

MRP'S NEXT EVOLUTION

A new methodology just might take away some of the "noise" in the procurement process

By Michael Power



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Technology experts, consultants and procurement professionals came together in Toronto on March 10 to participate in a thought leadership roundtable focusing on Demand Driven Materials Requirements Planning (DDMRP). The roundtable was a thought leadership partnership between *PurchasingB2B* and SYSPRO Canada. SYSPRO Canada is a leading provider of Enterprise Resource Planning (ERP) software solutions for manufacturing and distribution. SYSPRO Canada is proud to help Canadian companies grow. For more information on SYSPRO Canada's products and services visit: www.syspro.com/ca. The following is an editorial report based on the roundtable conversation.

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Roberta McPhail



No doubt, the pace of business has sped up in recent years, and the economic landscape today is more complex, competitive and volatile than ever. Procurement organizations often find themselves scrambling to put out day-to-day fires rather than focusing on long-term strategic goals. This holds equally true in the procurement and supply chain worlds, and practitioners have sought to adopt methodologies to quell uncertainty and meet customer demands.

Enter Demand Driven Materials Requirements Planning (DDMRP), a methodology focused on a demand-driven approach to supply rather than the traditional model of pushing inventory using MRP solutions. *PurchasingB2B*, in partnership with SYSPRO Canada, recently brought together a group of industry experts for a roundtable conversation focused on this new methodology and how it might address the challenges that procurement and supply chain face.

Our panelists included: Jeff van Geel, Manager of Sourcing, Accounts Payable and Packaging Engineering, 3M sourcing operations at 3M Canada; Michael Shelton, Senior Advisor with Value Infinity; Wael Safwat, Director of Procviews Management Consulting; Steve Bassaw, Product Evangelist at

SYSPRO Canada; and Roberta McPhail, Owner of McPhail Enterprises. *PurchasingB2B* editor Michael Power moderated the discussion.

Current methodologies

To begin the conversation, panelists described the methodologies they currently use. For instance, van Geel noted that his organization uses SAP. Before employing that, the organization used a homegrown system. “We used a lot of spreadsheets and contracts—it worked relatively well,” van Geel said.

Safwat also noted that he had a history of using SAP, having performed three global implementations with the system. He stressed the complexity of demand planning and the level of integration required between customer, supplier availability and capacity. For his part, Shelton said he had worked with various MRP systems during several decades in the industry and had also completed two SAP implementations. His current organization recently discarded its SAP system and is putting in place a demand pull replenishment system. “All my staff members either have to go through the SCMA program or get APICS-certified, and that’s in their employment contract,” Shelton also added.

Bassaw said he knew of several companies either



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Michael Shelton

with no system, or using a system but not very well. Organizations often use MRP-driven forecasting, although such a system can be “nervous,” he noted. “The challenges of the methodologies I’m seeing are either weak use of a system or using a system but procurement is still at the mercy of the noise in the system—so life is a little better but it’s still chaotic, still reactive in some ways, still expediting,” he said.

Once implemented, it can take some time for users to become confident with a system, noted van Geel. “SAP plans everything by purchase order, receipts and lead time,” he said. “Until people become comfortable with that, yes, the system knows what it’s doing and when it’s telling me to issue a PO it’s actually the right time—because we’ve got a lot of projects around inventory and non-working capital and things like that,” he said.

Some systems require a lot of discipline to use properly, Shelton noted. Those systems can have many attributes, with most never used. “If you get those things tweaked and working right, the system will work and drive inception messages,” he added. “The issue is that the structure has got to be nailed tight.”

While many organizations rely on MRP as a way to change how they conduct business, Safwat recommended a more holistic approach. “Get a stra-

tegic view on it,” he said. “Make sure it’s tactical, workable and you’ve got the right KPIs to make it achievable. I agree that different organizations have different capabilities. Hence, the capacity of the MRP needs to be different. Touching on collaboration with the supplier and the capability—having the supply around the corner, whether using a vendor management inventory or consignment, et cetera, again it’s extended capabilities. Understand the concept, define the capability of your business, choose the right vehicle, the right Excel sheet or the right MRP. Make sure people are well-trained and that your KPIs are practical and measurable.”

A new way forward

After discussing systems they currently use or have used in the past, the focus turned to DDMRP. In introducing the concept to the group, McPhail noted that Lean has been around for quite some time and is well known. But the challenge that Lean presents is getting the system to cross over into the planning world and its integration with MRP systems. “So they’ve been kind of two different worlds,” she said. “The Lean guys haven’t really talked to the MRP guys. The MRP guys haven’t really talked to the Lean guys.”

And while many small- to medium-sized organizations are using planning and MRP systems, McPhail wondered aloud what those systems actually were, since there are several diverse systems available. What DDMRP tries to do, she noted, is bridge the gap between divergent philosophies. “At the end of the day, there’s someone who’s got to cut a PO and someone’s got to do a work order,” she said. “When and how do they decide to do that? What information streams?”

While MRP isn’t perfect the concept is sound, noted McPhail. “But then the reality is the nervousness, the direct connecting points are too tight. So people needed this decoupling concept. [DDMRP] is trying to take the best practices of all these different things and offer a holistic, strategic and tactical methodology that could work.”

Demand management forecasting has also been in vogue, with many organizations assuming that if they get the forecast right the MRP will work, McPhail said. And while forecasts may never be perfect, they can get better. Rather than de-emphasizing forecasts,

she said, DDMRP tries a different strategy where the approach to forecasting is less direct.

McPhail described DDMRP as a multi-echelon planning process that approaches inventory as a buffer. “We buffer for a couple of reasons,” she said. “We want to dampen that variability. We don’t want to just blindly pass it through the whole organization. Why do we want to dampen it? We buffer the inventory from a concept of decoupling so the lead time between key point to key point is manageable.”

All this needs to be manageable with market expectations, she noted. If the market demands a 30-day lead-time there needs to be a decoupled process within that 30 days. “So the concept says, let’s position the buffers in the right strategic points first—and for most companies that’s going to be finished goods,” McPhail notes.

Those buffers are modified depending on the season and other factors, she added. “It’s not like we just set them and leave them alone—we’ll dynamically adjust them,” she said. “It’s all based on what’s called average daily usage, either forward or back. And that’s where we use forecasts to use a calculation of a buffer size.”

The system works anywhere there’s inventory, and tries to answer when and how to plan while using a calculation that’s different from the MRP method, McPhail said. DDMRP uses a trigger for planning MRP replenishment orders based on a more condensed lead-time and actual demand. Rather than forecasting, DDMRP uses real information

“It will naturally absorb into those buffer profiles and we shouldn’t have any weird expectations,” she said. “And then we watch those buffers in terms of where they’re performing both from a planning and an on-hand inventory side in a red, green, yellow zone—very visual, very easy to implement—you can see how the buffers are performing. If the buffers are working you should be just floating nicely in the middle of the zone of the yellow.”

“DDMRP planning has a set of rules that use a calculation that, when the buffer is penetrated at a certain spot—especially from the top of the yellow—when the projection to the top of the yellow is triggered then that’s replenishment to bring it back to the top of the green. It’s transparent.”

The process McPhail laid out is similar to what van Geel’s organization uses, he said. 3M orders rubber, which has a four-and-a-half month lead time, usually comes from Asia and is seasonal. “We’re buying that out in 2017 already,” he said. “While we’re not physically taking the stock or the inventory, we’ve financially committed to buying it...so, we have that buffer in the supply chain that the broker is doing for us.



“I fully agree that different organizations have different capabilities. Hence, the capacity of the MRP needs to be absolutely very different.”

Wael Safwat

And we just don't physically take it until much closer to when we're going to need it."

Shelton noted that he has used a similar strategy to van Geel. Commodity managers on his team look at the commodities, monitor the lead time and markets and see what geographic zone they're in as well. "We'll do a risk assessment and have contracts in place or have strategic inventory some place," he said. "But this is inventory that we can funnel to hundreds of different products as well. And we'll do the risk management."

The concepts of buffer and safety stock are important in oil and gas, Safwat said, noting he has previously worked in that industry. However, the element of aggregation wasn't there. "Always, the focus is, get the safety stock, keep it moving and that's it. You're absolutely very safe," Safwat said. "There has been significant reliance on vendor management inventory and consignment...you're running an operation in different remote areas, you've got the vendors to deliver the consignments on these areas."

Bassaw stressed that DDMRP isn't based on software and doesn't rely on software to operate. Rather, it's a new way of looking at processes, and decoupling supply from demand, he said. "Yes, software can enable that," Bassaw added. "The software that people have right now probably has most of the data you need. You just need to pull it out in a different way."

What is a Demand Driven Operating Model?

A demand-driven operating model is a supply order generation, operational scheduling and execution model utilizing actual demand in combination with strategic decoupling and control points and stock, time and capacity buffers in order to create a predictable and agile system that promotes and protects the flow of relevant information and materials within the tactical relevant operational range (hourly, daily and weekly). Such a model's key parameters are set through the demand driven sales and operations planning process to meet business and market objectives while minimizing working capital and expedite related expenses.



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Steve Bassaw

You may not need to use some of the classic MRP functions of your software, and some of them you'll still use, but some you might not."

Procurement professionals can become accustomed to reacting to forecast changes or changes in falling below reorder points, Bassaw said. This can create "noise" that DDMRP can do away with since users are reacting to the buffer status. "It's not a safety stock, it's not a reorder point," he said. "It's reacting to actual demand and that will then penetrate the buffer and you watch the buffer. The buffer is the traffic light—red, green and yellow."

In employing DDMRP, Bassaw recommended first getting educated in the methodology and figuring out what numbers need to be pulled to feed into the new calculations. Then, it's a matter of figuring out where to find those numbers. "But I do preach with people when adopting any new methodology, get educated first," he stressed.

With the roll out of any new methodology, Safwat recommended running a maturity assessment and extending that assessment to suppliers. "Obviously, you approve the concept, you make people aware of it, but that's all internally within the organization," he said. "But clearly your supplier may not have the same capacity to digest this. So it's very beneficial to include the supplier capability in the maturity assessment because, at the end of the day, you've got the



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Jeff van Geel

concept, the vehicle to implement the concept and you’ve got the people who will run it.”

Bassaw noted the importance of support from the C-suite, as well as finding enthusiastic champions, for any implementation project. But getting senior support can be tricky and can depend on an organization’s culture. “Some upper management are very entrepreneurial and quirky because it’s the guy who founded the company who’s still running it years later,” he said. “Other times it’s more of a large company and [the challenge is] getting to the board.”

Along with senior management, it’s important to get those at the tactical level on board with an implementation, Safwat noted. Organizations he’s worked for have run workshops in which lower-level employees—who actually run the process—can share their views on a project or implementation. “This is not working, that is not going to fly, these are the challenges, et cetera,” Safwat said. “Having this feedback, you’ve already got a lot of solutions for so many problems by listening to people.” Holding such workshops and gathering feedback helps give a sense of ownership to those ultimately working with the new system. Safwat also recom-

mended procurement focus on the return on investment for any new initiative. “That, to me, would be the most challenging question from the C-suite.”

Consultants can help with DDMRP implementation and there is a formal, two-day class to get qualified in the methodology, McPhail said. But the system isn’t overly complex or complicated. She also recommended piloting the system through a spreadsheet using SKUs with various activity levels to get a sense of the profile. “You can turn off the MRP plan orders, or you can leave them and use a parallel process and very easily pilot it for a couple weeks with a new model—it’s not that hard to do,” she said. “That’s what we suggest to do as an implementation first step.”

The main challenge, McPhail said, was a philosophical one. Organizations using an MRP or Lean system that decide to use DDMRP as an adjunct system can experience challenges in bridging a perceived gap. “I think it’s just a matter of trying it and learning and getting experiential learning on it,” she said, noting that online groups and conferences on DDMRP can supply information on the subject.

In wrapping up the conversation, the group agreed DDMRP was an interesting evolution in MRP. McPhail noted DDMRP has roots in a pull—rather than push—system and is therefore the opposite of how MRP has been viewed. And while that system was created in the 1960s and 70s, business has evolved. “We have to be faster, quicker, smarter,” she said. “The product mix is crazy and supply chains are more complex. We’re dealing with SKU proliferation. We’re inundated with data, big data, too much data—hopefully, this is a way to fit some solutions into that new normal.”

Bassaw added no one should latch onto DDMRP as a “be all and end all” to solve every procurement problem. “Understand that this is a new way of thinking,” he said. “It’s a new tool—just like any other tool in your box—to help you run your business better.”

Safwat agreed that as with any new methodology, DDMRP would come with its own challenges but would also present opportunities. Businesses should be open to evaluating those opportunities. “Definitely there’s a learning opportunity and this is how the business—in my view, leadership, management—we have to try to see how things move. So, the more that we take the risk, the more that we’ll be able to really explore different ways of doing things.”

In summary, the group agreed that the DDMRP concept represented an interesting new methodology. Procurement professionals would do well to explore and benefit from this unique way of dealing with their supply chains. **B2B**