud management, and customer care services. Learn about our solutions at radial.com.

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