

## **THE CHANGING MANUFACTURING LANDSCAPE: Why Corporate Performance Excellence is No Accident**

*While most manufacturers have been forced to implement applications like Enterprise Resource Planning (ERP) just to survive, planning and performance management largely remains buried in spreadsheets.*

*Excellent corporate performance seldom happens by accident. In order to excel in performance you need a good plan; you need to monitor, analyze and manage performance against that plan and you need the agility to adjust as business conditions change. This is tough in any type of business, but the complexities of manufacturing are even more challenging, where you are likely dealing with global supply chains, pressures to reduce cost and cycle times, and a new competitive landscape.*

*This requires planning and reporting applications and analytics. And if you operate in any sort of distributed environment (and most companies do), you need to consolidate across multiple sites/divisions/operating locations. While most manufacturers have been forced to implement applications like Enterprise Resource Planning (ERP) just to survive, planning and performance management largely remains buried in spreadsheets. With more choices for solutions and the option for convenient cloud deployment today, there is no longer any excuse for ignoring this need.*

### **TRENDS IN MANUFACTURING AMPLIFY THE NEED**

Before we proceed, let's first explore some of the trends in manufacturing that are amplifying the need for better planning and performance management.

If you travel to a developing country in an emerging economy you might find manual assembly lines and even sweat shops teeming with low-wage workers. But if you walk into a manufacturing plant any place else in the world today, the first thing you might notice is that there aren't a lot of people. Instead you see a lot of equipment and automation. More automation means more reliance on capital investment. Of course you still need to plan for headcount, but the relationship between headcount and revenue may not be linear and gone are the days when you could easily solve a capacity problem by (temporarily or permanently) throwing more people at it.

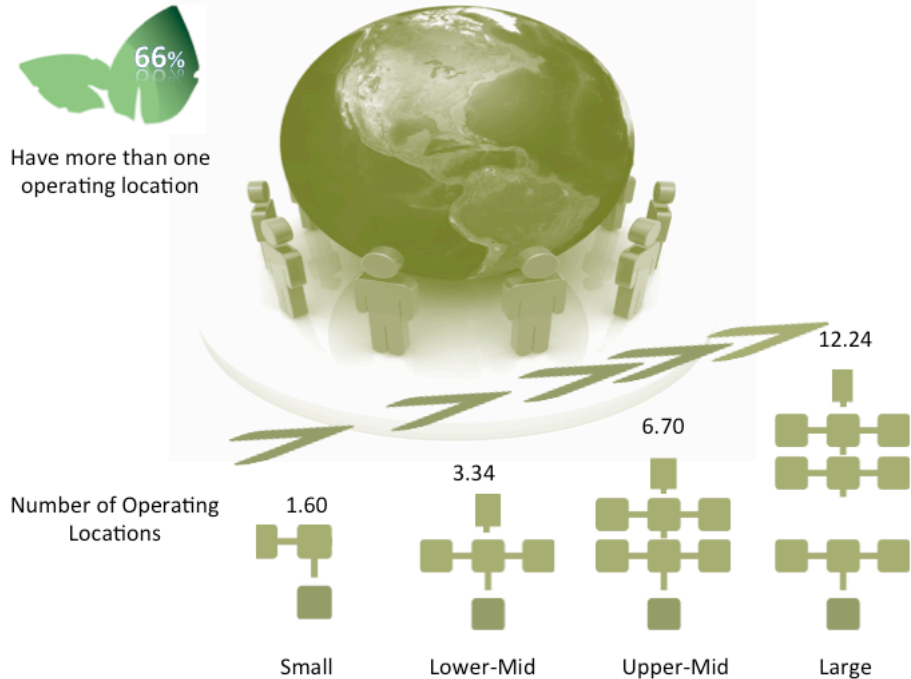
If your plan doesn't anticipate that need, good luck in finding the capital to expand before the opportunity becomes a missed opportunity for growth. If your plan isn't detailed and accurate you might be sitting on excess capacity and still not be able to meet demand. Why not? Our world has been shrinking for decades now. Most companies, both large and small trade internationally and the 2014 Mint Jutras Enterprise Solution Study found 66% of

manufacturers operate across multiple locations and the number of sites grows along with annual revenues (Figure 1).

**Figure 1: Distributed Environments**

**Company Size by Annual Revenue**

- ✓ *Small: Annual revenues under \$25 million*
- ✓ *Lower-Mid: Revenues between \$25 and \$250 million*
- ✓ *Upper-Mid: Revenue ranges between \$250 million and \$1 billion*
- ✓ *Large: Revenues exceed \$1 billion*



Source: Mint Jutras 2014 Enterprise Solution Study

You may have the global capacity across your enterprise, yet it may not be positioned in a way to deliver what your customers need, when they need it. These different locations may not be right down the street from each other, making it impossible to share resources. They may be half a world away. And did we mention customers are becoming increasingly demanding of price, quality and delivery? Creating and executing a plan can be a delicate balancing act requiring analysis of data from a variety of sources.

And of course the reason these locations may be so geographically dispersed is because of the emergence of low cost country sources for material and labor. The manufacturing work force has not shrunk **just** because of automation. Some of it has been re-distributed around the world. And of course as these countries with emerging economies began to supply more developed regions with materials and labor, they also began to develop their own expertise in manufacturing and trading. As these economies continue to emerge, creating new middle classes where they were previously nonexistent, this opens up new markets for you. But at the same time, these new markets become a new source of competition, making old ways of forecasting and planning obsolete.

It is time to throw out some of the old models and go back to the drawing board for deeper analysis.

This makes analytics even more important, not only at the beginning of the planning process, but continuously throughout the life of the plan. The new business opportunity that emerges in the middle of the year may not have even existed when you put the finishing touches on your fiscal and operational plan at the beginning of the cycle. Where you grow, and how, needs to be fluid if you want to take advantage of opportunities as they arise. Planning and analysis cannot be a once-a-year exercise.

## **DIFFERENT TYPES OF PLANNING REQUIRE DIFFERENT TOOLS**

It is easy to think of financial planning and budgeting at the corporate level, focusing exclusively on aggregate numbers. But if you turn numbers cast in concrete over to the divisions responsible for delivering the results, without a clear understanding of how they will execute on the plan, that is just a recipe for disaster.

A better way is to actively involve the operational folks in developing the plan. Many companies **think** they do that when corporate hands over a spreadsheet full of numbers and instructs the division to figure out how to deliver on the goals that have been set, goals like increasing revenue by 8% and reducing costs by 5%. But a spreadsheet of numbers without the operational context provided by systems in place is an academic exercise doomed to fail, since it has little or no connection to reality.

Where is that revenue increase coming from? Was it just a top-down edict or was it developed from a real plan of attack developed from the bottom up? What products? What territories? Will it require increasing capacity or decreasing it in the case of desired cost savings? Will a necessary increase in capacity result in a capital investment or more headcount? These are not answers that can be delivered from a set of spreadsheets or from a purely financial planning solution that is disconnected from day-to-day operations.

You may be setting strategy at the corporate level, but you also need a viable operational plan. For any manufacturer currently operating in a distributed environment, or planning global expansion, this necessitates decentralized planning. After all, who is best equipped to understand the realities of executing the plan? Not corporate headquarters.

The Mint Jutras 2014 Enterprise Solution Study detected a strong preference for embedding this type of functionality in ERP (Table 1). But not every ERP solution implemented today can deliver these features and functions, and even if the ERP being run at corporate headquarters can, it may not be directly connected with the operational level.

### Definition of ERP

While definitions of ERP may vary, Mint Jutras defines it as an integrated suite of modules that provides the transactional system of record of your business. While not always the case, accounting modules are typically embedded within ERP at most manufacturing companies.

### “World Class”

World Class is defined in terms of the implementation of enterprise solutions, generally with ERP at the core. It includes the top 15% based on:

- Results measured since implementation
- Progress achieved in meeting goals
- Current performance in selected universal metrics

**Table 1: Preference for Analytics and Performance Management**

	No preference – depends on price and functionality	Strong preference for a separate (possibly) stand-alone application	Strong preference for embedded module of ERP
Dashboards with pre-defined key performance indicators	15%	23%	61%
Financial reporting and consolidation	13%	25%	62%
Financial planning, budgeting/forecasting	13%	27%	60%
Business modeling for business development strategies	23%	29%	48%
Sales forecasting	18%	26%	56%

Source: Mint Jutras 2014 Enterprise Solution Study

So while you might think your ERP should be your first choice, ripping out an otherwise perfectly good ERP solution at the divisional level to address your planning and performance management challenges may be overkill, particularly when there are other alternatives. It might be faster and more cost effective to add another component to your solution mix, providing it can complement your current solutions by drawing on data in ERP. If you develop a plan and budget in a complementary solution, remember the actuals (revenue and expenses) will be in your accounting solution, which is generally part of an integrated ERP (see sidebar). Analyzing performance against plan is critical. So any analytics must be able to consolidate data from both sources.

In the past these kinds of features were only available through very high end, expensive solutions, putting them out of reach for small to midsize manufacturers, and even for divisions of large enterprises. And yet, it is no coincidence that top performing companies differentiate themselves by having better tools (Table 2).

**Table 2: Adoption Rates for Planning and Performance Management**

	World Class	All Other
Business Intelligence or analytical tools	61%	26%
Financial Planning and Budgeting	59%	31%
Enterprise/Corporate Performance Mgt	73%	27%
Sales & Operations Planning	68%	23%

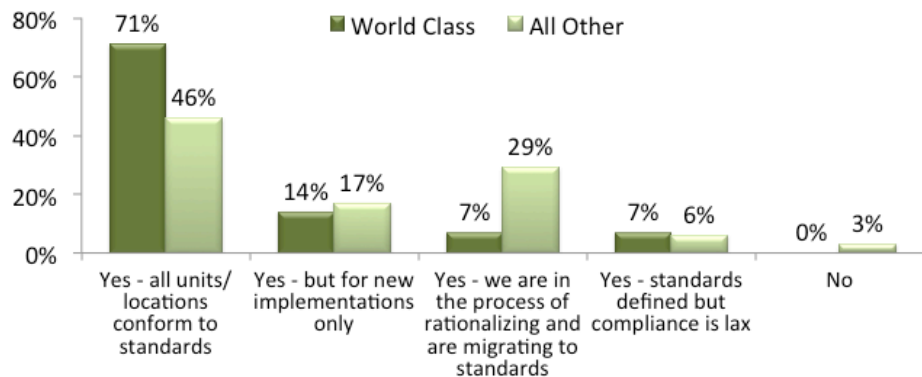
Source: Mint Jutras 2013 Enterprise Solution Study

While Table 2 might not represent all the possible applications used to plan, monitor and manage, these are representative of what manufacturers may need at both the corporate and operational level.

Those high-end expensive solutions are often only “connected” at the macro financial level and therefore don’t have access to the granular detail needed to put together a viable operational plan. Yet if you rely completely on an ERP solution at the divisional level for planning and management, you never see the (consolidated) big picture, especially if they are running different solutions.

In the past the operating locations or business units at the divisional level were likely to be left on their own to select solutions, particularly an ERP package. Financial planning and performance management across the enterprise was often left to spreadsheets. But over the past few years that philosophy has changed dramatically. Most enterprises, large and small, have defined standards for enterprise applications. The Mint Jutras Solution Study asked those survey participants with multiple operating locations if they had defined corporate standards. Virtually all enterprises have standards today and World Class implementations have done a better job of rationalizing, consolidating and enforcing them (Figure 2).

**Figure 2: Have you defined corporate standards?**



Source: Mint Jutras 2014 Enterprise Solution Study

Rolling up financials is a one-way street but relationships between manufacturing locations can be far more complex and therefore it may actually be easier to plan in a corporate performance management system that is ERP neutral.

These standards make it far easier to consolidate financials but even though we see efforts to consolidate and rationalize, most enterprises are still dealing with multiple ERP solutions. The aggregated average number of ERP solutions amongst our respondents in manufacturing companies is 2.33. Excellent performance requires more than just a consolidated balance sheet. Rolling up financials is a one-way street but relationships between manufacturing locations can be far more complex and therefore it may actually be easier to plan in a corporate performance management system that is ERP neutral.

It is not only necessary to plan and measure top down and bottom up, but sideways as well.

This may very well be easier to accomplish in an ERP-neutral solution.

Often it is IT that is required to do the heavy lifting and the backlog of request becomes notoriously long. By the time IT gets back to you with an answer, generally the question has changed, forcing a quasi “self-service” mode that usually involves a spreadsheet or two. Then the burden shifts back to the finance department to keep them sorted and in sync.

Of course multi-site environments vary quite significantly. On one end of the spectrum is a diversified enterprise that is nothing more than a holding company for disparate and autonomous business units. In this case, the planning and performance management needs to be moved to the business unit level. But more often, some level of interoperability between locations is required. One plant might serve as a feeder plant to another for components or semi-finished product. Even if certain products are typically made in one location, another might serve as a backup when demand exceeds capacity. Or on the far end of the spectrum, a company might have a philosophy of making anything, anywhere in an effort to serve customers more locally or maximize the capacity potential worldwide. None of these scenarios are uncommon and, except in the case of complete autonomy, the plans and performance of one location will have a direct impact on another. It is not only necessary to plan and measure top down and bottom up, but sideways as well.

Again, this may very well be easier to accomplish in an ERP-neutral solution requiring specialized functionality that reaches beyond the financial plan, and requires access to elements of the supply chain as well as sales and operations planning. And while a financial plan might be quite stable, these operational elements are anything but static. Is your ability to plan and manage performance static or dynamic?

## WHO DOES THE HEAVY LIFTING IN PLANNING AND PERFORMANCE MANAGEMENT?

Planning and performance management are business exercises but all too often it is the Information Technology (IT) department that is required to do the heavy lifting. Plans and actuals often reside in different systems and can only be compared once a data warehouse is built, populated and periodically refreshed. In the past this almost always meant the data wasn't available in real time and was only as good as the last request for analysis. But things change over time and the backlog of requests for new reporting is usually notoriously long. By the time IT gets back to you with an answer, generally the question has changed. Ultimately you might even stop asking and try to answer questions with what you have. This quasi “self-service” mode usually involves a spreadsheet or two. Then the burden shifts back to the finance department to keep them sorted out and in sync.

And we're just talking about reporting here. What happens when the plan itself needs to change? Are you able to tweak it mid-cycle? Are you able to perform a “what if” analysis, combining year to date results with new or revised forecasts? Does it assume an unrealistic level of fulfillment from a sister division? Does it reflect spikes and dips in demand? A good plan is one that is dynamic and reflective of reality, not what you predicted at the beginning of the year.

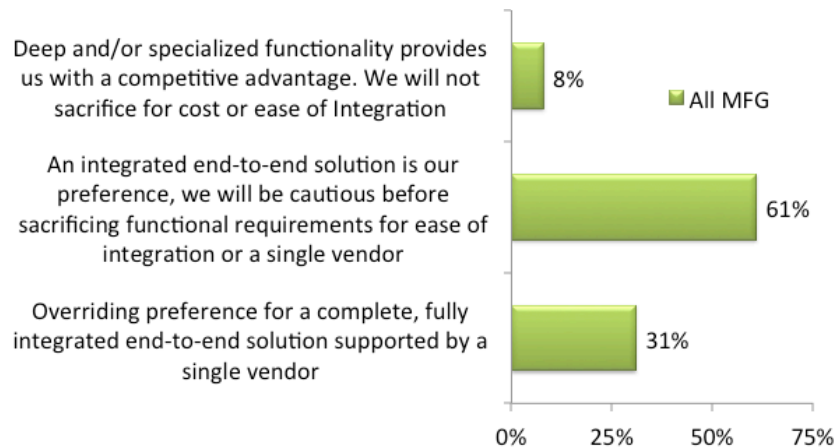
## SOUND FAMILIAR?

Do any of these scenarios describe your current state?

- Are you operating across multiple manufacturing plants, but only have tools that allow you to plan and manage at a corporate level?
- Or are you planning and managing at the operating level but unable to consolidate to get the big picture? Does this cause redundancy of capacity even as you struggle to meet customer demand?
- Are you completely reliant on IT for consolidation and reporting and therefore unable to simulate the potential effect of different scenarios?
- Is your “plan” still in spreadsheets?

If you answered “Yes” to any of the above, it may be time for a change. While the vast majority of manufacturers prefer a suite-based approach to their enterprise solutions, 61% will be cautious before sacrificing functional requirements for either ease of integration or to stay with a single vendor (Figure 3). Planning, performance management and analytics are likely candidates for these “add-on” solutions providing they can effectively interoperate with ERP and the data residing within.

**Figure 3: Preferences for a Suite?**



Source: Mint Jutras 2014 Enterprise Solution Study

Apart from the ability to “play nice” with ERP, there are some other important characteristics to consider, including the ability to access from a mobile device (think smart phone or tablet), user self-service (think business user, not IT) and the ability to drill down to the individual transactions (which means integrated with ERP). Table 3 lists some other important characteristics and the priority our survey respondents place on them.

While these types of tools used to be only within the reach of very large enterprises, with deep pockets, the good news is that today there are many

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more options. The overriding goal is to put the right tools directly in the hands of the business decision makers responsible for formulating and executing the plan. Because these solutions may potentially need to interoperate with a variety of different solutions at the corporate level, as well as at various divisions, a cloud-based solution may be the best way to go.

**Table 3: Priorities in Selecting Performance Management Solutions**

	Nice to Have	Important – will weigh against other requirements	Must Have – will not purchase without
Mobile Access from tablet or smart phone	25%	39%	36%
Mobile access must be on my own chosen device	32%	37%	31%
Excel integration with security and auditability	15%	38%	46%
User self-service – must not require technical expertise or IT assistance	17%	43%	40%
Analytics embedded within transactions	17%	46%	38%
Ability to drill down to transactions from analytics	12%	36%	52%
The ability to incorporate unstructured data into decision-making	17%	45%	38%
Predictive Capabilities	24%	49%	26%

Source: Mint Jutras 2014 Enterprise Solution Study

## WHAT ABOUT THE CLOUD?

In spite of all the hype about cloud (or perhaps because of it) there is still a lot of confusion about terminology of cloud versus software as a service (SaaS), as well as multi-tenant versus single-tenant. While industry experts and influencers might lead you to believe these concepts are complicated, they really don't have to be. The distinction is quite simple and need not be over-complicated.

- Cloud refers to access to computing, software, storage of data over a network (generally the Internet.) You may have purchased a license for the software and installed it on your own computers or those owned and managed by another company, but your access is through the Internet and therefore through the “cloud,” whether private or public.
- SaaS is exactly what is implied by what the acronym stands for: Software as a Service. Software is delivered only as a **service**. It is not delivered on a CD or other media to be loaded on your own (or

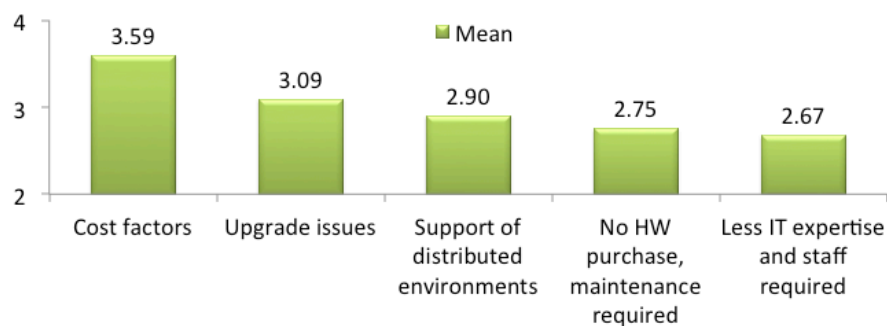


another's) computer. It is accessed over the Internet and is generally paid for on a subscription basis. It does not reside on your computers at all.

Using these definitions, we can confidently say **all SaaS is cloud computing, but not all cloud computing is SaaS**. While there might be benefits to be gained from either, Mint Jutras research has focused on the potential benefits of SaaS solutions.

In a study dedicated to understanding perceptions and preferences for SaaS solutions (the Mint Jutras 2012 Understanding SaaS survey), survey respondents were presented with five general categories of benefits of SaaS and asked to sequence them in order of priority (with 5 being the highest).

**Figure 4: Relative Importance of Benefits of SaaS**



Source: Mint Jutras Understanding SaaS

Cost savings remain at the top of the list of perceived benefits, by a significant margin, while other factors are clustered together more closely. Reducing the cost and effort of upgrades is second. Next is the support of distributed environments. This is an aspect particularly relevant in the context of planning and performance management, especially during the process of planning and executing a merger or acquisition. A cloud deployment breaks down the barriers created by existing (or nonexistent) on-premise solutions at remote locations, including those newly acquired.

The fact that no hardware purchase is required, and the on-going maintenance associated with that hardware, is marginally more important than the need for less Information Technology (IT) expertise and staff.

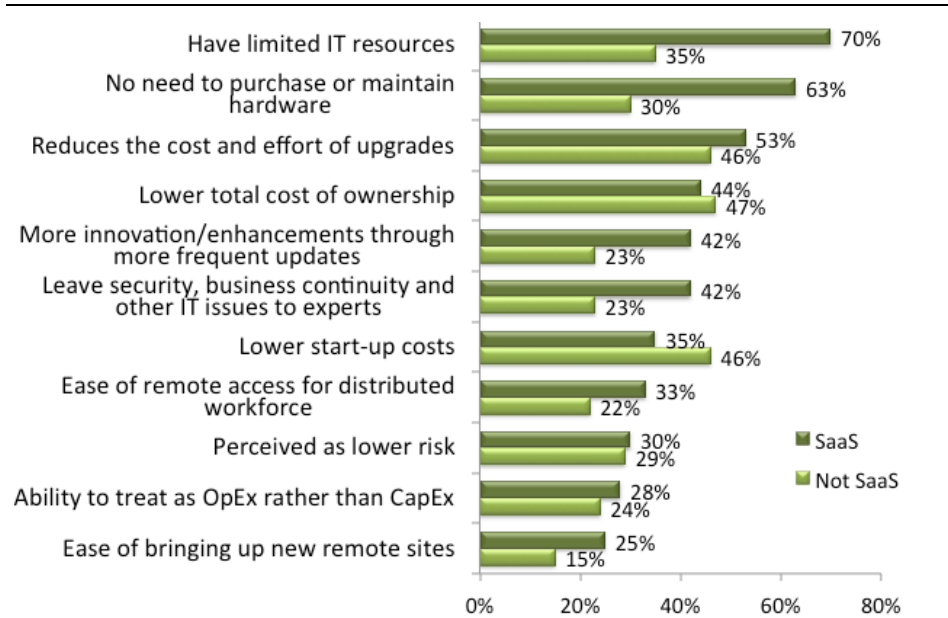
But perceptions change as companies start to actually implement SaaS solutions. We asked the 2014 Mint Jutras Enterprise Solution Study participants to check off all the perceived benefits of SaaS. Figure 5 shows the results comparing those already utilizing SaaS to those who might only be considering SaaS deployment in the future. The motivation seems to be quite basic.

A cloud deployment breaks down the barriers created by existing (or nonexistent) on-premise solutions at remote locations, including those newly acquired.

Reducing the dependency on IT staff bubbles to the top. Manufacturers may have limited IT staffs and no interest in growing them. For small to midsize manufacturers this could be reflective of the difficulty in attracting and retaining top IT talent. Or it may mean they want to leverage the talent they have for more strategic activities that add more value than the ongoing maintenance of hardware and software. It may also free them up to work off that backlog of requests previously noted. But it reinforces the need to put the power of planning, performance management and analytics directly in the hands of the business users who have intimate knowledge of the issues, problems and challenges of managing and growing the business.

Eliminating the need to purchase hardware also floats towards the top. While adding cloud based planning and performance management on top of an existing on-premise ERP solution doesn't **necessarily** eliminate hardware, it adds more value without further investment in hardware and the associated maintenance.

**Figure 5: Appeal of SaaS**



Source: Mint Jutras 2014 Enterprise Solution Study

Reducing the cost and effort of upgrades and other cost issues are still important, but those running a SaaS solution are also more likely to recognize the potential for more innovation. Solution providers that deliver on-premise solutions are forced to maintain multiple versions of the software. Very often the software is offered on a choice of platforms and databases, and the vendor must support multiple release levels determined by their customers' ability to keep pace with upgrades. For every person-day they spend on innovation, they spend another multiple of that day making sure it works

An additional cloud benefit to the planning process is the ability to drive down the planning process to those operating sites.

across multiple environments. A pure, multi-tenant SaaS solution eliminates these distractions from enhancing the software and also relieves the customer of much of the burden of upgrading.

An additional benefit to the planning process that might not be evident in this more generalized discussion of SaaS is the ability to drive down the planning process to those operating sites. Remember that need to plan both locally and globally? Remember the interdependency of different operating locations? Remember the need to plan top down, bottom up and sideways? Cloud based access can facilitate that consolidated and collaborative view much more easily than trying to connect multiple disparate on-premise solutions.

## SUMMARY

What's in your plan? Is it a pure macro financial plan or does it dive into the realities at the operational level? Does it incorporate plans for growth? Are those plans just a result of a board level decision to set goals or are they reflective of the capacity required to deliver against the plan? The planning and performance management of a manufacturer requires a delicate balancing of many different moving parts across a potentially distributed environment:

- Actual and forecasted demand
- Supply from trading partners and sister divisions
- Logistics and cycle times
- Headcount
- Travel and expenses
- Facilities and equipment, including factory automation
- Etcetera....

What level of confidence do you have that you will be able to roll with the punches thrown at you through the course of the planning period? What tools do you have at your disposal to boost that confidence, along with your ability to deliver? If...

- If your plan is just based on numbers handed down from the top...
- If it is not reflective of operational realities...
- If it doesn't allow for change that is bound to occur during the planning period...
- If you are still working in spreadsheets...
- If you are waiting for added features and function from your ERP solution provider...
- If you assume you can't afford better tools...

Then you are leaving a lot to chance.

**About the author:** Cindy Jutras is a widely recognized expert in analyzing the impact of enterprise applications on business performance. Utilizing over 35 years of corporate experience and specific expertise in manufacturing, supply chain, customer service and business performance management, Cindy has spent the past 8 years benchmarking the performance of software solutions in the context of the business benefits of technology. In 2011 Cindy founded Mint Jutras LLC ([www.mintjutras.com](http://www.mintjutras.com)), specializing in analyzing and communicating the business value enterprise applications bring to the enterprise.