



CUSTOMER EXPERIENCE

Manufacturing success in the age of configuration

Using CPQ technology to cope with market pressures for greater customer choices

The changes occurring in the era of the empowered consumer have rewritten the rules for customer engagement in virtually every industry, including manufacturing. As consumers, today's B2B buyers have come to expect rich, compelling experiences with each transaction, and they are bringing those same expectations into their B2B interactions. They want the ability to do business across multiple channels, they expect consistency regardless of the mix of channels involved in a transaction, and they look for a highly tailored transaction that includes the ability to configure an order to their exact needs and specifications.

For manufacturers, this ongoing revolution means that configure-price-quote (CPQ) technology has become an increasingly important asset in making good on consumers' higher expectations. And manufacturers are discovering that the right solution can do more than facilitate custom orders—it can also drive greater efficiency and flexibility in the manufacturer's operations as well.

Addressing the challenges of a new era of custom demand

Historically, manufacturing has been notorious for its “take-it-or-leave-it” business model, stretching back to Henry Ford’s famous position that customers could have any color of Model T they wanted, as long as it was black. For decades, the formula for profitability in discrete manufacturing was in creating make-to-stock inventories of products with as little variation as possible. Process manufacturers could depend on recipes and ingredients that remained unchanged for decades, from juices and soft drinks to beer and cheese. Distributors and retailers had the responsibility to engage with customers, listen to their feedback, and work with manufacturers to initiate any changes or innovations for product improvements. Direct feedback rarely reached the designers, engineers, and product development teams who sat at the drawing board envisioning new releases.

Technology has changed that long-entrenched paradigm, seemingly overnight. With the advent of B2B e-commerce, social media, and online portals for customer engagement, B2B buyers are now in direct contact with the manufacturers, leading to unprecedented levels of options at the point of order. To keep pace with the demand for custom orders, manufacturers are employing tactics such as late-stage assembly, modular design, and “mix and match” components. They are reengineering production workflow, capacity planning, inventories of raw materials, and shop floor cycles for greater agility. To achieve the needed flexibility in their processes, many are turning to advanced robotics that can “learn” different tasks as well as more responsive material handling and order fulfillment systems. Those who try to make do with outdated, inflexible legacy systems designed for a traditional manufacturing environment are finding that they are struggling to compete and may even be at risk for going under.

Accelerating and simplifying the sales cycle

Recently, Deloitte identified “customized demand” as one of the leading disruptive forces in manufacturing: “Changes in demand require more customization and personalization. In some cases, the customer is actually creating its own product.”¹

The shift in paradigm from mass production to mass make-to-order—where the customer plays a larger role in order creation—has the potential to wreak havoc on the traditional sales cycle for manufacturers, leading to unacceptably long lead times and a higher cost of sales. In the push to provide customers with greater flexibility, sales personnel can find themselves acting as go-betweens shuttling back and forth between the client and engineering and production teams to ensure that orders meet specifications.

Advanced CPQ technology can help accelerate and simplify the sales cycle for custom orders through advanced visual product catalogs and Google-like search capabilities that guide customers through the process of isolating the precise product, options, and configurations that fit their unique needs. Through pre-built account rules and compatibility constraints, CPQ tools can limit customers to creating only orders for end products that are viable from the manufacturer’s standpoint, while still empowering the customer with choice and flexibility. Manufacturers can offer a custom-tailored product view and user experience based on the customer’s role, region, and device. It can also pre-populate fields with the customer’s appropriate language, currency, and pricing to help accelerate the sales process and ensure a smoother experience for the user.

Reducing engineering's workload in a world of configuration

The demands of a made-to-order manufacturing environment can also add to the workload of design and engineering teams accustomed to creating a smaller number of predesigned products for a make-to-stock business model. Verifying the design viability and compliance with safety and regulatory requirements for each client order can create a backlog that leads to longer order fulfillment times, hurting a manufacturer's competitiveness.

To address these challenges, manufacturers can use modern configuration tools such as CPQ to enforce design rules and constraints for custom orders from the outset of each customer engagement, while maintaining control of product models throughout the product development, staging, and production phases. In addition to lowering the engineering workload needed to support a more custom manufacturing environment, these same capabilities can help speed order confirmation times. Customers can access visual representations of various product options and confirm their choices sooner. Capabilities to quickly generate photo-realistic images of final products—including dynamic 2D drawings and 3D CAD models—empower customers with the information they need to feel confident that their custom orders will meet their precise specifications.

Maintaining profitability and efficiency, while increasing customer choice

In yesterday's environment of limited product variation and bigger lot sizes, manufacturers could achieve the economies of scale that helped drive down unit prices. However, as offering more custom options and a greater degree of order flexibility is becoming a competitive necessity, manufacturers must find new ways to control costs and maintain their own profitability.

The right CPQ platform can help manufacturers achieve the operational efficiencies that keep costs in check, especially when that platform is part of a larger project of digital transformation for manufacturers. As McKinsey & Company states, "Our estimates, based on numerous studies, show that digitally enabled advancements are unleashing the potential to create value equivalent to efficiency improvements of 15 to 20 percent. This productivity leap will not come from the application of a single solution. To generate meaningful impact, companies will have to address all elements of profit and loss while also applying a broad range of solutions at scale."²

In other words, no single system by itself will deliver the value manufacturers expect. A CPQ solution has to be part of an integrated environment where value is the result of the seamless sharing of information and capabilities. For example, when the CPQ system is tightly integrated with the manufacturer's ERP platform, the company can dynamically generate bills of material and the appropriate kitted packing instructions for custom orders on the fly. State-of-the-art CPQ can also draw information directly from CRM systems, e-commerce sites, 3D CAD solutions, and other mission-critical systems with data and capabilities that enrich the order experience for the customer, while squeezing out the delays and inefficiencies in order and production cycles. In essence, manufacturers can capture knowledge about their configurable products once, and subsequently share with their sales force, partners, and customers as needed. By collecting and confirming customer requirements up front, manufacturers reduce the likelihood of errors and rework, while enforcing quality and safety standards.

The gains in efficiency can also pay dividends in other areas. As one analyst puts it, ". . . manufacturers may find it more practical to simply refocus their sales teams on higher-value, personalized, and unpredictable activities while digitizing other more standardized, predictable parts of the sales process."³

Conclusion: Using CPQ to achieve competitive differentiation

As more manufacturers adapt to an environment where more configurable options is a competitive necessity, providing a rich and compelling buying experience becomes increasingly important as a competitive differentiator. In essence, CPQ software is the entry point for this new paradigm of B2B customer engagement, and it can help manufacturers set a positive tone for ongoing relationships with buyers. At the same time, the right CPQ solution can help manufacturers achieve other priorities, such as accelerating the sales cycle, reducing the burden on the engineering team for custom orders, and improving the efficiency and profitability of a make-to-order business model.

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1. Deloitte, Disruption in Manufacturing, Copyright © 2016. Deloitte Development LLC.
2. Industry 4.0 demystified—lean's next level
3. Industry 4.0 engages customers



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