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The Time For IoT In Your Business Is Now

IoT continues to permeate the minds of today's technology decision makers in all of the industries we reach. There's no denying the growth of the IoT market, nor the impact the technology is having on businesses of all shapes and sizes — and there are plenty of statistics to reflect IoT's rapid growth and impact. By 2020, the number of Internet-connected things will reach 50 billion, with \$19 trillion in profits and cost savings coming from IoT over the next decade, according to Cisco Systems. Forrester Research reports that 82 percent of companies will have IoT applications implemented into their business in some way by 2017. And a recent finding from IDC predicts that the worldwide IoT market will grow to \$7.1 trillion by 2020, compared to \$1.9 trillion in 2013. These are just a couple of examples. Do a quick Google search and you'll find many, many more. While some of the specific metrics sometimes conflict, the overall message is

clear — IoT is here and it is making a splash.

Why IoT now? There are a number of reasons. First, and perhaps most importantly, I think the industry is at a point that it understands and is ready to embrace what IoT can do. We've been covering M2M and IoT for years, but I think for much of that time the industry just wasn't ready. With IoT making a big impact in the lives of consumers, it becomes easier to see how the technology can be applied to businesses to make a huge impact. Second, as the technology becomes more widely adopted, costs come down, which makes IoT solutions more attainable. Finally, I think businesses today value the kind of data that IoT solutions provide more than ever before. Companies understand that data and the knowledge derived from it are power — power to better service customers, operate more efficiently, make intelligent product changes, and so on. IoT solutions provide data that truly enables companies to operate their businesses more intelligently, and companies are now ready for that kind of power.

Important IoT Considerations

Hopefully, you're reading this article and getting excited about how IoT could impact your organization. As you begin your quest for IoT success, here are a few important points to consider:

- **Don't miss the IoT trend.** There's a fine line between waiting until a technology has proven benefits to deploy, and missing the boat only to fall behind your competition. If the statistics above tell you anything, it's that IoT is here now and is ready for business. If you aren't already, now is the time for you to be evaluating how IoT fits within your organization.

- **Determine how IoT fits your business.** While what I just said is true — you don't want to miss the IoT trend — you also have to determine what that trend means to your business specifically. Consider the type of data IoT can provide and think of that in the context of how it could help your business — what efficiencies could be achieved, what additional services or offerings would your customers be willing to pay for, what new insights could be uncovered about your products or operation. IoT can have a big impact on your business, but only if it is put into the right context for your organization.

- **Be realistic about your IoT capabilities.** Some organizations have a wealth of internal human resources who understand IoT and can develop solutions. Others need to rely heavily on external partners to help them reap the benefits of IoT. There's no right or wrong — just understand what your company's capabilities are and approach IoT accordingly.

That's my two cents, but the insight you'll find in this report will provide far more value as it comes directly from your peers who are already leveraging IoT solutions. We've invited them to share their insight with you and provide some real-world advice that we hope you'll find very valuable. ■

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Waiting For The IoT To Go Away? You're Missing The Point

If you are like me, you are a bit skeptical of buzzwords or the latest trend that is going to "change the world." Oftentimes, I sit back, bookmark the trend or website, and then come back in a few months to see if it has faded away as I expected. Over the past year plus, the buzz around the Internet of Things has seemed like another one of those catchy trends that wouldn't be around when the calendars changed over. But what has made IoT different is the fact that it really isn't that new.

Accessing data off connected machines and equipment has happened for a while now. But what has changed has been the volume of data being captured and what is being done with the data. As seen in Aberdeen's recent *Welcome to the Next Generation of Smart Machines* report, just over half of the equipment for top performers is connected for the purpose of monitoring, maintenance, asset management, and service. Half of the equipment may seem like a low percentage considering how much we have all heard about IoT, but these devices are sharing a whole lot of intelligence. The promise of IoT is how companies are using the data flowing in to make decisions that are impacting their customers, the equipment, and their margins. IoT has helped manufacturers and service organizations do some pretty powerful things:

- IoT is helping organizations design better machines. The amount of data on asset performance is providing a wealth of insight being leveraged by more than just the field service team. Historically, once an asset or piece of equipment was shipped out to a customer, the engineering and design team lost visibility into those assets until they were returned as a result of a massive defect. But the IoT has turned this one-time touch into an ongoing conversation that the internal teams can have with the equipment. This continued flow of data on the machines has allowed organizations to continuously improve the equipment, which in turn helps the productivity of the customer.
- New revenue streams have cropped up as a result of the IoT. Top performing organizations are using IoT data to offer new services and products to cus-

tomers based on the intelligence gleaned from their current behaviors. Companies are able to provide consultative services, reporting, training services, and asset usage contracts. What is different is these offerings can be tailored or customized to fit a specific customer based on insights gathered by the data, not just a blanket sales or marketing campaign.

- Productivity is on the rise as failures can be caught before downtime occurs. The utopian state of truly predictive service hasn't quite become ubiquitous in service just yet. But the IoT has helped service companies monitor asset performance and be better at proactive and predictive service. But once again, with only about half of the equipment in the field being connected, not all failures can be prevented.

Even though the IoT has already helped companies do a lot, there are opportunities still untapped. As standards continue to be cemented, partnerships formed, and legacy equipment updated to be a part of the connection, the benefits will only grow. The future of the Internet of Things will continue to mirror how other technologies evolved in field service (i.e., mobility). Consumer trends will seep into field service and have an impact. There are already use cases of wearables helping monitor the field team's performance and health or augmented reality tools being used to connect remote workers to the front lines. Service organizations and manufacturers have a mandate to make great products and equipment and ensure those assets run optimally. The Internet of Things is helping these organizations evolve from being gut-driven and reactive to data-driven and predictive. Fads by definition falter; the IoT has been an integral part of service for a while now and will only continue to impact business. ■



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How To Determine The IoT Opportunity Within Your Organization

The value proposition for M2M technologies in the field service market is very impressive. Put most simply, M2M connections can provide priceless insight into what's going on with your products and/or assets in the field. According to Sherri McDaniel, president of ATEK Access Technologies, anything that can be measured and then used to make more informed business decisions is a candidate for M2M. That said, there's so much that can be done with M2M, you might be struggling with where to begin.

Addressing Challenges With M2M/IoT

"I would look at the amount of insight you may or may not have on core aspects of your business," advises Lee M. Williams, SVP product and operations, ETwater. "I would also evaluate how automated certain activities or procedures are, and whether they could benefit from some form of ongoing insight." He also recommends determining whether data collection or intelligence could help you focus more on core competencies or differentiators in your field of practice.

Jason Cocco, VP of business and product development for Restaurant Technologies Inc., agrees and recommends businesses begin looking at processes that are manual or processes that have limited visibility. M2M solutions can provide this visibility, he says, and do it in a cost-effective manner.

From a field service perspective specifically, Tom York, CEO of Essintial Enterprise Solutions, believes you should look at a few key areas, such as high rates of "NTF" (no trouble found) on dispatched calls, repeat calls, multiple technicians "reinventing the wheel" on what should be familiar problems, inability to provide predictive versus reactive service, and difficulty in scheduling technicians efficiently.

In the unlikely event you don't have any immediate or pressing challenges, an M2M initiative can still provide your organization with a lot of benefits. Indeed, Williams points out that almost any business or process can benefit from some type of data analysis or analytics. "Even if there aren't cost pressures or margin challenges, IoT solutions can be explored for additional revenue streams," adds McDaniel.

York cautions that it's irrational to believe that you have no challenges and that no opportunities are present. "If you are standing still, you are really falling behind," he says. Cocco adds that as you conduct strategic planning sessions, you should always be looking at how technology can advance the company and potentially leapfrog your competition. "Reviewing adjacent industries, competitors, or current customers and the benefits they are achieving via M2M are good ways to identify the opportunities the technology can bring to your business," he says.

First Steps With M2M/IoT

OK, so you believe M2M is right for your organization. Where do you begin? McDaniel believes a good first step is having an open mind. "Taking a strategic look at the business and getting creative is the first step," she says. "Gather a group of people who can look at the business strategically and get them going on possibilities." However, she cautions that it's critical to narrow options down and drive to complete one thing well. Way too many IoT projects become derailed by scope creep, she says.

York says to pick a starting point or project that gives you the opportunity to do two of the three following things to your business: simplify, integrate, or automate. Of course, M2M can do all three. A project closely aligned with those benefits will be successful. "It becomes relatively easy to build an ROI for an IoT type of solution when you see just how much time, effort, resources, and money are being wasted without the technology in place," Williams adds.

Cocco's advice is to identify use cases that mirror your current business. These use cases can be captured through current customers, competitors, or M2M service providers and deliver insights on the financial and other benefits that deploying an M2M solution can provide.

Building A Business Case For M2M/IoT

As you get started with an M2M project, it's important that all the key stakeholders are on the same page about expectations and results. As such, make sure they're a part of the planning process. Williams also suggests piloting/staging a solution, and building a result into the business case. He believes doing so can go a long way to helping prove the potential of the case.

Cocco also believes that stakeholders can get shortsighted with the financial return and time frame to get that return. "I would recommend clearly outlining the process changes and soft cost advantages for an M2M solution," he says. "Big savings or revenue gains through an M2M initiative are great, but there's also a benefit to simplified processes, which can enable employee time to be redirected to more value-added activities." ■

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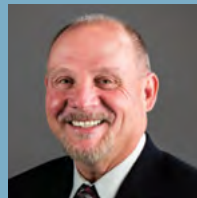
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Tips For Selecting The Right IoT Solution And Partner

Once the goals for your M2M solution are defined, your next challenge is evaluating solutions and partners. There are, of course, many ways of doing this, but we spoke to a panel of experts who have experience with M2M/IoT projects to get their take.

Sherri McDaniel, president of ATEK Access Technologies, has a lot of great advice for evaluating and selecting solutions. First, she says, find a partner that can be trusted. "The partner needs to have a strong business background as well as the technical capabilities to make the solution come to fruition," she says. "Also, selecting an established organization that has a strong reputation and repeated successes in deploying its solutions is key."

Jason Cocco, VP of business and product development, Restaurant Technologies, Inc., recalls that his company conducted a "bake off" to determine the best solution provider. "Having a clear vision on what is important to make your initiative a success — hardware, platform, application development, security, etc. — will enable you to sift through potential providers and identify the appropriate one for your specific needs," he says.

Lee M. Williams, SVP product and operations for ETwater, says to make sure to evaluate several solution sets, and make sure each is differentiated in some way. "There is really no point in lining up three or four similar solutions to test and evaluate versus bringing in some very different configurations and seeing what is going to help achieve the objective and be a better fit for your business or problem," he says.

No matter who you select, Tom York, CEO of Essintial Enterprise Solutions, cautions that whoever you select, they won't possess as much knowledge about your operation as you do. As such, he advises you make a conscious effort to acknowledge any "internal warts" that could affect the outcome of a deployment. Essentially, being an open and honest book with your solution partner will increase the likelihood of success.

Identify The Right Solution

When performing the evaluation and making your selection of a solution, McDaniel says that creating a very defined

scope is critical to success. At the same time, laying out the future options helps to ensure that the solution being proposed has "legs" and can be expanded and built upon for future needs.

York recommends doing a thorough evaluation of what it will take to implement a solution into your unique infrastructure. Additionally, York says to make sure that your desired outcomes can really be achieved in your infrastructure. Don't assume or guess.

Williams urges companies to make fully loaded costs and complexity key evaluation points. "You need to understand not just the implementation costs, but recurring and ongoing costs for the solution set," he says. "Also, understand how complex or simple an integrated solution would be once fully implemented and scaled." This is where the pilots or staging the implementation can help a great deal with the evaluation, he adds. You get a chance to see firsthand what the total impact on the business, people, and processes is going to be.

Identify The Right Partner

Finding the solution is one thing, but what about the partner delivering it? At a minimum, Cocco says, you should look for a partner that understands your business, has a proven track record of delivering solutions that achieve the business case, and has a process it follows that delivers success to its clients.

Oftentimes, evaluating partners comes down to contacting references and hearing about all the great things the partner can do. While speaking to references is definitely a wise move, York warns not to get caught up in good references only. "Ask the potential partner to tell you about the implementations that did not go well and how they handled those exceptions," he says. "If they can't do that, be cautious."

Williams believes that a good IoT company doesn't take a traditional manufacturer type of role or position with you. "They shouldn't just be a supplier in the classic sense; they need to be a solutions provider, and to have firsthand experience with how to enable your business with their technology," he says. "Ask questions about training, service, quality control, ongoing upgrades, communications, escalation, etc. Don't just think you are going to buy some gear, have it installed, and be done with it."

McDaniel recalls one mistake her company made in its selection process. "We chose a partner that we had been doing business with for years," she says. "We were comfortable with the people and they knew our business well. However, it was a relatively new venture for them. Unfortunately, they made a pretty significant change in their business focus so we have been left with little support at this time. I highly recommend going with a known commodity in the space you are entering." ■

Mastering IoT Deployment

Unless you're already an expert in M2M and IoT adoption, you'll most likely face some challenges when it comes to deployment. Thankfully, at this stage of M2M and IoT's evolution, there have been plenty of implementations from which you can learn — both best practices and mistakes to avoid. Tom York, CEO of Essintial Enterprise Solutions, says that most implementations fail due to incomplete implementation planning. Sherri McDaniel, president, ATEK Access Technologies, calls for focused, defined objectives that aren't allowed to creep. Finally, Jason Cocco, VP of business and product development, Restaurant Technologies, Inc., believes that a successful deployment requires buy-in from senior management, a strong partner to assist the organization through all the ups and downs, and an internal stakeholder that has skin in the game.

Most M2M experts agree that a pilot is a good idea when deploying your solution. Indeed, Lee M. Williams, SVP product and operations for ETwater, says that a pilot is an essential piece for understanding how best to implement, optimize, and capitalize on an IoT type of solution. York adds that a pilot or proof of concept should have very clear objectives as to what you want to learn from it. Don't do a pilot just to do one, and without knowing what you're looking for as far as failure points and success areas are concerned.

Cocco recalls running a pilot for nearly a year, which enabled his organization to work out all the bugs in the solution, understand the impact on all internal processes, and put a cohesive change management plan in place to ensure the solution would be optimally deployed.

McDaniel offers a different opinion on some pilots, explaining that the need for pilots depends on how big and/or risky the deployment is. "We chose not to pilot because it would add time and expense to the project," she says. "In our case, the deployment wasn't very risky and was highly focused so it was the right decision." She admits that such a scenario wouldn't be the case for most.

Communication

Whether you choose to run a pilot or not, one thing is essential with your deployment. Effective communication is critical across the board — whether you're communicating with your own employees or your customers.

McDaniel advises clearly articulating how the solution will solve a problem for whatever audience you're speaking to. York adds that internal communication is often overlooked.

There will be disruptions and inconveniences. "You must explain to the affected employees why the changes are important to the business and their everyday tasks," he says. "They must understand their personal ROI for the inconveniences. Obviously, for your clients, you need to communicate the value they will see as a result."

Cocco says that every company has unique cultures and methods to ensure communication is seamless among projects, sponsors, partners, and customers. "Simply, communicate clearly and often," he explains. "This will ensure everyone is aligned and clear on the timing and objectives."

Williams couldn't agree more with the idea of communicating often. He believes that once you build a thorough business case and full implementation plan, you should comprehensively present these things to decision makers, stakeholders, and to implementation and maintenance staff at every level of the business, including third parties and contractors that may be responsible for related aspects of the business.

Common M2M Mistakes To Avoid

Finally, with any deployment there are bound to be mistakes and challenges that need to be addressed. However, that doesn't mean you shouldn't be aware of the most common mistakes and avoid them to the best of your abilities. For instance, York says that a common mistake is that once an ROI or value proposition is established, senior executives will want it done immediately. This can result in insufficient deployment planning and unrealistic objectives. While we all understand a sense of urgency, anything worth doing is worth doing right, he says.

Cocco says that a common mistake is assuming that what you deploy the first time will be your end solution. "Your M2M solution will evolve as your business and customer needs change," he says. "You need to have a flexible solution to accommodate these changes." McDaniel cautions against tackling a project that is either too big for a first try, too nebulous in outcome, or is allowed to creep in scope.

Finally, Williams says that many companies often don't understand or overlook the need for thorough and ongoing training to enable the best use of the system. "Often, companies will do initial training sessions, and not all relevant parties or stakeholders will attend, and seldom is ongoing training provided," he says. "As a result, implementation efforts are suboptimal, and they degrade over time as personnel and environments change." ■

Ensuring IoT ROI

Oftentimes, success in an M2M/IoT solution is directly linked to a tangible ROI. To achieve that ROI requires some planning and proper execution. We asked our four experts to share their best advice for how to measure ROI, ensure success, and avoid obstacles that can prevent an ROI.

When it comes to measuring ROI using KPIs and metrics, Tom York, CEO of Essintial Enterprise Solutions, says to make sure ahead of time that you can actually capture the needed data to quantify the hard-dollar savings. "Make sure the KPIs clearly tie back to the business case," he says. "This seems like a no-brainer but you would be surprised at how many times this does not happen."

Lee M. Williams, SVP product and operations, ETwater, says you should start by collecting a complete set of historical data. "You need to be able to measure the before and the after in a consistent manner," he says. "Also, make sure you have a baseline and a target savings, or net benefit amounts." He goes on to explain that you can spend more money than you normally would by implementing an IoT solution, which is OK as long as you have a way to measure your target achievement.

Sherri McDaniel, president of ATEK Access Technologies, recalls that, in her organization's case, they measured internal efficiencies such as how they could support more customers with the same amount of resources. "We also measured an additional revenue stream that we were able to capture by selling the new services we provide," she says.

Jason Cocco, VP of business and product development, Restaurant Technologies, Inc., says his specific solution was targeted at reducing service costs with his customers. "We measured service calls, service costs, first-time-right deployments of each M2M solution, and system uptime," he says.

Ensuring ROI

McDaniel says that the biggest challenge she sees with customers obtaining the ROI they expect is the lack of a change management process. "Adding new information into an organization can be a game changer, but only if that information is built into business processes so it can be utilized easily and effectively," she says. "If the business processes don't change around the

new solution, then the ROI won't come through. It is critical to engage all stakeholders and support them through the entire change management process."

Cocco agrees and says that companies need to ensure there is a willingness to change processes and people's responsibilities. If a change management plan is not implemented with the M2M solution, the full value will not be realized as your company's resources will continue to perform processes as they did before the M2M solution.

Finally, Williams believes you have to be able to measure what you expect. "Take the time to put those measures and calculations in place," he advises. "Then you have to be prepared to iterate and adjust on an ongoing basis. You need to always be optimizing and tuning up a solution, and you need to be prepared to have people across the relevant parts of the business prepared to support this ongoing set of adjustments and changes." Indeed, you can't just "set it and forget it" and expect to achieve a decent ROI.

Overcome ROI Barriers

The specifics of your M2M project will differ from those of others, and yet there are many common obstacles that can affect the ROI of all M2M implementations. Here are a few you should address before they become a problem.

People — McDaniel says that if your people don't change their behavior to take advantage of the new tools or intelligence, then the ROI won't happen.

Flexibility — Cocco says your M2M solution needs to be flexible to ensure it can be changed and adapted as business needs change. Williams adds that M2M solutions are fluid and organic pieces of a business and, as a result, they need to be treated like a set of practices and procedures, the type that always need some level of adjustment.

Timeline — York says that soft-dollar savings are interesting but do not move the needle. If you fall behind on your timeline, you won't realize the savings planned within that span.

Avoid "nice to have" — Cocco says one common mistake is to not distinguish between capabilities that are needed versus those that would be nice to have. "Nice to have" capabilities can be costly and inhibit the solution's ROI," he warns. ■

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