Transforming Special Orders into Products

WHITE PAPER
Cincom In-depth Analysis and Review

SIMPLIFICATION THROUGH INNOVATION®
Introduction

Manufacturers worldwide are constantly tempted to turn special orders into products. The goal of this white paper is to provide a framework for defining when to take special orders and one-off projects and turn them into products.

For nearly every manufacturer, special or “one-off” orders are the path to high profits and more efficient use of their factories. It’s very alluring to continually take on these customized orders and projects that promise higher revenues and the potential of using production centers to their full potential. The paradox, however, is balancing the potential for profits on one hand, and the lack of control of costs associated with these customized products on the other.

In achieving the higher margins from special and one-off orders, many manufacturers sacrifice control over the processes that can get them there. That is the paradox of customized manufacturing.

The intent of this white paper is to define steps that manufacturers can take to get better control of special-project costs and processes by adopting inquiry-to-order processes. As a starting point, consider the following recommendations for transitioning special projects into products:

• Deciding if a project can be profitably completed, on time and at a high quality level. Ironically, many manufacturers only see the margin, and miss the broader implications of taking on customized projects. These broader implications include impacts to existing supply-chain resources and production availability. Cincom’s Inquiry-to-Order system is solving these trade-offs that Sales and Manufacturing need to make in order to make and keep commitments on customized products.

• Scheduling one-off production makes supply-chain visibility nearly impossible. Consider the typical manufacturing plant and the inventory planning for forecasted production. Typically there are three weeks of inventory available already if the company is engaged in a build-to-order strategy – and that’s to take care of fluctuations in existing demand for existing customized products. Key to keeping both build-to-stock and customized production moving is having visibility into Capable-To-Promise (CTP) and Available-To-Promise (ATP) dates for the specific project. Today, Cincom’s Demand Manager™ is contributing to many manufacturers’ requirements for this type of support and supply-chain visibility.

• Should a high-value project push existing product roadmaps back? There is the tendency to push back a production schedule to meet the customization requirements of products that are being expedited by senior executives. For example, having a stable Inquiry-to-Order solution gives manufacturing visibility into commitments from both the build-to-stock and customized product sales teams.

• Should we just abandon our product roadmap? Manufacturers find that over time, over 60% of their volumes are from build-to-order and customization. One could argue that Aerospace and Defense is by definition 100% build-to-order. Answering the question of just abandoning a product roadmap and pursuing a build-to-order strategy is at the heart of nearly every complex manufacturer’s business model today. Here’s why: All of the manufacturers in complex manufacturing industries are part of a broader value chain that is forcing them to become experts at producing to specific project’s needs.

• Manufacturing’s fulcrum is teetering between riding cost curves on commodity products versus capturing profitable project revenue. The fact that manufacturers are now under more pressure than ever before to drop material costs while at the same time being required to grow higher revenue projects underscores the need to coordinate demand. The answer is to look first at inquiry-to-order processes and streamline them so that greater responsiveness is delivered to prospects in sales cycles and to existing customers who are buying new products.
Making Product Customization Pay

**Bottom line:** The future is now for many manufacturers, because the timing of the decision of when to turn custom projects into products has a huge impact on their future financial viability.

Cincom Systems continues to see a fundamental truth emerging from complex manufacturers that are driven by these factors:

- **Quotes travel through Engineering an average of seven times or more, with highly customized products taking 12 or more iterations to complete.** Engineering’s time gets wasted on trying to align customized product capabilities with the needs of specialized projects. The result is increased review cycles on customized quotes and wasted time.

- **Special pricing requests are the bottleneck in completing customized products.** These requests for special pricing make the task of turning around quotes outside the time frame required to win the project’s business difficult. Cincom’s Inquiry-to-Order solution, including Socrates®, can deliver over a 70% increase in performance of handling special pricing, especially if these requests are handled manually.

- **Sales Operations and Sales and Business Development must hand-walk quotes through manufacturing to get them done correctly.** The more complex the product, the greater the confusion when creating quotes for both products and projects. There’s more of a focus on hand-carrying exceptions through than creating a process to complete them. This is really one of the key areas where companies doing many projects can benefit from Cincom’s expertise in inquiry-to-order. Streamline the entire process of capturing project-level quotes, and develop strategies that synchronize demand, manufacturing and fulfillment. That’s the real value of moving into an inquiry-to-order strategy that includes integration to ERP and other manufacturing systems.

- **Over 70% of the time, project quotes are done manually versus just under 20% for product-based quotes.** Cincom continues to see the majority of margin lost during the quoting cycle for projects. This is due to too many unknowns and no accurate way of defining the true costs of a project. Again, this ties back to visibility of what it’s costing your company to take on special projects to begin with. However, you can see that the revenue drain is significant and costly if a company is flying blind.

- **No integration equals no ROI.** No integration between quoting systems and supply chain, production scheduling, ERP and fulfillment systems is the single biggest cause of ROI drain for companies going after special projects. Cincom specializes in connecting customer demand with manufacturing and excels in the area of complex manufacturing. Time and again Cincom has witnessed the fact that the greater the integration between systems, the higher the ROI.

- **The highest credibility collateral of any company is its roadmap.** Before going into the field, one tape manufacturer locks up their roadmap documents so that they are unalterable, because more projects than orders come back.

- **Silos kill margin gains of special projects.** Despite companies that aggressively pursue projects at the sake of their product roadmaps, silos are still prevalent in many manufacturers, causing quotes and production commitments on both projects and products to suffer. Silos burn time and dollars, slowing quote response times on projects to over a month. The following figure shows this practice.

Even when manufacturers of complex products decide that the majority of their revenue will be from projects, due to their industries forcing them into that business model, there’s still major room for improvement in capturing, tracking, managing, fulfilling and supporting inbound manufacturing projects.

Figure 2 shows Cincom’s contribution to complex manufacturers that are streamlining their inquiry-to-order systems to support both projects and products.

Taking Figures 1 and 2 as before-and-after pictures of the processes that many manufacturers grapple with when it comes to wedging projects into product workflows, it’s easy to see that just minimal improvements in customer-facing strategies including inquiry-to-order can make a huge difference in turning projects into products.
So how does this impact the financial performance of companies overall? Figure 3 shows the many measurable benefits companies accrue from streamlining how both project-based and standardized product quotes and orders are handled. Cincom Systems’ installed base of customers has provided these statistics in conjunction with references from AMR Research.

The take-aways from Figure 3 include the following:

- Quoting accuracy has increased by 90% on both special projects and standardized products.
- Prospect-to-close ratios for custom projects have jumped 30% or more when the hand-off of project orders is streamlined using inquiry-to-order and systems integration solutions. Cincom’s customers are using inquiry-to-order systems to speed the transition of projects into products, realizing the financial gains of reducing order-cycle times by 65%.
- Projects contribute to a 20% increase in the utilization of manufacturing centers. This is a key finding of Cincom’s research and shows the financial impact of integration on making the tasks of turning projects into products a more profitable one.
Deciding If Your Special Projects Are Products in Disguise

Complex manufacturers grapple with the decision of if and when to turn special projects into products. Cincom’s experiences in applying inquiry-to-order and product configuration strategies to the pain-points manufacturers have, has resulted in the following series of recommendations for making this transformation, if and when manufacturers decide to turn special projects into products.

These are by no means a “one size fits all” solution set. Your specific company’s needs may vary significantly, so use these general guidelines to assist in the decision of whether customized projects you are working on today can be turned into products.

Considerations for turning projects into products include the following:

• Between 50% and 60% or greater component and process commonality.

• Project-based teams accomplish more than production-centered ones. One Aerospace and Defense manufacturer found that the force-fit of matrix teams accomplished less than the project-based ones. The reason was that the project-based teams had a clearer objective and a tighter schedule. Combining a clearer goal and a sense of urgency was actually delivering better results than the longer-term product strategies to the latter, languishing from lack of direction.

• Unit allocations for standard product are cannibalized for special orders. Cincom has assisted one manufacturing company with integration and inquiry-to-order problems that occurred at least once a week – often several times a month. A symptom of a deeper problem, manufacturing managers went after the higher margins on custom projects and let products slide. This resulted in additional materials being expedited for orders to existing customers, and depending on the supplier’s stock, it had a major impact on the ability to meet – or not meet – the original date.

• Quoting systems for projects exist on the back of whatever piece of paper is convenient. In the largest and most complex of manufacturing industries, such as the manufacture of heavy trucks, this is commonly the case. Sales will often joke that the quoting system is really a pen – nothing more – that leaves much to interpretation and analysis once a sales representative gets back to their office and starts actually building the quote.

• Your manufacturing processes support matrix-based techniques at blending demand for both functional and project-based manufacturing processes. Many manufacturers that are suppliers to Aerospace and Defense industries excel at matrix-based production, which gives them the flexibility to pursue both sides of the spectrum, which is shown in Figure 4. Manufacturers looking to productize products need to start first at the cost level, moving through the factors shown in Figure 4 as well as the additional ones discussed in the next section, Recommendations: First Steps for Transforming Projects into Products.
Recommendations: First Steps for Transforming Projects into Products

Manufacturing companies that have a high percentage of their revenue tied up in special projects need to selectively choose which ones they turn into products. The flexibility to customize products can result in higher margins, greater competitive strength, and for many companies, higher costs that are uncontrolled and unchecked. The best of all worlds for any manufacturing company is to have a balance of custom and standard business. However, striking that balance is specific to each manufacturer.

Consider the following points when looking to transform projects into products:

1. **Select a series of Key Performance Indicators (KPIs) or measures of performance that you can isolate to projects and measure them periodically.** This is the heart of many successful strategies we’ve seen at Cincom when it comes to turning projects into products. Gather the set of key performance indicators and start measuring them.

2. **Build a scorecard and start tracking costs of projects.** There’s a wealth of information you’re missing out on if you aren’t tracking project time and costs spent on one-off projects. Cincom’s analytics applications can assist in building dashboards like the one below for creating and managing a scorecard of custom project-time and cost investments.

3. **Set “go to production” benchmark levels for each Key Performance Indicator.** This is a best practice when moving projects into products. Cincom and its customers are finding that once several key performance indicators move in the direction of signaling inordinately higher costs for custom projects, as well as a high overlap in the same labor used on standard and customized products (thanks to strong matrix organizations, manufacturers are able to figure this out), then its time to move the project into a standardized offering.

4. **Transition projects by common processes first, gradually using a project lifecycle management approach.** Don’t start with just the customized product – overlap its processes with existing ones and think of the curve shown in Figure 6. Each of your projects will have a common series of processes associated with them. Moving the processes will set the foundation for including customized products into existing production workflows first.

5. **Cincom sees customer-facing processing including inquiry-to-order and pricing as the critical first steps.** From the experiences gained from over 60 customer implementations, Cincom continues to see the customer-facing processes of handling inquiries, creating quotes both for standard and custom projects and the integration with pricing processes as critical to moving one-off projects into products.

**Bottom line:** Migrate processes first and products later for best results. Cincom’s expertise in bringing automation to over 60 companies that have struggled with turning one-off projects into products delivers the lessons learned in this white paper. Making front-office systems communicate with each other through integration strategies that yield hard-dollar benefits in complex manufacturing is where Cincom excels.