Mighty Guides®

The Impact of Automation

on Modern Business

BEST AND WORST PRACTICES IN IMPLEMENTING BUSINESS AUTOMATION

There's no turning back from the fact that disruptive business automation is here. As artificially intelligent functionality delivers more capabilities that we increasingly take for granted, it's difficult to grasp all the implications of this transformation. In this eBook, we aim to illustrate what it means for business, for the people who work in those businesses, and for people served by those businesses every day.

To better understand how automation is changing business, and with the generous support of CA Technologies, we reached out to 11 experts. After many fascinating discussions on this topic, we developed essays that address four key questions:

- **How has business automation changed your operations?**
- **What business processes would you like to automate?**
- **What best practices can you offer to someone who is implementing a large automation project?**
- **What does the future hold for businesses actively pursuing automation?**

In speaking with experts from different industries in both the public and private sectors, it became clear that cost reduction and gains in efficiency are not the only factors that drive automation. They may not even be the most important ones. Successful automation must also deliver greater value in the form of more accurate processes, better products and services, or entirely new value propositions not previously possible.

By providing practical insights into what is happening today and what may be just over the horizon, I believe this eBook will be a valuable resource for anyone planning an automation strategy.

All the best,
David Rogelberg
Publisher, Mighty Guides, Inc.

Mighty Guides

Mighty Guides make you stronger.

These authoritative and diverse guides provide a full view of a topic. They help you explore, compare, and contrast a variety of viewpoints so that you can determine what will work best for you. Reading a Mighty Guide is kind of like having your own team of experts. Each heartfelt and sincere piece of advice in this guide sits right next to the contributor's name, biography, and links so that you can learn more about their work. This background information gives you the proper context for each expert's independent perspective.

Credible advice from top experts helps you make strong decisions. Strong decisions make you mighty.

At CA Technologies we are excited about business automation. We think it is the critical enabler to help drive business and empower digital transformation. We have worked with the Mighty Guides team to ask leading practitioners across different industries for their thoughts on the power of automation within their business. We hope you enjoy this compilation of stories.

We believe that, in today's ultra-complex, fast changing world, business automation is not just a differentiator, but an essential component of the modern enterprise. With the prevalence of digital disruptors, the ever-growing influence of big data and the increasing importance of the Internet of Things, automation is the only way businesses can achieve the agility and scalability required to compete. As a gateway to innovation, business automation increases productivity, drives revenue growth, reduces time to market and breaks down silos.

Here at CA Technologies, our automation solutions are designed to help you become more agile and to execute your key business imperatives faster. This will shorten your time to value and help you delight your customers with the best possible user experience. As your usage of automation expands, our solutions will help you orchestrate across different functions and different use cases to drive automation as a critical enabler of your digital transformation. Whether it's attaining continuous delivery for new applications, modernizing legacy systems, harnessing vast amounts of data, or delivering self-services to the business - our solutions provide high availability, unrivalled scalability and end-to-end visibility across all your processes, and from a modern unified interface.

Central to our portfolio is the industry-leading CA Automic One Automation Platform. This unified, open and scalable automation platform acts as a central point of control across your entire business. The overarching architecture ensures agility and stability, standardizing management and configuration of IT processes. It's our 'secret sauce', helping distinguish CA Technologies by driving scalability, openness and performance.

I hope you enjoy this book,

Dr. Chris Boorman
VP, Automation Marketing

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CA Technologies is the leader in automation software. We drive competitive advantage by automating IT and business systems, delivering business agility across all environments, from on-premise to the cloud, big data and the Internet of Things. With over 40 years' experience, our solutions facilitate business growth, deliver faster time to value and ensure effective resource utilization, all while staying compliant and mitigating risk.

BEST AND WORST PRACTICES IN IMPLEMENTING BUSINESS AUTOMATION

ED RYBICKI

Global Chief Information
Officer,
Merieux Nutrisciences

Ed Rybicki is a highly accomplished and forward-thinking senior technology executive with more than 20 years of experience in achievement setting and executing information management strategies and operations for dynamic global corporations. He has a record of successful IT department transformations and success in collaborating with executive decision-makers to align top-level business and technology strategies.

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As a global company heavily focused on finished food testing, Merieux NutriSciences depends on accurate, quality testing processes to meet its business objectives. Ed Rybicki, chief information officer (CIO) at the company, believes process automation is key to being able to meet the demand for its services and maintaining or even improving test quality. "Globally we process millions of samples each year. Handling that volume of tests and being able to ensure high-quality results would be very difficult without extensive automation," says Rybicki.

Although some aspects of testing for biological and chemical agents cannot be automated or accelerated, many mechanical processes, data capture, and data processing are highly automated. This makes it possible to pinpoint problems more quickly, including contamination or disease, and identifying sources in ways that help prevent bad things from spreading. Rybicki sees further advances in automation, particularly around data capture and processing, as important to refining testing programs further. "We know there's an untapped mine of intelligence there," he says. "By pulling more data together and analyzing it in different ways, we hope to use predictive analysis to identify new patterns." 〉〉〉

> *We have to have clear goals, desired outcomes, and we have to all be aware of what those are internally in order to know if we're doing the right things.*

Rybicki has had a lot of experience in transforming businesses through automation in recent years because Merieux NutriSciences has recognized the strategic importance of IT and automation to its business. "We have great alignment on this from the top executives on down to the leadership committee and operations," he comments. "Our company definitely looks at it as an advantage."

When rolling out new levels of automation, there are important steps to take to help ensure success. One key part of this is aligning the automation project with business objectives to make sure the goals are understood in terms of the value they bring to the business. Rybicki explains, "We have to have clear goals, desired outcomes, and we have to all be aware of what those are internally in order to know if we're doing the right things, putting our money in the right places, and measuring ourselves to get the right results."

Rybicki also says that they are increasingly looking at automation in terms of the total value it brings to the business. "If we want to implement a new lab system, what do we expect out of it? Is it, for example, a 20 percent better quality rate? Is it a better turnaround time? Those kinds of metrics should be how we stay aligned, not just say, measuring only on time and on budget. I've been involved in plenty of projects on time, on budget, and they actually don't provide any great value to the business," he says. ⟫

"I've been involved in plenty of projects on time, on budget, and they actually don't provide any great value to the business."

Another element that is critical to the success of automation is getting users to accept the change. "I was involved in one project we all thought was a great success," Rybicki says. "The implementation was on time and under budget, and everything worked great. But a few months later we weren't seeing results. We found that our employees still had challenges in using the solution. They were still using aspects of their manual process. Human change management is an essential part of successfully automating a business." For many global automation projects, it makes sense to start locally or regionally and scale incrementally, Rybicki advises. ■

KEY POINTS

1 Always align the automation project with business objectives to make sure the goals are understood in terms of the value they bring to the business.

2 Automation typically involves changing the way people work. Human change management is an essential part of successfully automating a business.

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VP of Enterprise Solutions,
Snapfulfil

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When performing a business automation project, choose the most flexible tools to support the transition. The challenge with implementing business process automation is that the form, fit, and function of the automation process may closely fit the specific needs you're addressing today but not be the right method or steady state in your organization's immediate or mid-range future. Choosing a flexible set of tools allows responsive design to changing goals or requirements.

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JAY HEMMADY

Chief Information Officer, OIA GLOBAL

Jay Hemmady is a technology executive who has significantly improved revenue, market share, and competitive standing in the transportation/logistics, discount securities brokerage, and credit card sectors. Hemmady is presently the VP/CIO at OIA Global, a distribution, logistics and packaging company based in Portland, OR. He earned his technical and consulting stripes at EDS (now part of HPE) and entered the workforce with an MBA in Finance and a BA in Electrical Engineering.

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Jay Hemmady's firm, third-party logistics provider OIA Global, recently automated several business processes using a custom platform it built in-house. To ensure success, Hemmady and his colleagues examined how software was developed elsewhere, learned from others' mistakes, and gained the knowledge to execute their project the right way. "Before we began the custom software-development project, we found several examples of poorly executed custom software. If there were an eBook on how to do things wrong, we would have written a very fat eBook: The Secrets to Failure. We now know how to do it correctly and succeed," he says. Here are some of the best—and worst—practices he has encountered along the way.

"Most automation projects that fail tend to be treated as an IT project driven by the IT organization," Hemmady says. "That is not the case. That's almost like going to the doctor and saying, 'You're the doctor, tell me where it hurts.' The doctor can't tell you where it hurts.'" Unfortunately, he says, this is often the dynamic in ERP business automation projects: The business, rather than identifying its own needs and requirements beforehand, tends to rely too heavily on IT from start to finish, with mixed or unsatisfactory results. Companies striving to ensure success with their next business-automation project should avoid viewing it strictly as an IT project. ⟩⟩⟩

> *Most automation projects that fail tend to be treated as an IT project driven by the IT organization.*

Businesses should also recognize that business automation introduces a great deal of change to an organization. Hemmady therefore advises that companies don't overlook change management when undertaking a business automation project. "Change management really means that here are a group of people who are doing things one way, and tomorrow they'll be asked to do some things differently," he explains. "People will be threatened, people will be uncomfortable. You have to prepare them for change and carefully guide them through it." When not correctly planned and executed, change management or transition management is often a key reason a very successful product is rejected after it has been implemented, creating the perception that the project has failed.

Executives' comfort level with change can also impact a project. "An executive team that is unable to trust a group of strangers to execute the project will always be suspicious," Hemmady comments. "They'll always want to micromanage things and do things their way." In that situation, the group in charge of the initiative needs to take proactive steps to build trust. One way they can do this is to undertake a small piece or phase of a project, perhaps a pilot, to demonstrate their competence. They can then earn the trust necessary to move forward with the enterprise as a whole. 〉〉〉

"People will be threatened, people will be uncomfortable. You have to prepare them for change and carefully guide them through it."

Every business faces challenges when undertaking as complex and mission-critical a project as business automation, but smart, proactive planning can minimize the risks involved and prepare the organization for the changes that will come. When that project is successfully launched, the company can build on what it has learned to implement further improvements and advancements that benefit the organization even further. ■

STEFANA SAXTON

Business Excellence
Innovation Leader,
Black & Veatch

in LinkedIn

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Business automation can impact your business both positively and negatively. The positive impact is seen when we follow the process steps of eliminating, reducing, and then automating. Conversely, the negative impact is seen when we take a complex problem and wrap a complex automated solution around it. The best advice I have for someone implementing a large business automation project is to ensure that you have taken the process first to its simplest form by working backwards, focusing on flow from the meeting point of your customer and your employees, and then moving that to the needs of the business. Once the process is at its simplest form and there is nothing left to eliminate, then you are ready to automate. There are massive advancements in the world of technology ready to be used by all, and through proper implementation techniques, companies can reap the amazing benefits of process automation.

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DEBORAH FRITZ

Senior Director, Global Head
of Sales Operations,
Acxiom

Deborah Fritz has more than 15 years of experience in sales operations, driving change across complex organizations. Her focus: helping companies connect business strategy with sales objectives and activities. She has served in executive and senior management positions with responsibilities ranging from strategy development and execution to tactical alignment and change management. She is currently the senior director of global sales operations for Acxiom.

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LinkedIn

Deborah Fritz has led several high-profile sales-operations automation projects at Acxiom, first in Europe and now in the United States. Ten years ago, she says, "we probably got about 90 percent of our market and client intelligence from the minds of our sales team, and we consistently heard our reps say that they were spending too much time with internal processes and not enough time with their customers." Data collection was highly manual, prone to error, lacking consistency and ultimately difficult to interpret and respond to for the organization overall. The process wasn't working for our sales teams, and it wasn't working for the business. To make the information truly useful for senior management, she explains that it was clear several things needed to happen:

a. Capture data at the right time in the right place: information needed to be properly centralized and automated.

b. Only ask for data that matters: consistent definitions and metrics needed to be prioritized and agreed.

c. Automate where possible, ensure efficient workflows where not: sales teams needed to buy into the method and execute on the agreed data framework. »

" *We sat down and made sure that we all had one source of truthful data that we were all making calls on.* "

She elaborated that, "As technology has evolved, we're able to source many of our signals from automated AI and interpretive analytics. This has enabled us to transition to a much better system in which the business uses concrete, shared metrics from a broader base of platforms and people. This in turn has enabled the company to focus its resources on areas with the greatest strategic business value. The (wasted) time we used to spend on reconciliation and version control can be reinvested into much more valuable conversations around managing risks, realizing opportunities and ultimately revenue growth. The automation allows us to accurately identify higher-value transactions, and most at-risk opportunities as well as focusing on outliers and areas for coaching," she explains.

To accomplish this goal, Acxiom first had to establish what sort of data the business would use to analyze risk and opportunity so it could make better informed, more effective decisions. "We sat down and made sure that we all had one source of truthful data that we were all making calls on. In doing so, we shored up the things that were known," says Fritz. "Once we all agreed on what was objectively known, automated analysis meant we could focus our time on managing risk and opportunity. It enabled us to have a much more intelligent, action-oriented conversation with our stakeholders." These outcomes represented a significant change in the way senior management interacted with our sales teams. ⟩⟩⟩

"A lot of people are naturally resistant to change and technology, and they need a lot of attention during the change-management process."

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When pursuing a business-automation project, Fritz agrees that it is clearly important to be sure that the change truly increases the efficiency of the processes in question and delivers tangible value to all participants, rather than being a poster IT project. "It's easy to get bogged down in system design details or the search for an ultimate all-encompassing automated process, catering to all eventualities. That will generally take too long to build. Rather you want to make sure that what you have is aligned to the key objectives and the metrics that you are all working towards," she says. "It's also important to prioritize the availability of leading metrics not just lagging metrics. The business can respond to forecasts whereas it can only report results. All of these things should be visible so all participants can see how the change affects the priorities that your collective business units are managing within themselves too."

Returning to the initial insights, without staff buy-in the automation project will quickly prove ineffective. Results of an automated process, no matter how clever the AI, are only as good as the data fed into it. It's therefore crucial to explain to your employees how the project will enhance their work, taking care to solicit their feedback while also clarifying what will be expected of them. It is far from given that the user base (in our case, the sales teams) will automatically see the value of the changes. Often they interpret is as either a lot of new work with unclear benefits, or worse they see it as a means of making them changing their behaviour from an established process to a new, untested process which potentially highlights shortcomings in their own activities. Therefore the automation process must clearly highlight the benefits, listen and incorporate user feedback into your design and your training. Ultimately as an agent of change, you are responsible for ensuring that the change you're introducing truly adds value to all participants in the process. "A lot of people are naturally resistant to change and to technology, and they need a lot of attention during the development and roll-out," says Fritz. Accordingly, they need to be reassured that the new process will enhance their workflow, be easy to use and that you have demonstrated you understand and are acting on their feedback. This includes staying with them throughout the journey, from requirements to implementation. "A single training event or webinar doesn't really have significant impact, and it definitely doesn't give the salesperson the tools they need to be successful in adapting and adopting the tool," she continues. You can do this more effectively by offering ongoing one-on-one coaching sessions to train them in the new process using data that's directly relevant to their role, preferably in a live environment so the training process adds value to their work product. 〉〉〉

Business automation projects can create tremendous value, but they require long-term planning and a senior commitment to change management. Along the way, Fritz has found that the keys to success lie in establishing commonly shared, objective metrics and guiding employees through the process of change. By addressing those requirements, your business can ensure a smoother transition to a new automated process and, with it, a greater likelihood of accomplishing its ultimate goal. ■

KEY POINTS

1 For a business automation project to succeed, the business must agree on and define its success metrics.

2 Results of an automated process, no matter how clever the AI, are only as good as the data fed into it.

3 A commitment to change management and adoption is important for any business automation project.

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ERIC LUSSIER

Vice President of Steel /
H&H Business System,
Steel Partners and
Handy & Harman

in LinkedIn

> Single best piece of advice—never automate things until after you have worked to improve them. Eliminate the waste first, simplify the process, standardize the process, and then and only then, look at automating. Otherwise, you run the risk of systematizing the waste in the process and sub-optimizing.

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GARY TULLY

As director of legal operations at Gilead Sciences, Gary Tully is responsible for legal-spend management, legal technology, and operations management. He has more than 25 years of experience in strategic-operations improvement, using a variety of techniques involving strategic planning, process improvement, and technology. Previously, Tully served as senior director of legal operations at Qualcomm Incorporated, where he established the Legal Operations organization. He holds a BS in Computer Science from California State University and an MBA from Pepperdine University. Tully is affiliated with many industry organizations, including the Association of Corporate Counsel Legal Operations, Corporate Legal Operations Consortium, and International Legal Technology Association.

LinkedIn

Efficient business processes are at the core of Gary Tully's role at Gilead Sciences, where he strives to ensure that the company spends its money wisely and the labor resources that go into processing invoices are allocated as effectively as possible. "Business processes are connected to two other critical areas that you need to pay attention to: the people aspect and the technology," he says. "Automating manual processes is one thing, but having automation in and of itself does not create an efficient business process. The people element and the process design are key, in my mind, before you look at a technology."

When considering the people aspect, it's wise to begin by identifying who owns the process. If no one has this responsibility, then no one is charged with making sure that it's running well. At times, you might have to work with management to identify who's accountable to that process. Then, as you go through a requirements-gathering phase, you might find that the stated requirements contradict one another. You might also encounter people who don't agree with you. "A lot of times in my work, I find that when I go and look at a process, I discover first of all that nobody owns the process, but everybody is using it and everybody has an opinion of how it can work better," Tully comments. »»

> "The people element and the design are key, in my mind, before you look at a technology."

The first step, then, is to define the process owner. Once this is done, Tully suggests engaging with that person and others involved in the process to gain a clear understanding of how the process currently operates. "I typically draw process maps," he explains, "and those become the basis for talking about how that process should work. Then the group has to decide on the best and most efficient process." Tully notes that the process owner has a key role to play, ultimately making the final call on how the process will operate going forward. "While I have a lot of expertise in the way legal functions operate, I don't claim to be the expert in any of them. I look for the process owner to be that expert," he says.

Having the process owner assume this leadership role is also helpful from a change-management perspective, Tully notes. "When we change to a new process, it's better to have buy-in from the business owner of that process, and from the people who will be using it." Since there can be many people connected to a business process, it's essential to have those people fully understand it. When automating a manual process, having people who are integral to the business functions involved from the very beginning improves automation decisions and smooths the transition to process automation. 》》》

"I typically draw process maps, and those become the basis for talking about how that process should work."

Business automation is a tremendously worthwhile endeavor, but it requires more hands-on work with people than you might immediately assume. Although technology is a central component of any business automation initiative, it will only be able to deliver maximum value to the business after you've engaged effectively with the people involved in a process and clarified how it should work. ■

KEY POINTS

1 Business automation is most effective when the people aspect and design are fully considered before technology changes.

2 Change management is also easier when the people involved in the process fully understand it from the beginning.

BAO DO

Business Architecture
Manager | Business Planning
& Outcomes,
Wells Fargo Advisors

in LinkedIn

> *Process automation has provided our business with a simplified but transformational user experience. This is reflected in both the external client and internal team member UX. Not only are things more clear and consistent, the controls lend to evidence of service and delivery. The added benefit internally is human capital management—the opportunity for team members to diversify with new skills or to more efficiently change up capacity models for a process.*

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SHERIF MITYAS

CIO & CSO,
TGI Fridays

Sherif Mityas, the chief strategy officer and chief information officer for TGI Fridays, is responsible for the brand's global strategy, and digital and technology efforts. Before joining the restaurant chain, Mityas was the managing partner at JS Consulting and the CEO of Hollywood Video/Movie Gallery. Mityas received a BS degree in Aerospace Engineering from Boston University, an MS in Mechanical Engineering from Rensselaer Polytechnic Institute, and an MBA from Northwestern's Kellogg School of Management.

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TGI Fridays is a global restaurant brand with many stakeholders: customers, employees, and franchisees. All of these and more are affected by business automation projects from the central organization. As the chief information officer (CIO) and chief strategy officer, Sherif Mityas must ensure that changes to operations and customer-experience processes involving automation always lift the brand's reputation.

Consistency is key. "From a consistency perspective, we want to provide our team members in our restaurants, our servers, our back of house, our hosts, hostesses, as well as our guests, as consistent and high a level of service as automation allows us to provide," says Mityas. Reducing costs and improving efficiency through automation is important, but perhaps not as crucial as maintaining or improving the customer experience. "We still need that human element," he says. "How do you marry automation with human engagement, which is critical to our brand?" 〉〉〉

> *We still need that human element. How do you marry the automation with human engagement, which is critical to our brand?*

TGI Fridays already uses automation for basic operations, including servicing customers and rolling out recipes to kitchens everywhere in the world. "But those are table stakes," comments Mityas. "To do something more, like social engagement, we could have an army of people monitoring Twitter and Facebook and Kik and Instagram, looking for anytime someone mentioned TGI Fridays, and being there to respond." That of course would not be practical. "There's no way we could get 100 millennials behind computer screens to be able to respond in real time, so we employ a chatbot, and we employ AI [artificial intelligence] on top of those chatbots so that they're not just standard, rote responses, but actually our chatbots learn. They learn both contextually when someone's speaking about Happy Hour versus your favorite drink versus do you have gluten-free menus, but they also learn the type of responses that a Twitter user expects versus a Facebook user, because there's different conversations that occur based on the platform that you're on," he says. All of this provides better customer engagement and enhances diners' connection with the brand. 》》》

"There's no reward for speed. Your organization has to learn and the technology has to learn, and when they get out of sync is where you get in trouble."

Longer-term automated and human interactions with customers will feed other processes. Mityas is careful to think about practical limits. One extreme example he has thought about is the ability for an AI system to take the personal order history and comments of a customer to create a customized recipe for that customer. While this sounds like an idea that would set TGI Fridays apart from the competition, Mityas says it would be an operational nightmare. To avoid potential damage to the brand, he initially prefers to test new automated processes at one test location only. If it is successful, it is then deployed to 10 to 20 stores before it is scaled up regionally and across the whole brand.

Protecting the brand is key for Mityas. "There's no reward for speed. Your organization has to learn and the technology has to learn, and when they get out of sync is where you get in trouble." Avoiding problems is important to maintaining the brand. Incremental and tested changes in business automation are helping TGI Fridays improve operations and brand perception. ■

KEY POINTS

1 Reducing costs and improving efficiency through automation is important, but perhaps not as important as maintaining or improving the customer experience.

2 AI-powered social engagement can provide better customer engagement that enables customers to have a deeper connection with the brand.

IMTIAZ MOHAMMADY

CEO,
Nisum Technologies, Inc.

in LinkedIn

🐦 Twitter

> *If a business is not automating and has no future plan to automate, it will find itself bogged down with the mundane day-to-day tasks that will eventually hinder its growth. As businesses grow, they need to delegate work to be automated in order to focus on their core offering and values instead of wasting human capital and resources.*

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KEVIN PRICE

Principal Infrastructure
Engineer, Information Security,
GE Appliances,
a Haier Company

Kevin Price is an information-technology professional with more than a decade of experience in software design, architecture, project and resource management, security, and software development. He is passionate about security through automation (DevSecOps), operational consistency, technology trends, best practice, and cloud enablement.

When GE Appliances first began its initiative to automate as many business processes as possible, it found it did not have the tools or team structures to automate at scale. "The biggest challenges we faced out of the gate when we started automating some of our processes were infrastructure related," says Kevin Price, the principal infrastructure engineer at GE Appliances. "We had a lot of options and tools, but when we tried to deploy those at scale, it created a lot of challenges for us."

Moving to a cloud native approach for application development solved many of the infrastructure issues by providing a scalable platform and automating time-consuming integration, testing, and deployment functions that are part of the development process. This has allowed IT teams to focus on delivering apps faster and working more closely with business units to understand and fulfill their operational needs. »»

The biggest challenges we faced out of the gate when we started automating some of our processes were infrastructure related.

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"We used to have a waterfall approach to application development. We would gather enhancements throughout a year, and it would take 12 months to deliver a project. As we've focused more on automation, we've shifted our project management methodology to be more agile," Price explains. "We have freed up IT resources to work closer with the business side in terms of gathering enhancements."

This has advantages for the IT organization and the business as a whole. "The relationship between our IT staff and the business has improved," he adds. "We're able to engage business resources to make sure we understand the requirements and execute on those faster. Having automated processes for management and deployment allows us to prioritize business enhancements versus focusing on infrastructure requirements."

Price says that one mistake IT organizations make as they work to deliver on an aggressive business process automation strategy is focusing too much on end requirements and not enough on deployment. "When you do that," he says, "you end up coming back to that same problem of potentially picking tools that don't align strategically across the business for what you're trying to accomplish." 〉〉〉

"All of your automation techniques come down to deploying new applications, so you need to have a business strategy for a consistent software development lifecycle."

His advice for people getting started with automating business processes is to begin by defining their software development life cycle. "All of your automation techniques come down to deploying new applications, so you need to have a business strategy for a consistent software development lifecycle," says Price. "You have to define a continuous integration and deployment strategy. Once you have a strategic direction around software development, then you can make better decisions around products that help align your automation strategy with your technical stack."

Price says new tools are continuously improving software development and delivery. For example, advanced analytical tools can collect and analyze vast quantities of application usage data and identify enhancements that would make the software easier or more efficient for the end users. Analytics can also help prioritize enhancements. Price provides an example. "We had a request from a business unit to fix something, and we were able to correlate that problem to data that showed it only impacted less than one percent of users. The tool helped us see that this potentially difficult fix had little impact on our customers and didn't need to be a top priority."

Perhaps even more importantly, new application life-cycle tools can help provide strategic direction for implementing future business automation. "We're gathering information about application deployment history, what's in those applications as they're deployed, and how they're used. We're starting to put that data into machine-learning algorithms to help us manage and plan future projects," concludes Price. ■

How can you benefit from Automation?

Want to improve productivity for both your development team and end-users? Fearful that the cost outweighs the benefits? Find out how automation is benefiting other organizations in a new **Forrester Research Total Economic ImpactTM (TEI)** report.

Read the full report

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