Cracking the Configure-to-Order Code:

Winning Complex B2B Sales in a Digital-First World

BY: TARAK PATEL, SVP, PRODUCT MANAGEMENT & TECHNOLOGY

INTRODUCTION

Speed and Precision in Configure-to-Order: The New B2B Advantage That's A Win for Sales, IT and Your Entire Business

For many manufacturers, configure-to-order (CTO) products are essential to meeting diverse and highly specific customer needs. Whether it's an industrial pump, a commercial boiler, or a high-voltage transformer, these complex products require a level of precision engineering and customization that goes far beyond what a traditional "catalog" sales approach can accommodate. A single product model, for example, may offer thousands – or even millions – of possible end configurations, varying by power output, valve type, flow rate, control systems, and more. Out of the millions, how does a customer know they are getting the best configuration for their needs?

Manufacturers offering these kinds of products understand something fundamental: a one-size-fits-all model simply doesn't work. Instead, their product strategies are rooted in deep industry expertise and application-specific adaptability. However, while their product design has evolved to match customer complexity, their sales infrastructure often has not.

Today's B2B buyers are overwhelmingly researching and making decisions online. According to a recent **Demand Gen Report**, 80% of B2B buyers initiate first contact only after they're 70% through their buying journey. And this shift isn't just affecting make-to-stock or off-the-shelf items. Buyers now expect the same digital convenience even when researching or requesting quotes for highly complex, configure-to-order equipment.

This rising digital demand presents a real challenge: How can manufacturers offer consultative, tailored experiences online without sacrificing the subject matter expertise and precision that their products require?

The core issue lies in the complexity of the configuration process itself. Sales SMEs (subject matter experts) are often critical to helping buyers navigate the nuance of performance specs, compatibility requirements, and application needs. These experts play a vital role in interpreting customer goals and translating them into a viable configuration. But this process takes time (often days or weeks) and depends heavily on manual input. In a world where speed and responsiveness are key to conversion, these delays can cost manufacturers both revenue and relationships.

Adding to the complexity is product breadth: many manufacturers continue offering a full range of configurations, even though only a small subset actually drives demand. In fact, according to a recent ABC inventory analysis (a business application of the Pareto principle), roughly 20% of items typically account for 80% of usage or revenue. In configurable product environments, similar dynamics apply: manufacturers maintain broad configurability, but only a fraction of possible combinations generate the majority of sales. The challenge, then, isn't just offering choice – it's helping customers find the right choice, quickly and confidently.

In this white paper, we explore several key options manufacturers may choose to bridge the gap between product complexity and digital sales simplicity, weighing carefully the pros and pitfalls for each:

OPTION 1: STYLE/VARIANT-ONLY ECOMMERCE
Why traditional platforms often fall short for highly configurable products

OPTION 2: ECOMMERCE + CPQ
The benefits and real-world challenges of combining these separate systems

OPTION 3: ECOMMERCE + NATIVE CPQ
How the most successful B2B commerce platforms streamline quoting and ordering through built-in configuration tools and AI-enhanced CPQ

Together, these insights point to a powerful opportunity for B2B manufacturers to rethink CTO sales as a catalyst for digital sales transformation.

Style/Variant-Only eCommerce

Many digital commerce platforms promote the idea that CPQ tools are unnecessary for selling configurable products online. Instead, they will highlight their Style/Variant functionality as a sufficient substitute. In theory, this approach allows customers to select from a predefined set of product options, like choosing a t-shirt style, color, and size from a dropdown menu. When the number of permutations is relatively low and there are no interdependencies between options, this model can work well.

A classic example is in apparel. A women's crew-neck t-shirt may be offered in several colors (white, navy, red, gray) and sizes (S–XL). The selection logic is simple: there are no technical constraints between color and size. The only real limitation is inventory – if demand for "XL in red" is low, it simply won't be listed. This "flat" configuration model works because the total number of combinations is small and easily maintained.

Even with moderately more complex products, like bicycles, style/variant logic can sometimes hold. A buyer might choose a frame model, tire type, gear set, and frame size. Some combinations may be constrained (e.g., certain tires don't fit smaller frames), but the total number of valid configurations still remains within a manageable range. These types of products are still largely visual, preference-driven, and bound by fewer interdependencies.

However, for CTO manufacturers, this logic breaks down quickly.

SPREADSHEET SPIRAL

While working recently with a pump manufacturer, we learned they were attempting to build out product options using their traditional, "off-the-shelf" eCommerce platform's variant system.
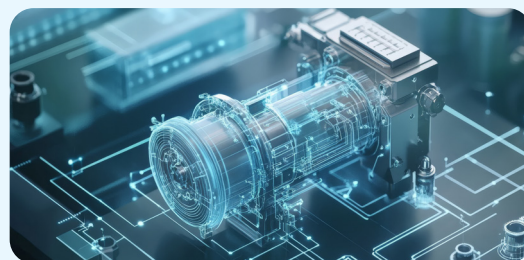
For just one pump model, they manually created 2,000 variants, before realizing they were just 10% of the way there. The sheer scale of configuration possibilities was staggering. Each pump could vary by motor type, casing material, pressure rating, flange size, and control system (many of which were interdependent). And when one component (e.g., a specific motor) became temporarily unavailable, the team faced the overwhelming task of manually locating and disabling every variant tied to that component.

This experience exposed a critical flaw in the variant approach: each variant is static, representing a fully defined end-configuration. Managing thousands (or millions!) of these static entries quickly becomes untenable, especially when component availability, compatibility rules, or regulatory standards shift.

Style/Variant logic works for products with limited configurations and minimal interdependencies. But in CTO environments, where complexity is the norm and flexibility is essential, this model collapses under its own weight. To sell effectively, manufacturers need dynamic configuration tools that adapt in real time. NOT hardcoded variant libraries that require constant manual updates.

STYLE/VARIANT-ONLY ECOMMERCE: PROS AND PITFALLS

PROS	PITFALLS
Familiar interface using dropdowns or selectors	Becomes unmanageable with larger of combinations
Easy to set up for simple or visual products (like apparel)	Static variants must be manually created and maintained
Works well when there are limited interdependencies	Cannot dynamically adapt to inventory or compatibility changes
Compatible with most off-the-shelf commerce platforms	Not scalable for complex CTO products with interrelated options
Low barrier to entry for small teams	Difficult to maintain accuracy, leading to buyer confusion or quoting errors

eCommerce + CPQ

For many CTO manufacturers, integrating a CPQ solution into their eCommerce ecosystem seems like the logical next step. And in many ways, it is.

Modern CPQ platforms have evolved significantly, offering intuitive user interfaces, 3D product visualizations, and guided configuration tools that streamline complex quoting processes. These systems have become invaluable to internal sales teams, allowing subject matter experts to quickly and accurately build out highly specific configurations for customers. Even better, some CPQ platforms are designed to be "portable," or capable of embedding directly into an existing eCommerce site. This promises a unified buying experience where customers can purchase both make-to-stock and configure-to-order products in a single cart, on a single platform.

But while this approach represents progress, it introduces a new set of challenges – particularly in terms of system complexity, user experience, and long-term scalability.

The most immediate issue is interface dissonance. CPQ tools often live inside pop-up windows or iFrames embedded within an eCommerce page. Because many CPQs are not built with configurable front-end design, their visual styling may clash with the eCommerce site's UI, leading to a fragmented user experience that can confuse or frustrate buyers.

On the back end, things get even trickier. Once a customer configures a product in the CPQ interface, that configuration must be passed back to the eCommerce system in the form of a unique SKU or variant so it can be added to the cart. Most eCommerce platforms can't handle this conversion natively, meaning manufacturers must invest in custom development just to bridge the gap between configuration and transaction.

Then there's the issue of quote negotiation. Quote negotiation is a critical part of the B2B buying process, especially for high-value, configurable products. Many traditional eCommerce platforms lack built-in support for quote requests, approvals, or pricing flexibility. As a result, manufacturers risk losing opportunities simply because the platform can't replicate a core function of B2B sales: deal-making.

To be fair, there are some real benefits to the hybrid model of CPQ + eCommerce. For instance, once a complex configuration is created and sold, it can be saved and repurposed as a pre-configured product, simplifying future transactions for similar customer needs. This can improve speed and repeatability for both buyers and internal teams.

But even here, complexity lurks beneath the surface. If one component within that pre-configured build becomes unavailable (e.g. due to supply chain issues, compliance changes, or engineering updates) the entire variant must be deactivated across both the eCommerce system and the CPQ tool. This requires manual updates, double-checking dependencies, and ensuring alignment across two separate platforms – turning what should be a flexible system into another source of maintenance overhead.

Integrating CPQ into an eCommerce site is a meaningful improvement over style/variant logic, but it's not a complete solution. While it enhances the customer experience and supports complex configuration, the need for custom integrations, limited quoting flexibility, and maintenance complexity often reveal the underlying limitations of pairing two loosely connected systems. For manufacturers with high-value CTO products, a more unified, purpose-built solution may be required to truly scale digital sales.

ECOMMERCE + CPQ: PROS AND PITFALLS

PROS	PITFALLS
Unified cart for stock and configured products	Two systems to maintain and integrate
Portable CPQ improves configuration UX	Styling often mismatched with eCommerce UI
3D visualizations and guided selling available	Manual handoff of configuration data to eCommerce
Pre-configured builds can be reused for efficiency	No native quote negotiation or deal flexibility
Improves sales team efficiency and accuracy	Variant updates require duplicate maintenance (CPQ + eComm)
Enables customer self-service on complex products	Custom development often required for full functionality

eCommerce with Native CPQ

The ideal scenario for CTO manufacturers is a B2B eCommerce platform that natively supports product configuration. These platforms eliminate the complexity of integrating multiple systems while offering a seamless experience for both internal sales teams and external customers. When this native configurability is combined with quoting, pricing, and approval workflows, manufacturers get the best of both worlds: control and simplicity.

Unlike eCommerce systems that rely on static variants or bolt-on CPQ tools, native support means that configuration logic, pricing rules, and quoting capabilities are built directly into the platform. This makes it easier to present complex products in a buyer-friendly format while also maintaining internal controls over what can be configured, priced, and sold.

But not all configuration tools are created equal. It's important to distinguish between two main categories of CPQ systems:

- **Sales CPQ:** Designed for sales teams, these tools help reps build accurate quotes, guide pricing, and generate proposal documents. While some sales CPQs only handle bundling non-configurable products, others support advanced configuration logic. For complex CTO products, look for a platform that supports compatibility rules, formula-based pricing, and workflow approvals.

- **Engineering CPQ:** These are used by technical experts who need CAD integration, Bill of Materials (BOM) outputs, and the ability to calculate performance specifications. Engineering CPQs are highly specialized and powerful but are not customer-friendly. Their complexity makes them unsuitable for front-end use or direct buyer interaction.

That's why a native B2B commerce platform with Sales CPQ capabilities is so valuable. It complements Engineering CPQs by enabling customer self-service, quote requests, reorders, and aftermarket parts identification – without requiring product mastery. A solution like Aleran's Connected Commerce platform provides both internal and external quoting tools with dynamic configuration logic, approval workflows, and deep ERP connectivity.

Native support also unlocks aftermarket sales. When a configured product is tied to a serial or asset number, the platform can automatically surface relevant parts diagrams, BOM components, and compatible accessories. This makes post-sale support significantly easier, improving customer satisfaction and repeat revenue.

Bottom line: manufacturers don't have to choose between flexibility and usability. Native product configuration support within a unified B2B eCommerce platform reduces overhead, improves customer experience, and enables faster quoting at scale.

COMPARISON: SELLING CTO PRODUCTS ONLINE

CRITERIA	ECOMMERCE + NATIVE CPQ	ECOMMERCE + CPQ	ECOMMERCE STYLE /VARIANT
Supports complex configuration rules	✓ Full support with real-time logic	⚠ Partial support, depends on integration	⊗ Very limited; static combinations only
Supports aftermarket parts sales	✓ Yes, BOM + serial tracking	⚠ Possible, but often disconnected	⊗ Not supported natively
Ease of use for sales teams	✓ Unified, modern UI	⚠ Often fragmented across tools	✓ Easy (if config scope is small)
Ease of use for customers	✓ Seamless experience	⚠ Disjointed UX (e.g., iFrames, popups)	⚠ Simple, but quickly becomes overwhelming
Integration burden	🟢 Low	🟡 Medium to high	✓ Low (initially), but high maintenance
Total cost of ownership	🟢 Low to medium	🔴 Medium to high	⚠ Low to start, high over time
Supports AI-Guided Selling	✓ Yes	⚠ Partial support, depends on	⊗ Not supported

The AI Advantage:
Elevating Native CPQ Further with AI

No matter which digital commerce approach a manufacturer adopts, the reality is clear: quoting complex CTO products isn't just about listing features – it's about guiding decisions. And that's where AI is starting to play a transformational role.

Even when a platform supports robust configuration logic (e.g. rules, pricing formulas, and approval workflows), customers often face a steep learning curve. Selecting the right model can be especially difficult when multiple configurations share overlapping specs, applications, or constraints. The result? Delays, misconfigurations, and abandoned quotes.

AI is changing that.

Rather than relying solely on static configurators or manual sales input, leading platforms like Aleran are embedding AI sales assistants directly into the buyer journey. These AI agents:

- **Adapt dynamically to each user's expertise level** – guiding novice users while giving experienced buyers room to move quickly.

- **Identify friction in real time** – detecting when a user is stalled or confused and offering relevant prompts or model suggestions.

- **Leverage ERP and Engineering CPQ data** – taking into account bill of materials (BOM), real-time inventory, margin thresholds, and engineering change requirements.

- **Deliver multilingual, conversational experiences** – enabling manufacturers to support global self-service quoting at scale.

AI doesn't replace CPQ; it amplifies it. By combining structured configuration logic with real-time insight, AI-driven tools make complex product discovery and configuration feel intuitive, fast, and context-aware. For manufacturers, this means fewer errors and rework, faster quoting cycles, and higher customer confidence and engagement.
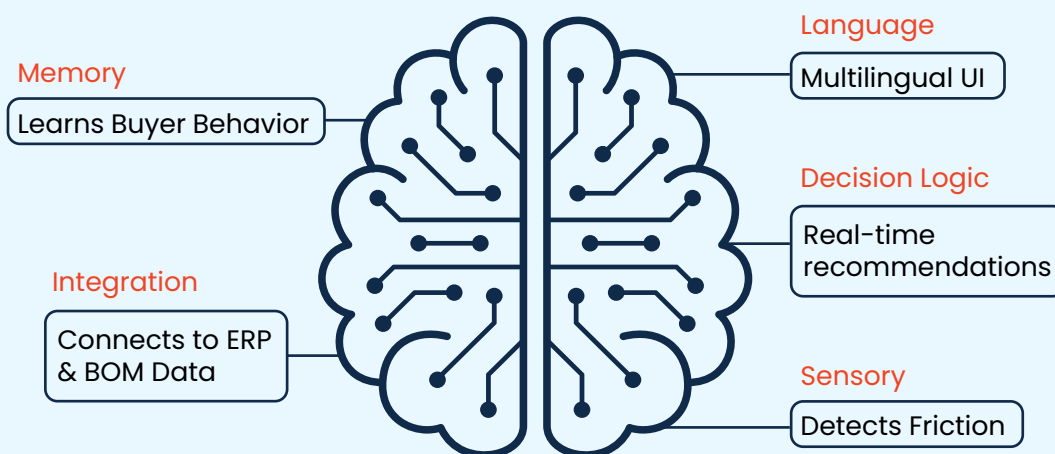
As the B2B buying experience becomes increasingly digital and self-directed, AI is fast becoming a foundational layer of competitive CPQ. Whether used to complement an existing sales-led CPQ workflow or to power a more autonomous quoting experience, AI unlocks a smarter, more scalable path forward for CTO manufacturers.

WHAT AI CAN DO FOR CPQ & CTO MANUFACTURERS

AI-powered enhancements are turning traditional CPQ into a smarter, more adaptive tool for B2B manufacturers. Here's how:

- ✓ **Adaptive Guidance:** Learns the buyer's expertise level and adjusts the experience, offering guardrails for novices and efficiency for pros.

- ✓ **Model Selection Assistance:** Recommends appropriate products or configurations based on user inputs, reducing the risk of misconfigured quotes.

- ✓ **Real-Time Friction Detection:** Recognizes when a user is stuck and delivers timely prompts or suggestions to keep the process moving.

- ✓ **ERP & Engineering CPQ Integration:** Accounts for BOM, inventory levels, cost and margin data, and engineering changes during the quoting process.

- ✓ **Multilingual, Conversational UI:** Supports global quoting through natural language interactions...no training required.

- ✓ **Streamlined Self-Service:** Makes complex product configuration accessible to customers without compromising accuracy or control.

THE AI-POWERED CPQ SMART BRAIN

Memory
Learns Buyer Behavior

Language
Multilingual UI

Decision Logic
Real-time recommendations

Integration
Connects to ERP & BOM Data

Sensory
Detects Friction

The Future of CTO Sales Is Configurable, Connected, and Customer-Ready

Traditional eCommerce variant systems can't scale to meet the complexity of modern product configuration. Pairing eCommerce with CPQ is a step in the right direction, but often results in fragmented experiences and high integration burdens. And while many manufacturers rely on powerful engineering CPQs internally, these tools weren't built with end customers, or even most sales teams, in mind.

The clearest path forward is an integrated and comprehensive B2B sales and commerce platform that natively supports configuration, integrates tightly with ERP, and is extendable with AI-driven sales guidance.

This kind of solution empowers buyers to explore and quote complex products with confidence – without needing to navigate internal silos or wait days for a response. And for manufacturers, it delivers the agility, control, and scalability needed to compete in today's fast-moving B2B landscape. Ultimately, success isn't only about simplifying your products; it's also about simplifying the experience of buying them.

At Aleran, we've built our Connected Commerce platform to meet the real-world needs of CTO manufacturers – checking every box outlined in this paper and more. From native support for complex configurations and SAP ERP-integrated quoting to AI-guided selling and scalable omnichannel commerce, our platform is purpose-built to help manufacturers modernize without compromise. Whether you're navigating fluctuating costs, managing diverse product lines, or responding to increasingly digital buyer behavior, Aleran provides the unified, future-ready foundation you need to move faster, sell smarter, and deliver confidently.

ARE YOU READY TO SIMPLIFY COMPLEX SELLING?

Aleran Connected Commerce is a SAP-certified platform, extending the power of SAP S/4HANA's capabilities via SAP BTP so that mid-market manufacturers can accelerate their growth with efficiency. Learn more about its capabilities at: **aleran.com/b2b-integrations/sap**

Talk to our experts **and see how Aleran can help you transform and future-proof your CTO sales strategy while also extending the power of your SAP ERP – without compromising on cost, speed, or customer experience.**