Change on Four Fronts

Challenges and Opportunities for Make-to-Order Manufacturers
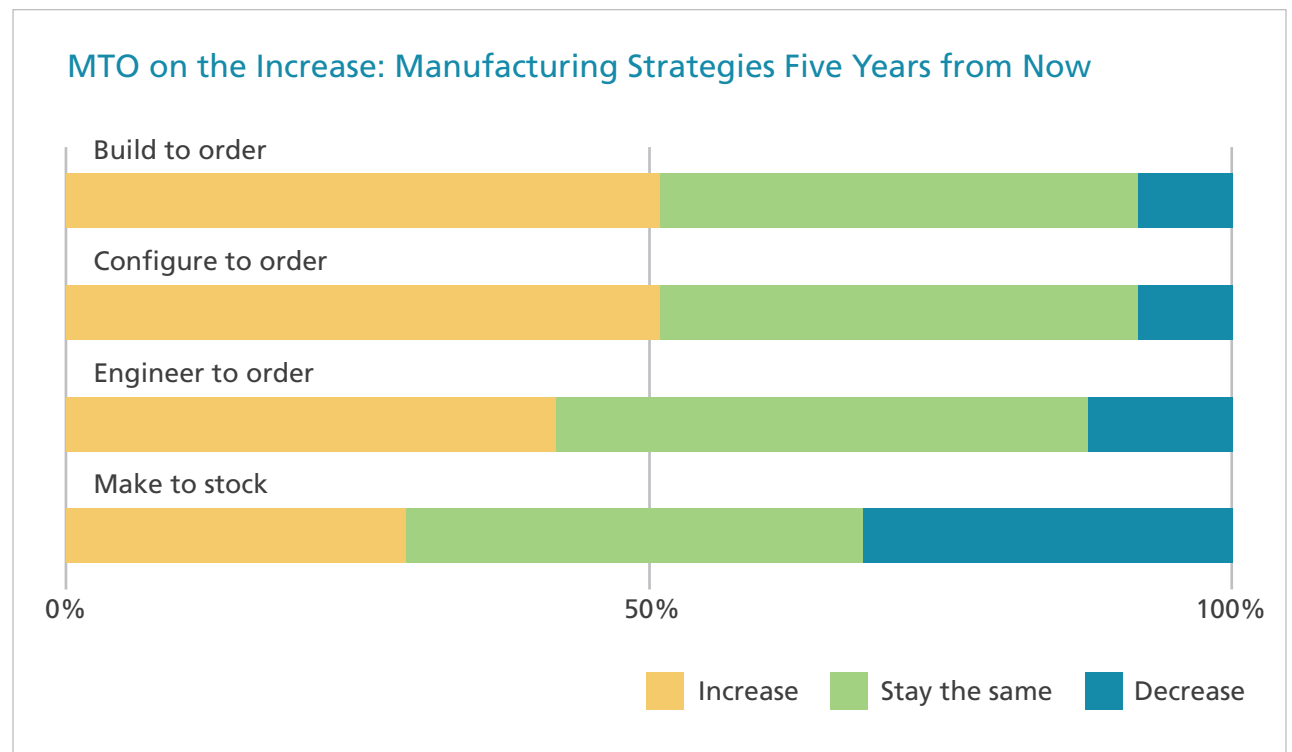
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What's Inside

The Changing World of Make-to-Order Manufacturing

Make-to-order (MTO) manufacturing is on the increase, not least because make-to-stock (MTS) manufacturers are increasingly becoming mixed-mode manufacturers, adding MTO strategies to their traditional MTS methods.

This change in the competitive landscape is a significant development for MTO manufacturers. They must also, like all manufacturers, deal with the changes wrought by megatrends such as Industry 4.0, digital transformation more generally, and globalization.

In this eBook, we look at how all of this change is creating challenges and opportunities everywhere MTO manufacturers look—in their customer interactions, core operations, workforce, and business outlook—and how investment in the right business technology can help you turn challenge into opportunity.

MTO on the Increase: Manufacturing Strategies Five Years from Now

Build to order

Configure to order

Engineer to order

Make to stock

0%   50%   100%

Increase   Stay the same   Decrease

Source: The Future of Manufacturing: 2020 and Beyond, Industryweek, May 2016

1. Connection with Customers

The Amazon Effect and MTO Manufacturing

Research shows that business buyers are being influenced by their experience as consumers, with 69% expecting an Amazon-like buying experience.[1] That means they want purchases to be online and smooth, with fast delivery and 24/7 control, flexibility, and visibility.

Does this affect MTO?

Historically, many MTO manufacturers may have been shielded from this kind of demand by the fact that they were providing a level of customization hard for their customers to get elsewhere.

Today, however, greater competition is fast eroding this shield—a result both of globalization and of increasing adoption of MTO strategies by make-to-stock (MTS) manufacturers. MTO manufacturers are discovering that their customers want it all— personalization and speed, customization and control—or they'll go somewhere else to get it.

Time to act

Responding to the Amazon effect presents two challenges to MTO manufacturers:

▶ You need customer-facing online capabilities that offer control and visibility over product ordering and tracking

▶ You need greater control over production to meet expectations for faster and more reliable delivery (see 2. Production Pressures: Stepping Up to Mass Customization and Digital Transformation)

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[1] State of the Connected Customer, Salesforce, June 2018

Variations on MTO manufacturing

In MTO manufacturing, the business manufactures customized products once they receive an order. Many manufacturers handle one or more variations, including:

Assemble-to-order (ATO) or **build-to-order** (BTO), where manufacturers stock basic parts or assemblies to fill customer orders.

Configure-to-order (CTO), which is similar to ATO/BTO, but with the buyer specifying the components that make up the product.

Engineer-to-order (ETO), where the business designs and manufactures one-off orders for customer-specified products.

Custom manufacturing, where the manufacturer makes standard or custom products just in time to meet shipping dates.

69%

of business buyers want an Amazon-like experience[1]

2. Production Pressures

Stepping Up to Mass Customization and Digital Transformation

When we talk to make-to-order (MTO) manufacturers, we find that they're increasingly concerned by an inability to reliably manage production to optimize throughput.

Build-to-order specialist Dolphin Group, headquartered in Ajman, United Arab Emirates, is a good example:

> We would accept orders and promise a delivery date, only to then realize…that there was a backlog on a certain machine, or that we hadn't budgeted for the required manpower on the day.
>
> —Arshid Zab, IT Manager | Dolphin Group

Why now?

The question is why this very specific operational challenge is suddenly a much more prominent issue than before. The answer is twofold.

Firstly, non-optimal throughput affects the speed and reliability of delivery, which has become a much more important requirement thanks to the Amazon effect.

Secondly, MTO manufacturers sense that solutions to their throughput challenges now exist. They see MTS manufacturers using a range of mass customization technologies and techniques that make them flexible and agile enough to operate in the MTO space. They sense that the same (or similar) smart ways of working must be able to help MTO manufacturers achieve efficiencies formerly available only to mass producers.

In other words, while digital transformation creates many challenges (including the Amazon effect), it can also help to solve many of these challenges. MTO manufacturers therefore want to understand how to leverage smart business and production technologies to improve their operational efficiency and throughput, despite the unpredictability and customization inherent in their MTO model.

3. Evolving Employees

It's Never Just About Technology

Complex challenges are seldom solved simply by throwing technology at them. You usually also need employees who feel comfortable embracing new technologies and ways of working. This makes your hiring practices as important as the technology you choose.

With a reputation for being old-fashioned and low-tech, it's hard enough for manufacturing to attract young people today. If you can't show digital natives that you offer the technology-enabled environment they expect—and that you have a roadmap for digital transformation—they'll go elsewhere.

It's a bit of a catch-22, since you need to deploy smart technology to attract those who can help you use it. Manufacturers that manage to negotiate this catch-22—coordinating and balancing their investment in technology and people—will outperform those who don't.

4. Globalization and Growth

Dealing With a Market/Lot Size of One

Just as it is for MTS manufacturers, globalization is both a source of increasing competition and a growth opportunity for MTO manufacturers.

For those towards the engineer-to-order side of the MTO spectrum, the ability to grow into new markets is complicated by the high level of customization in each product, especially if it's also the kind sold in very small or single lots. Globalization issues exacerbated for MTO manufacturers include:

▶ Controlling the cost of logistics

▶ Local resource for support and service

▶ Regulatory requirements—especially because if your one-of-a-kind product fails to comply with a local standard or law, you can't simply sell it elsewhere

If you're investing in greater customer service and production efficiency, you'll want to leverage these investments to be more competitive globally. To do so, you'll need a business platform able to help you tackle the challenges of global growth effectively.
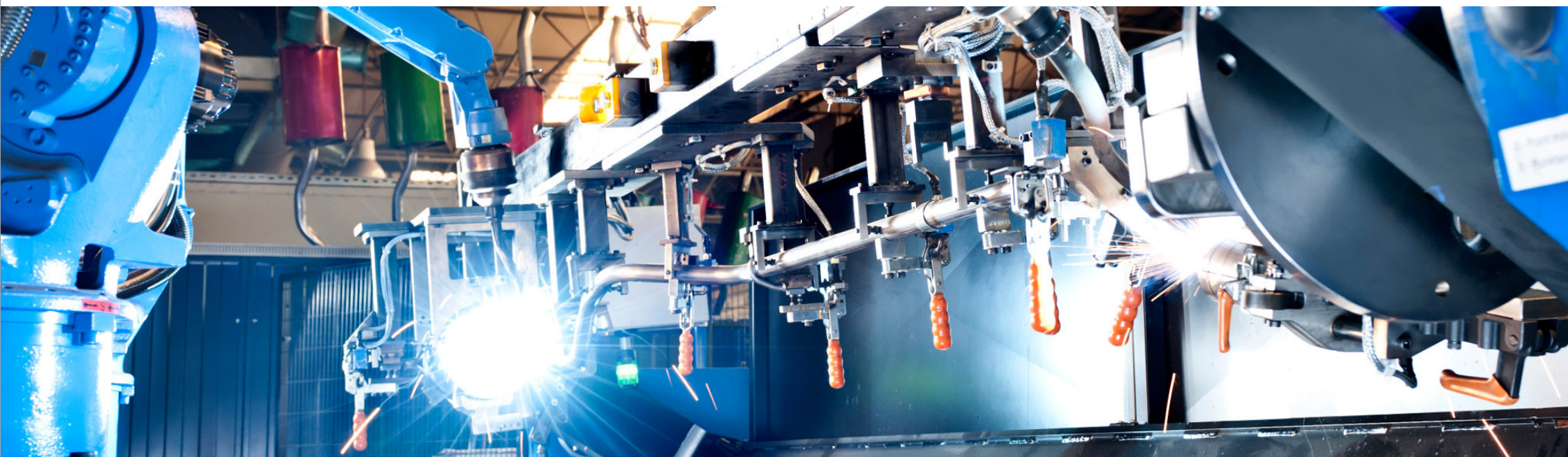
Where to start?

It's easy to feel paralyzed by uncertainty about how to tackle transformation on so many fronts. The trick is to take it step by step. A great first step is to lay firm foundations, in the form of an enterprise resource planning (ERP) system.

The right ERP will let you address a range of operational pressures and achieve quick wins, with very little fundamental change to the way you work. It will also give you the visibility, insight, integration, and flexibility to take further steps forward, as and when you're ready to do so.

> For the first time we can make fast, well-informed decisions. We are now responding dynamically to circumstances. …The longer we use Epicor, the more reliable our overview of and insights into how things stand, and thus the more competitive we become in the face of rapidly changing circumstances.
>
> —Richard van den Engel, Finance and Information Manager | Derako

1. Customer expectations and ERP

Because an ERP system will deliver visibility across your operations, it will immediately help you respond to customer needs and enquiries much more quickly and accurately. The right ERP solution should also be able to help you step up to address the Amazon effect more directly, by including integrated eCommerce functionality and support for product configurator portals.

2. Production pressures and ERP

Besides giving you visibility across your operations, your ERP solution will eliminate time-consuming and error-prone manual data entry and handoffs. It helps if your chosen solution is designed for MTO manufacturing, as it will need much less customization to meet your needs 'straight out of the box'. Features to look for include an integrated manufacturing execution system (MES), and MTO-friendly capabilities for product configuration, bill of materials adaptation, and production scheduling.

For a future-ready foundation you also want a cloud-ready solution that puts manufacturing analytics at its heart, delivering relevant real-time intelligence and insight to roles across production as well as to head-office and back-office functions. Look also for integrated Internet of Things (IoT) and machine learning (ML or AI) capabilities, and a clear vision and roadmap for Industry 4.0 development.

3. Employees and ERP

The right ERP solution can really help you bridge the gap between older and younger generational attitudes to technology. You want a system that is both intuitive enough for technology skeptics and feature-rich enough for digital natives.

When considering your options, go beyond the 'look and feel' (as important as that is). Think about things such as each solution's approach to in-system, on-the-job help and learning, or how mobile and device-agnostic its functionality really is. People are working differently today, using their mobile in the morning at home to get a start on the day and wanting their work with them on a tablet as they move around during the day. To support this, your ERP solution needs genuine anytime/anywhere/any device accessibility.

4. Globalization and ERP

Besides supporting your customers, people, and business at home, your ERP solution should do so wherever you operate or sell. Look for country-specific functionality (within the context of multi-site, multi-language, multi-currency capabilities), support for electronic reporting and invoicing, dynamic handling of different tax and regulatory regimes, and strong, flexible quality control capabilities.

Next Steps

The right ERP solution can make all the difference to MTO manufacturers that want to respond effectively to change and grow their business profitably.

We'd love to discuss your specific situation and needs to see how we can help.

Epicor ERP is the result of more than 45 years of working with both MTS and MTO manufacturers. It supports single-site, multisite, and global operations, and can be deployed on-premises or as a cloud-delivered service. MTO manufacturers around the world rely on Epicor ERP's functionality and interoperability to keep up with—and get ahead of— the changing needs of their customers, employees and businesses.

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[2] Critical Capabilities for Cloud ERP for Product-Centric Midsize Enterprises. By Gartner Inc. Analysts: Tim Faith, Christian Hestermann, Nigel Montgomery, Mike Guay, Duy Nguyen, Denis Torii, Paul Saunders, Paul Schenck, January 7, 2019

Highest in ERP functionality for midsize use cases

According to a 2019 Gartner report[2], "Epicor ERP has earned a reputation for being a flexible and highly capable product for small and midsize manufacturing companies (those with employee numbers ranging from 20 to more than 1,000)."

Epicor ERP scored highest in the ERP functionality for the "Midsize Enterprises" use case (with a score of 3.77 out of 5).

About Epicor

Epicor Software Corporation drives business growth. We provide flexible, industry-specific software designed to fit the precise needs of our manufacturing, distribution, retail, and service industry customers. More than 45 years of experience with our customers' unique business processes and operational requirements are built into every solution— in the cloud or on premises. With this deep understanding of your industry, Epicor solutions dramatically improve performance and profitability while easing complexity so you can focus on growth.

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