

REPORT

Is It Finally Time to Purchase a New ERP for Manufacturing?



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IS IT FINALLY TIME TO PURCHASE A NEW ERP FOR MANUFACTURING?

DON'T LET OLD SOLUTIONS STAND IN YOUR WAY

Data Source

In this report Mint Jutras references data collected from its 2019 Enterprise Solution Study. For years this annual study has investigated perceptions, goals, challenges and status of software used to run a business, as well as the impact of these solutions on the enterprise.

In 2019 the study collected responses from 464 participants, from companies of all sizes from very small to very large, representing a wide range of industries. In this report we reference the data collected from 227 manufacturers.

“Whether you are contemplating a first time purchase for your entire company, expanding into a new territory currently not supported by Enterprise Resource Planning (ERP), or deciding whether to replace your existing ERP solution, it’s a big decision. For decades ERP implementation in general, and more specifically ERP replacement, has been compared to brain surgery. You just don’t do it unless the patient is dying.”

This is how we opened a report entitled [Is it Time to Purchase a New ERP?](#) back in February 2012. We went on to suggest that rather than waiting until the patient (your current implementation) was dying, perhaps it was better to think of ERP replacements as you would joint replacements. You suffer with that bum knee or hip until you can’t stand the pain any longer, or you simply can’t function properly. Today, more than eight years after we first suggested perhaps ERP replacements were long overdue, many manufacturers still suffer from pain, and are still not able to do what they need to do.

While many saw a new cloud-based solution in their future, often day-to-day pressures and distractions (not to mention inertia) caused purchase plans to be delayed. Functional gaps were filled with workarounds and spreadsheets, or perhaps disparate and disconnected applications. Many small manufacturers are still “making do” with something less than a full ERP solution, and even more mid-size to large enterprises are being crippled by old solutions based on outdated technology. Procrastinators weren’t efficient, but somehow they were getting the job done. Meanwhile, as the pace of change and disruption accelerated, those old ERP systems created barriers to achieving any kind of competitive advantage, or worse, put you at a competitive disadvantage.

Yes, early versions of ERP were rigid, limited in functionality, hard to implement and even harder to use. Today’s flexible, technology-enabled ERP solutions are nothing like those of the past. They provide many more features and functions, are easier to implement and easier to use. And cloud connectivity has become an imperative. Legacy systems that are rigid and inflexible will not give you the agility to adapt to today’s rapidly changing world. They need to go.

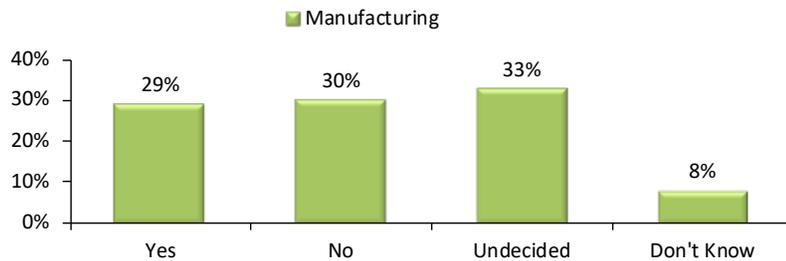
PLANNING FOR A CHANGE

While Mint Jutras is a strong advocate for replacing legacy solutions, we understand this is a big decision, one that requires careful planning and

Keep in mind this question was asked prior to the global pandemic that hit in early 2020. While we have observed those planning a purchase may have delayed their plans, few, if any, have cancelled them. Active evaluations may have been put on hold, but not scrapped. And this disruption has only highlighted the need to provide better support for digitizing transactions and for better visibility in real time.

evaluation. And nobody does it just for the fun of it. Last year our 2019 Mint Jutras Enterprise Solution Study sought to quantify the interest in making a purchase over the near term (Figure 1).

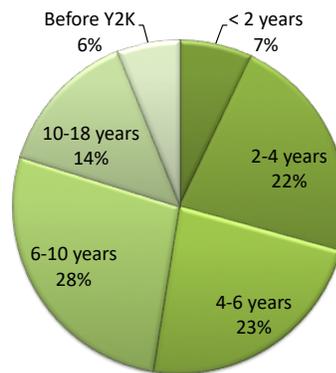
Figure 1: Do you intend to purchase a new ERP in the next 2 years?



Source: Mint Jutras 2019 Enterprise Solution Study

More than one in four (29%) of the manufacturers participating in our survey were planning to purchase a new ERP solution within the next two years (spanning 2019 and 2020). Slightly more (30%) had no such intention. Of course, we would not expect those with recent purchases to be considering making another move. Indeed, a few (7%) had purchased their current solution in the past two years (Figure 2). Yet another 22% had done so within the last two to four years. This (almost) accounts for the 30% that were not planning a purchase, leaving us with the largest segment – the 33% that were undecided.

Figure 2: How long has your current ERP been installed?



Source: Mint Jutras 2019 Enterprise Solution Study

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Mint Jutras suspects that the 33% who are undecided have recognized the limitations of their current solutions but are still reluctant to make the commitment to fix the problem. Why is it so hard to make that decision?

OLD PERCEPTIONS LINGER

For decades ERP replacement was likened to brain surgery. You didn't do it unless the patient was dying. "Rip and replace" was to be avoided at all costs.

Many regard older ERP systems, not as legacy solutions, but heritage solutions. What is a heritage solution? A legacy solution of which you are proud. But they simply can't compete with modern ERP for manufacturing today.

Definition of ERP

Mint Jutras defines ERP as an integrated suite of modules that provides the operational and transactional system of record of your business. This is a rudimentary definition, covering the basics of required functionality. Most ERP solutions today do much more.

Historically the quest for more functionality was most likely to spur the decision to seek a new ERP, but today feature-rich systems are table stakes.

But these perceptions are just as outdated as the legacy solutions to which they apply. Yes, early ERP solutions were rigid and inflexible, limited in functionality, hard to install and implement and even harder to use. Innovation was painfully slow due to rigid architectures and older technology. Why go through all the blood, sweat and tears, not to mention the cost, of implementing a newer solution just to wind up right back where you started?

Making matters worse, many regarded those older systems, not as legacy solutions, but heritage solutions. What is a heritage solution? A legacy solution of which you are proud. Those older solutions may have once been state of the art, the best of the best available at the time. But they simply can't compete with modern ERP today. Solutions now are far more flexible and technology-enabled, provide many more features and functions, are easier to install, easier to implement and easier to use.

WHAT DO YOU HOPE TO ACCOMPLISH?

So, if you don't purchase a new ERP just for fun, why do it? What prompts a replacement and what do you hope to accomplish? You need to consider these questions whether you have a full-fledged ERP solution today or not.

First of all, let's define it. Mint Jutras defines ERP as an integrated suite of modules that provides the operational and transactional system of record of your business. This is a rudimentary definition, covering the basics of required functionality. Most ERP solutions today do much more. This definition also allows us some flexibility, because needs, even the most basic needs will vary based on the type of business and sometimes the industry in which you operate. All businesses require the basics like general ledger, accounts payable, accounts receivable and purchasing. Manufacturers will require more robust inventory and supply chain capabilities and must also manage production.

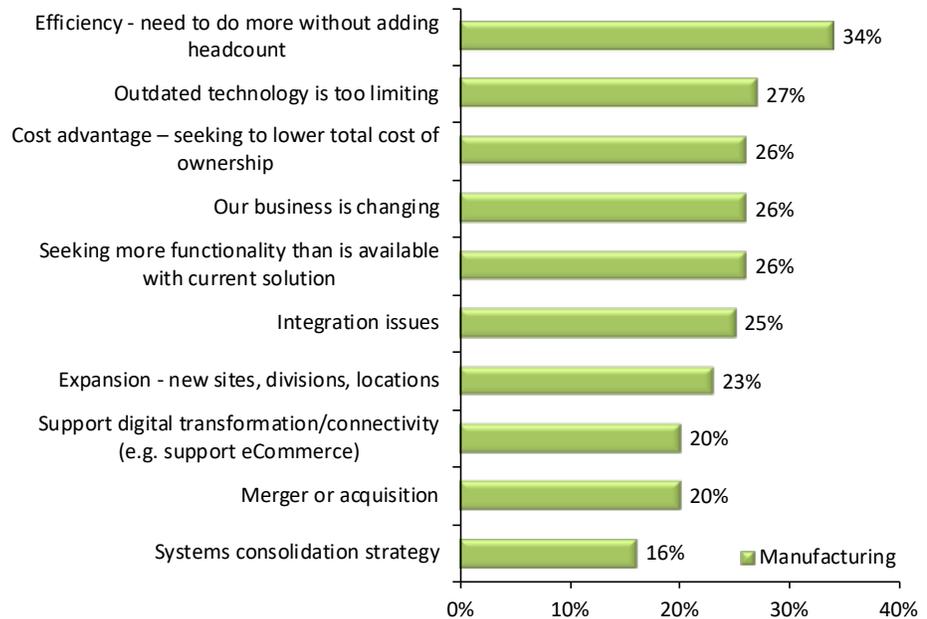
So first you need to ask yourself if you are even running ERP. Many companies today are operating with something less. Small businesses might be "making do" with a desktop accounting solution like Quicken, QuickBooks or Peachtree, supplemented by the tool we all love to hate - spreadsheets. Mid-size and large enterprises may be struggling with a proliferation of disparate applications. Or you may indeed be running an ERP solution that is not satisfying all your needs or providing you with any kind of competitive advantage. In fact, if ERP is the reason you can't respond to change and disruption, it is the exact opposite. It is placing you at a competitive disadvantage.

We asked those survey respondents who are planning a purchase to check off all the different reasons that led them to this decision. For those not (yet) planning a purchase, we asked what might prompt them to replace their current solution. We have asked this question in the past. Historically the quest for more functionality was most likely to spur the decision, followed by expansion that would result in new sites or operating locations. This made

perfect sense when innovation was slow, and most implementations were on-premise installations. The cloud has changed that dramatically. First of all, when software is delivered as a service (SaaS), innovation can (and should) speed up. Secondly, if there is no need to put hardware and software onsite, a new purchase is less likely to be required when you expand to a new site.

So, it is not surprising that today responses paint a very different picture (Figure 3).

Figure 3: What would prompt you to replace your current solution?



Source: Mint Jutras 2019 Enterprise Solution Study

Efficiency is at the very top of the list – the need to do more without adding headcount. This follows the trends in today’s workforce. We’re all asked to do more, and we would like to accomplish this without working longer hours. In addition, many manufacturers today struggle with a skills shortage. Automation and technology have combined to change the type of skills needed today and have also lowered our tolerance for clumsy, inefficient processes. Education and training have not kept pace with these changing demands and the situation was exasperated by 2019 low unemployment rates. While unemployment soared as the world shut down in early 2020, the types of workers that were laid off or furloughed were not necessarily the those with the right type of skills needed for manufacturing.

In providing an operational and transactional system of record, ERP must model business processes. Early ERP solutions were clumsy attempts at this, often based on a developer’s (lack of) understanding of the user’s natural way of working. Manufacturing is not an intuitive business. As a result, those early systems didn’t make users’ lives any easier. In fact, without invasive

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customization, sometimes it made them worse. It helped when developers had deep domain knowledge, but in reality, manufacturing processes are quite varied and there is never a single ideal way of working.

Today the solution to that problem is less about educating the developer about the processes and more about putting the design of the process into the hands of the (non-technical) user. This means more personalization and configurability without customization. This is one of the key characteristics that set new, modern ERP systems apart from legacy solutions, which puts outdated technology as the second most often cited reason prompting a search for a new ERP. However, where it still exists, Mint Jutras would argue that it should be first and foremost. The fact that it is not is indicative of a general lack of understanding of what new technologies can do for you.

The desire to lower total cost of ownership also prompts replacements. Is your IT staff spending all of its time just keeping the lights on, rather than contributing at a more strategic level? There’s also the cost of obsolescence. Replacement of outdated technology can save in terms of maintenance, both preventative and remedial. When do you consider trading in your car? Typically, when the maintenance bills start to escalate. Of course, added mileage and wear and tear on ERP are not the issues. It’s more a question of ERP being able to keep up with market and business changes, as well as the accelerating pace of business. And for this, you need the kind of advanced technology that sets today’s modern ERP solutions apart from those legacy solutions.

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ADVANCED TECHNOLOGY HOLDS THE KEY

Table 1 lists several technologies that are embedded in enterprise applications.

Table 1: Perceived Value of Embedded (or Foundational) Technologies

	Strong Perceived Value	Unsure of Value (Show me)	Little of No Value	Don't Know
Microservices architectures / platforms	35%	33%	21%	12%
Move to cloud/SaaS	48%	29%	16%	8%
IoT technologies that facilitate autonomous exchange of data	47%	26%	20%	7%
Support for big data (e.g. in-memory data bases)	44%	31%	16%	10%
Natural Language Processing (voice-based) user interface	26%	38%	26%	9%
Social collaboration tools	26%	36%	28%	10%
Machine Learning	41%	33%	18%	8%
Artificial Intelligence	39%	30%	21%	10%

Source: Mint Jutras 2019 Enterprise Solution Study

While other types of digital technologies like Blockchain, virtual assistants (chatbots), 3D printing, predictive and cognitive analytics, beacons and drones supplement the features and functions of applications like ERP, those listed in Table 1 are more foundational. It is through these kinds of embedded technologies that today's ERP systems intrinsically provide additional value.

While a growing percentage of respondents perceive these technologies as providing strong value, on average almost one in three (32%) are unsure of the value. Essentially, they are saying, "Show me." And another 9% (the average across all) admit they simply don't know. And therefore, it falls to industry experts and the vendors themselves to educate their audiences in order to prove the value. Let's start that process by exploring a few of these.

PLATFORMS AND ARCHITECTURE

Development platforms and microservices architectures, on which applications are built, are the perfect example. For the reader with a technical background, a microservices architecture is defined as an architectural style that structures an application as a collection of [loosely coupled](#) services. For those nontechnical readers, think of it as constructing a solution from a set of Lego building blocks. Purists hate this analogy, and yes, it is an oversimplification. But it is an effective analogy that resonates with most business users that don't have the interest or inclination to dive deep in technical jargon.

Think about how you build a structure from Legos. Each Lego block is made of the same kind of material and is attached (connected) to the other Lego blocks the same way. In many ways they are interchangeable. But by choosing different colors and sizes, and connecting them with a different design, you can make a structure that is very unique. And once constructed, if you want to change it, decoupling some of the blocks and replacing them doesn't destroy the parts that are not affected. There is far less disruption introduced than if you had constructed it with a hammer, timber and nails.

These platforms and technologies provide a level of agility, configurability and extensibility to today's applications to help us respond to change.

CLOUD AND SAAS

Cloud enablement and Software as a Service (SaaS) is the only "technology" in Table 1 that is even close to being mainstream. Indeed, whether you run a solution on your own premises or in a private or public cloud, the ability to access anytime, from anywhere is a significant advantage and cloud-enablement opens the door for the kind of connectivity you need as a full and active participant in the digital economy. While only half of our survey participants perceived it as bringing strong value in 2019, the disruption caused by a global pandemic in early 2020 only served to drive home the need for cloud connectivity.

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Cloud versus SaaS

Cloud refers to access to computing, software, storage of data over a network (generally the Internet.) You may purchase a license for the software and install 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.

Using these definitions, we can confidently say **all SaaS is cloud computing, but not all cloud computing is SaaS.**

Mint Jutras is of the firm belief that while cloud does indeed bring value to many, if not all organizations, SaaS brings even more value. But we see signs pointing to a lack of understanding of the difference between cloud and SaaS (see sidebar), as well as all the different deployment options. In our last few annual enterprise solution studies, we have asked how the participant’s current solution is deployed. We offer the following options to choose from:

- **Software as a Service (SaaS):** 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 party’s) computer
- **Hosted and managed by your ERP vendor:** Software is licensed by you, but you pay your ERP vendor to manage and maintain (host) hardware and software
- **Hosted by an independent 3rd party:** Software is licensed by you, but you pay another party to manage and maintain (host) hardware and software
- **Traditional licensed on-premise:** You license the software and are responsible for managing and maintaining it on your own premises
- **Hybrid:** Parts are licensed and maintained on-premise and parts (e.g. add-on modules) are SaaS

In addition, we ask which solution the respondent is using. It is not uncommon for a participant running a solution that is offered exclusively as SaaS to select the second option (Hosted and managed by your ERP vendor). Many non-technical users simply don’t know whether their organizations have licensed a specific version of the product (and perhaps pay maintenance in order to have access to updates) or if they subscribe to a software product. While the pros and cons of SaaS merits a dedicated discussion all on its own, if you are evaluating your next steps, you should understand the basic difference between subscribing to a service and licensing a copy of software.

When you license a copy of the software you take on the responsibility for maintenance and upgrades. This is especially important in light of the fact that when asked to select the top three challenges in achieving maximum value from ERP, “*cost and disruption of upgrades prevent us from innovating*” was at the very top of the list, selected by 41% of manufacturers. With a SaaS solution, the solution provider assumes that responsibility and does the heavy lifting for you.

But recent events that sent workers home en masse also brings to light another key difference. This is especially important since at this time, many of those workers are still working from home, and most believe this has started an irreversible trend. Leading up to 2020, many companies discouraged or prohibited employees working from home. Of course, you can’t manufacture products from employees’ homes, at least not at scale. But there are many (front and back office) workers in manufacturing that never touch the product.

So why the reluctance to embrace remote workers? For many it was a technology issue. They simply didn't have the hardware, software and/or network bandwidth to support a secure, collaborative environment. This became a significant problem when given no other choice but to send workers home.

Those using SaaS solutions were able to take their laptops and mobile devices or just sit at their home computers and have full and immediate access to the same data and systems they had in their offices. Those that were still using on-premise applications (even those that were web-enabled) had a much different experience. They needed access through a VPN connection. Most companies didn't have sufficient connections to support the volume of newly remote workers and doubling or tripling (or more) the number of connections was not an easy task.

Furthermore, since a lot of these office workers never traveled for their jobs, they were never issued a laptop and corporate networks couldn't be opened up to unsecured, non-company equipment. So many were frantically scrambling to equip newly remote workers with the kind of hardware needed for secure access. Not only was security threatened, but network performance became a limiting factor. These private networks didn't have the elasticity or scale of a public cloud.

Eventually the world will emerge from the global pandemic of 2020. Perhaps by the time you read this, we will have settled into a "new normal." But whatever that is, most believe we will never go back to the way it was. There will be more flexibility and more workers working from home and other remote sites. SaaS makes that transition far simpler and more productive.

INTERNET OF THINGS (IOT)

The application of and the derived value of the Internet of Things (IoT) will vary quite significantly from industry to industry. Manufacturers that have been collecting data from sensors (think machines on a shop floor) for decades are quite likely to undervalue it thinking this is nothing new. But without the connectivity of the Internet that data was largely under-utilized. We include it in Table 1 for the underlying technologies that facilitate the autonomous exchange of data. These foundational technologies help us leverage that data by connecting it to other tools and technologies, like predictive and cognitive analytics and machine learning.

ARTIFICIAL INTELLIGENCE

Technologies like machine learning, natural language processing and other forms of artificial intelligence have become quite prevalent in consumer technology (think Siri and Alexa, or GPS that learns your favorite route). Now is the time to bring them into the enterprise, much like they were insinuated into our personal lives – by adding value and embedding them.

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Apple customers didn't demand the ability to converse with their mobile devices. Apple just delivered it, not as an option and certainly not without adding to the cost. But they didn't charge extra for it. Other device manufacturers followed suit. Pretty soon virtual assistants became commonplace features. And people got hooked. It was only after the value was recognized that people willingly went out and bought stand-alone devices like the Amazon Echo Dot and Google Home.

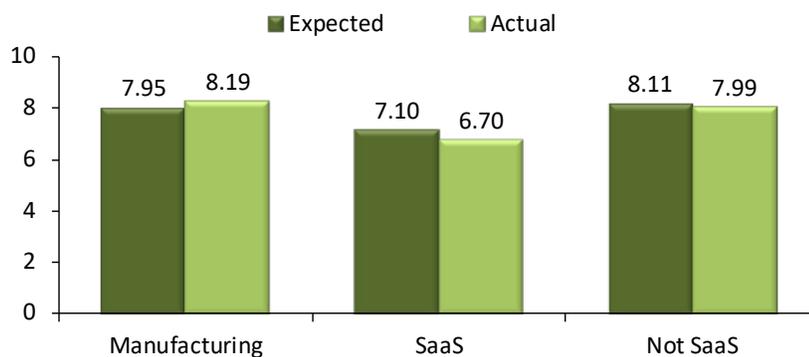
Make no mistake – the same thing is happening with applications for the enterprise. Modern platforms add a level of configurability and extensibility that adds agility needed to keep pace with the unprecedented pace of change in technology and business. Cloud and SaaS add speed and contribute to affordability. Pretty soon all sorts of artificial intelligence technologies will be generally available for the enterprise, but you won't be able to take advantage of them if you are still stuck on old legacy solutions.

WHAT CAN YOU EXPECT?

So, let's say you do decide to replace your current solution or remedy the lack thereof. What can you expect in terms of schedule and return on your investment (ROI)? In the early days of ERP, implementations typically took nine to twelve months before any type of "go live" event. Today we find the reality closer to the seven to ten-month range, with an average expected time of 7.95 months and the average actual just a bit higher at 8.19. We also find SaaS deployments trimming more than an additional month off those that are not SaaS (Figure 4).

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Figure 4: Time to Reaching First "Go Live" Milestone



Source: Mint Jutras 2019 Enterprise Solution Study

Of course, keep in mind that what you accomplish, and how much you achieve in arriving at this first milestone can vary. Some implementations go "big bang" with all functions going live at once. Others may approach it more incrementally. For smaller companies or those being divested from a larger corporation (on a tight timeline), it might represent their complete implementation. For large multi-nationals with many different legal entities

and/or operating locations, it might represent a single division. While not perfect, we choose this metric for two reasons. First, it is less variable than a full implementation. Secondly, because this is when you are most likely to see specific, quantifiable results – which brings us to the question of ROI.

In our survey we defined the timeline for ROI to be the time it took to recoup 100% of the initial cost of ERP through cost savings or added revenue. A full 90% of companies surveyed projected a timeline for ROI and 83% had already achieved it. The average time to recoup these costs was 1.67 years (about 20 months), but actual reported times fluctuated quite widely. About 24% achieved ROI within a year, and over half (55%) did so in less than two years, but 17% took longer than three years.

Our data also shows that expectations correlated closely with actual results. Those that expected to go live sooner actually did.

The moral of the story: be realistic, but also be aggressive.

Our data also shows that expectations correlated closely with actual results. Those that expected to go live sooner actually did. Those that didn't expect a return on their investment until years later are among those that took longer or never achieved ROI. The moral of the story: be realistic, but also be aggressive.

CONCLUSION AND RECOMMENDATIONS

As we noted right up front, any decision to implement a new ERP is a big decision, which requires careful thought and justification. It is a significant investment, but there should be some significant returns on that investment, and it need not necessarily require a lot of capital. If you choose to go with a SaaS deployment, you will have the option of accounting for it as an operating expense (OpEx) versus a capital expenditure (CapEx).

Whether you view ERP as brain surgery or joint replacement, there is no such thing as non-invasive surgery. It can and should have a serious impact on your business, but hopefully in a positive way. Of course, there will be failed implementations, but today they are far more likely to be classified as successful, and within a shorter timeframe than ever before. Often the same ERP solution is at the heart of both failures and successes. So, while it is critical that you select a solution that fits your needs, it is equally important to give the evaluation, selection and implementation the proper attention to produce that success.

Here are a few recommendations for a successful ERP journey:

- **Don't wait until the patient is dying.** Making a selection and running an implementation project when the business is under duress does not create an atmosphere of careful consideration, planning and execution. The 2020 global pandemic has already added to your stress level. Don't let antiquated software make a tough situation even tougher.
- **Need it but can't afford it?** Consider the potential cost savings. Most ERP solutions pay for themselves in less than two years. If capital

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funds are not available to support the project, consider SaaS deployment with less up-front cost. Also, manufacturers with SaaS implementations reached their first go-live milestone about 16% (more than one month) faster than those with other deployment models.

- **Set goals and measure.** Before embarking on your ERP project, decide which metrics will measure success. Establish a base line, set goals and measure progress against those goals. When you reach them, set another goal. Continue to measure and continue to reap more benefits.

An ERP implementation is not easy. Just like surgery, there will be some “recovery” time. But that doesn’t mean your business stops during that recovery period. It just means you need to take extra care to insure a full recovery, with the result being a healthy business that is able to function better than ever.

About the author: *Cindy Jutras is a widely recognized expert in analyzing the impact of enterprise applications on business performance. Utilizing over 45 years of corporate experience and specific expertise in manufacturing, supply chain, customer service and business performance management, Cindy has spent the past 14+ years benchmarking the performance of software solutions in the context of the business benefits of technology. In 2011 Cindy founded Mint Jutras (www.mintjutras.com), specializing in analyzing and communicating the business value enterprise applications bring to the enterprise.*



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