

Producing to order

Discrete manufacturers and customer demand

A report from the Economist Intelligence Unit



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Preface

Producing to order: Discrete manufacturers and customer demand is an Economist Intelligence Unit white paper, sponsored by SAP.

This is the third in a series of six reports addressing the opportunities and challenges faced by midsize manufacturers. The Economist Intelligence Unit bears sole responsibility for the content of the reports. The Economist Intelligence Unit's editorial team executed the survey, conducted the analysis and wrote the reports. The findings and views expressed here do not necessarily reflect the views of the sponsor.

Our research drew on two main initiatives:

- We conducted a wide-ranging online survey in October and November 2007. In all, 179 executives of midsize manufacturing firms took part from around the world, of which 85 hailed from discrete producers.
- To supplement the survey results, we also conducted in-depth interviews with senior executives of midsize discrete producers.

The author of this report was Stephen Harris and the editor was Denis McCauley. Mike Kenny was responsible for design and layout.

Our sincere thanks go to the survey participants and interviewees for sharing their insights on this topic.

March 2008



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Executive summary

It goes without saying that midsize manufacturers, like most companies, are exerting enormous efforts to become more customer-centric. The required investment of manufacturers, however, is arguably higher than for other firms, since it entails thorough-going change in entrenched processes and systems stretching from procurement to the shop floor through to delivery and after-sales service.

In order to become truly customer centric, midsize discrete manufacturers—those engaged in the

unit production of distinct items, and the focus of this report¹—are pursuing or planning a variety of initiatives, including the improvement of customer service and the closer integration of customers into product design.

The most far-reaching in terms of impact on the production process, however, are plans to implement demand-driven manufacturing—developing the ability to produce to customer order rather than to inventory. Over three-quarters of discrete manufacturers surveyed for this report believe that becoming demand-driven is critical or important to the success of their growth strategy over the next three years. Most are not there yet in terms of implementation, but only 6% say they have no plans to pursue a demand-driven strategy.

Other major findings of the research including the following:

- Involving customers in the product design process, whether through co-development projects or online feedback portals, is also a priority for manufacturers as they try to keep pace with changing demand. They will also encourage more frequent customer site visits by production and design managers and train sales staff to be more perceptive of changes in customer needs.
- Supporting the implementation of demand-driven manufacturing is increasingly becoming an IT priority at discrete producers. One way is by making order management much more efficient. One-fifth of surveyed executives also say that enabling greater flexibility to meet specific customer demand is a top priority for IT investment over the next three years.

Who took the survey?

Fully 179 executives from around the world participated in the *Midsized manufacturers* survey, conducted in October–November 2007. This number includes 85 respondents from discrete manufacturing firms, who hailed from the industrial machinery, high technology, automotive, aerospace, medical equipment and other sectors. The analysis in this report is based on this sub-group of 85 discrete manufacturing executives.

The respondents in the sub-group were cosmopolitan: 37% were based in Europe, 35% in North America and 20% in Asia-Pacific, with the remainder coming from the Middle East, Africa and Latin America. The sample was also very senior: 48% were C-level executives such as CEOs, CFOs and CIOs, as well as owners. All the firms in our survey earn annual revenue of between US\$20m and US\$500m. For more detail on the survey sample, please see the Appendix to this report.

1. This is the third in a series of six papers on the challenges and opportunities faced by midsize manufacturers. A companion paper to this one addresses the plans of process manufacturers to become more customer-centric.



Demand-side complexity

Discrete manufacturers are frequently wedged between unyielding customers and uncooperative suppliers. On the supply side, they compete for materials and labour in a marketplace crowded with rivals seeking the same inputs. Their demand for inputs is driven by a manufacturing process that is often inflexible, with order-cycles and queue times squeezed by the need to keep inventories and back-stocks to a minimum.

On the demand side, customers are becoming increasingly well-informed and insistent on flexibility. On-time delivery is no longer optional, and back-charges for quality slips are more frequent in the procurement process. “Buffers” of finished products have evaporated in this pressure cooker, as continual product enhancements have rendered anything not sold immediately to be obsolete within months or even weeks.

“Our clients are becoming more demanding across the board,” observes Srinivasa Rangan, operations manager of Titanium Tantalum—popularly known as “Titan”—a supplier of precision metal and other engineering products based in Tamil Nadu, India. “They want solutions faster, and they are demanding material testing more frequently during the assembly

How important are the following initiatives to the success of your company’s overall growth strategy over the next three years?

(% responding “critical” or “important”)

Implementing a demand-driven strategy; developing the ability to adapt manufacturing processes to real-time customer demand and supply signals

76

Improving the responsiveness and efficiency of customer service operations

70

Integrating customers into the product development process

50

Source: Economist Intelligence Unit survey

process. They are also insisting on materials that are more difficult to source.”

Good customers no longer stay with a component supplier because they are unaware of the alternatives; they must be convinced to buy and continually re-sold to stay. Discrete manufacturers clearly understand the importance of becoming more responsive to customer demand and needs, and that operations need to be adjusted to make this happen.

“We view close coordination with our customers as essential,” says Mr Rangan.

A majority of discrete manufacturing executives in the Economist Intelligence Unit survey agree: 70%, for example, hold the improvement of customer service operations to be critical or important to the success of the company’s strategy over the next three years. As we will discuss later, even more believe that “adapting manufacturing processes to real-time customer demand and supply signals” is a key element of strategy.



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Customer intimacy

The ability to forge and maintain close customer relationships is one area where smaller manufacturers traditionally outshine their large rivals. The human element in this—direct relationships of senior managers, sales and service staff with the customer—is a prime asset of small and midsize firms. When asked how they can keep pace with the changing demands of customers, survey respondents cited among their top responses the better training of sales people to solicit customer information, and also regular site visits of production and design managers.

Bruce Uryase, president of New England Precision (NEP), a US-based contract metal-stamping firm serving automotive, medical and other original-equipment manufacturers, affirms the value of senior

management contact with customers. “We respond to our customers’ inquiries as a management team and react as the situation suggests,” he relates. “When dealing with a customer like Honda, and their relentless focus on quality, we lead with our Director of Quality Assurance. When adherence to technical performance specifications is the primary focus of an existing account, our Director of Engineering will take the lead in the discussions. And if we see a way to improve on a component, or reduce waste in its manufacture, our Director of Manufacturing will take our suggestions back to the customer.”

In the stamping business, order cycles are frequently 12 months or longer, so continued vigilance is important. “Once an order is placed into production”, says Mr Uryase, “we follow up with quarterly visits to the customer to check on the level of specified conformance, further discussions about improvements and overall customer satisfaction.” He adds that “I travel a lot and find that I am still making the same calls since we implemented this programme ten years ago; only the stakes have risen as our relationships have become more fruitful.”

Since many discrete manufacturers only produce product to order, excess inventory of finished goods is less of a challenge for them than product development. Involving customers in the product design process, whether through formal co-development projects or the creation of online

What is the single most effective measure your company can take to keep pace with the changing demands of your customers?

(% respondents)



Source: Economist Intelligence Unit survey

With what techniques does your company plan to integrate its customers into the product development process?

(Top responses; % respondents)



Source: Economist Intelligence Unit survey



customer feedback portals, is another priority for manufacturers as they attempt to keep pace with changing demand.

Scanfil is a Finland-based contract manufacturer of components for the telecommunications and industrial electronics industries. In thirty years, they have grown to 2,100 employees across four countries by focusing on these two market sectors where product enhancements are the key to success.

Lasse Pylväs, director of European telecoms enclosure operations, describes the firm's reliance on development partnerships with their clients. "The key to successful product development is be involved with the customer in as much of the product life cycle as possible. By starting with R&D and working through the design evolution together, we weld ourselves to our client's best interests, and improve our chances of making the sale."



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The demand-driven enterprise

Discrete manufacturers place a high priority on implementing demand-driven production: over three-quarters of survey respondents say becoming demand-driven is critical or important to the success of their overall strategy. No enterprise can afford to create a product for which there is an unspecified demand. When product is “pulled” through the production floor, fixed assets and raw materials can be applied to maximum benefit. Once production reverts to “pushing” a finished product into a warehouse, avoidable costs start to erode profit margins.

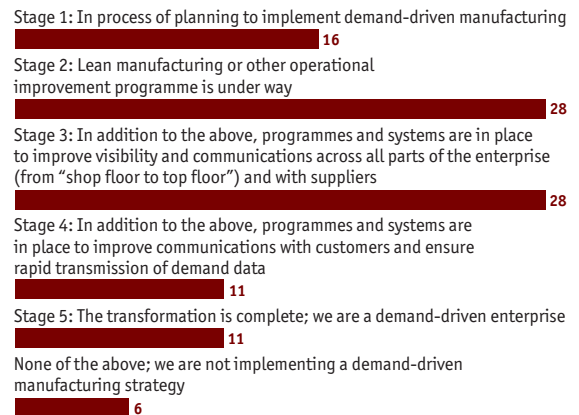
Midsized manufacturers perceive the benefits of demand-driven production as a competitive advantage over their larger rivals. With smaller fixed costs and a degree of distance from the end user, midsized producers can concentrate on fitting seamlessly into a larger supply chain. While most surveyed executives indicate they are “not there yet” on the road to become fully demand-driven, the majority are developing plans to take fuller advantage of manufacturing to order. Only 6% of discrete manufacturing executives say they have no plans to implement a demand-driven strategy.

The adoption of demand-driven manufacturing is approached incrementally over time, through a process of continuous improvement. “Lean” manufacturing—a series of corrective measures applied to the production floor and the supply chain—may be considered part of this process. The reduction of excess component inventory and the focus on just-in-time delivery is a critical part of the lean—and demand-driven—experience.

At New England Precision, Mr Uryase reports that disciplined practices associated with controlled inventory have been pushed out both upstream and

At what stage is your company on the road to implementing a demand-driven manufacturing strategy?

(% respondents)



Source: Economist Intelligence Unit survey

downstream. “Our customers insist that we maintain a consignment warehouse of our components on their production floors. We are only paid for our product once our customers actually use it, and they have little room for the storage of more than a few days’ worth of our products. This has forced us to be attentive and responsive to inventory levels and production for replenishment.”

As a result of this pressure, NEP has developed an electronic “Kanban” system of replenishment notification, one that they have also implemented with their own suppliers. “We demand from our suppliers the same level of attentiveness to inventory management that our customers require from us. This has created an intricate interrelationship of supply-chain reactions that development of our proprietary IT systems has made possible.”

Salcomp, a global manufacturer of chargers and power supplies for mobile phones, is working to balance industry demand with manufacturing plants in China, Brazil and India. Antti Salminen, CFO, points to logistics control as being equally important to them. “We have established many logistical arrangements with our suppliers to manage inventory. The use of electronic data transfers has been critical



to the satisfaction of real-time needs. We use this method with both our customers and our suppliers. Our overall productivity and efficiency is dependent upon the sharing of accurate and timely projections.”

The adoption of a demand-driven mentality—and achieving the associated improvements in operating efficiency—can present itself as a burdensome requirement, but discrete manufacturers plan to

use IT to help smooth the way. When asked where IT will have the largest impact in helping to improve operational efficiency, top of mind for discrete producers comes order management. Nearly one-fifth of survey respondents also say that enabling greater manufacturing flexibility to meet specific customer demand is among their top priorities for IT investment over the next three years.



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Conclusion

The hard work associated with becoming more responsive to customer demand has paid dividends to those that have been able to respond creatively. Srinivasa Rangan affirms that pressures emanating from customers are helping to make Titan more efficient. The midsize Indian producer of precision metal products has had to react to satisfy customer demands for materials testing and faster delivery. As a result, he says, “Our

manufacturing processes will be much improved.”

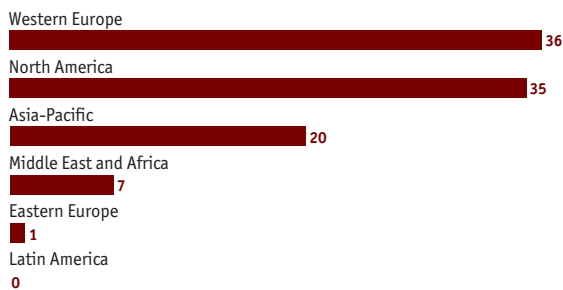
Making strides to improve operating efficiency is indeed imperative if manufacturers are truly to become customer- and demand-driven. The concluding paper in this series will look thus look more deeply into the plans that midsize producers are putting in place to enhance operating efficiencies in the face of relentless pressure on margins.

Appendix: *Midsize manufacturers* survey respondents

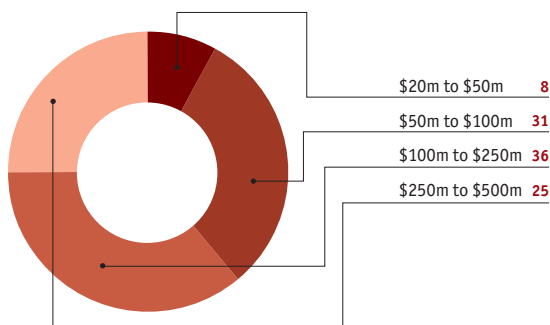
In October–November 2007, the Economist Intelligence Unit conducted a survey of 179 executives of midsized manufacturing firms from around the world. Of these, 85 hailed from discrete manufacturing firms—those specialising in the production of distinct items, such as electronics and machinery. Following is a profile of these survey respondents. Our sincere thanks go to all who took part in the survey.

Please note that not all answers add up to 100%, because of rounding or because respondents were able to provide multiple answers to some questions.

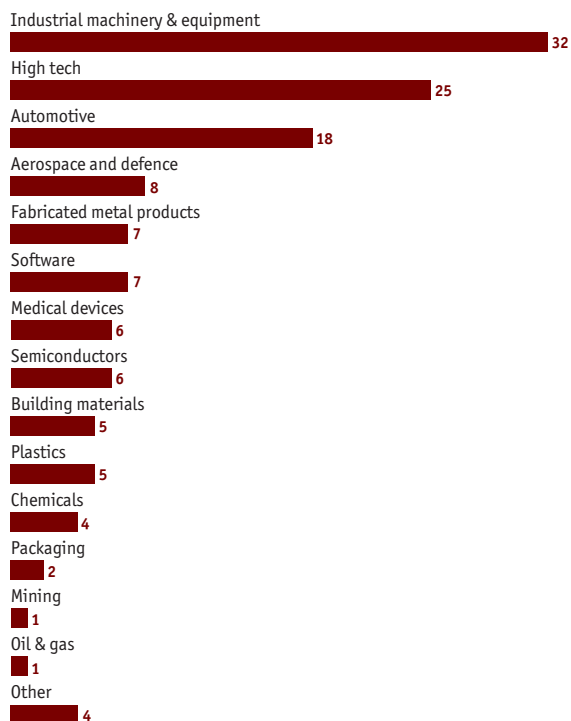
In which region are you personally based? (% respondents)



What are your company's annual global revenues in US dollars? (% respondents)



In what specific type(s) of manufacturing is your company engaged? Select all that apply. (% respondents)

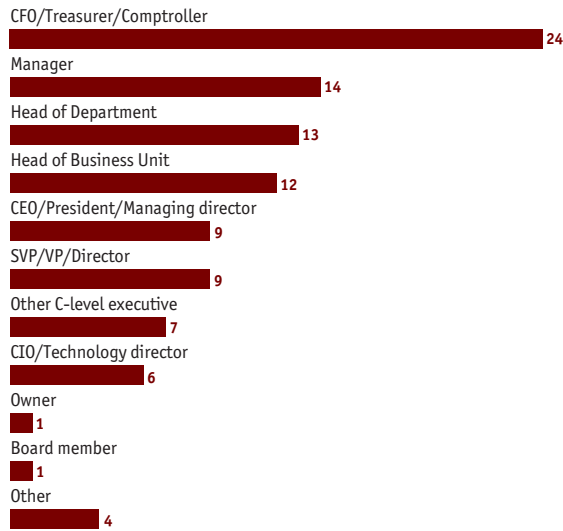


Appendix: Survey respondents

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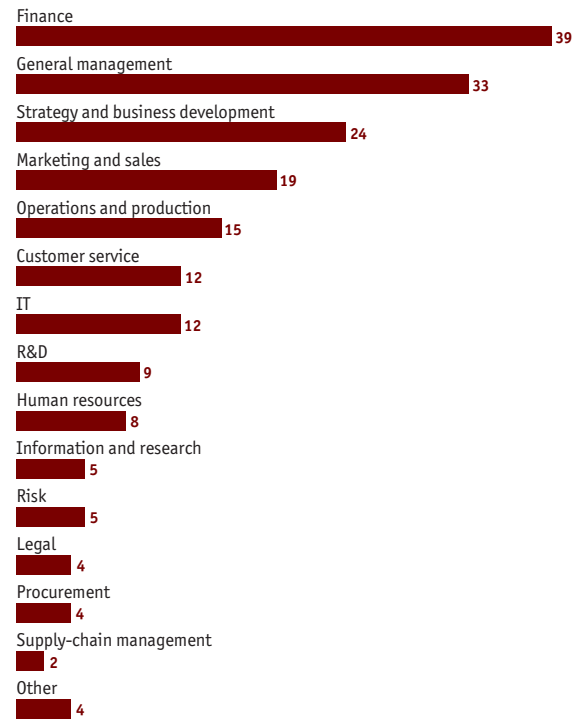
What is your title?

(% respondents)



What are your main functional roles? Please choose no more than three functions.

(% respondents)



Whilst every effort has been taken to verify the accuracy of this information, neither The Economist Intelligence Unit Ltd. nor the sponsor of this report can accept any responsibility or liability for reliance by any person on this white paper or any of the information, opinions or conclusions set out in the white paper.

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