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THINKING ABOUT COGNITIVE

The Automation Journey Continues

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WELCOME TO AUTOMATION WORLD

Traditionally, when enterprises set out to improve efficiency, they embarked on a process of re-engineering. Today, that ship has sailed. Instead, when companies want to optimize their back-office operations or IT performance they head for "Automation World." Though there may be more unknowns than knowns, it's an exciting journey with more and more travelers every day.

Automation World

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For most, the journey begins with robotic process automation (RPA) – software robots that automate repeatable and rules-based tasks previously performed by humans. It makes sense to start here, where an organization can test and deploy technologies to automate mature business processes and analyze structured data. The barrier to entry for these emerging technologies is relatively low, the business cases are easy to prove and the return on investment can be extraordinary.

Once familiar with RPA, enterprises can travel a variety of paths, some less well traveled than others. Many have their eyes on recent advances in cognitive technologies – software that automates and analyzes heuristic processes that lack standard business rules or that consume unstructured data. The settlers of this new cognitive territory are busy putting stakes in the ground, making a wide variety of claims about cognitive capabilities and use cases.

The vehicles for arriving safely in cognitive are advanced and may require a new level of expertise, but the capabilities and benefits are great. To work, a cognitive initiative cannot require the same time, costs and resources that many legacy IT automation deployments have. Like RPA, the move must be quick and it must yield significant ROI.

To get to these newly settled parts of Automation World, users will need to navigate a sea of structured, semi-structured, unstructured and dark data. Moving to new, unsettled lands may require a knowledgeable guide. You don't want to end up isolated on an island, disconnected from the benefits of the new world.

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In many ways, the automation technology landscape is the Wild West. As many as 1,600 start-up companies claim to be setting up shop by offering artificial intelligence (AI), each one marketing a different set of solutions. What often is called AI today is really a combination of cognitive capabilities – deep learning, problem solving and other advanced-learning algorithms – that learn by recognizing patterns in data. True artificial intelligence that is free thinking like a human does not exist yet. It's no wonder the most common next step for an enterprise buyer is to do nothing.

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Still, the question for many companies is not should we travel to Automation World, but rather, once we do, where do we go from there? To be sure, the journey is not linear. Potential buyers face a confusing landscape with no map and few guides. What are the true capabilities out there and what is mere marketing hype? Where is money most prudently spent? How long will the journey toward efficiency and improved performance take? This ISG white paper explores how to prepare for the automation journey – how to set expectations and how to identify and overcome challenges.

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RPA Land was first settled by early adopters who began configuring robots to automate repetitive business processes. This automation is procedural – it automates the exact keystrokes a human worker follows to move data from one system to another or to complete a transaction. RPA works on rules-based processes, so it is a natural place for automation travelers to begin their journey. Because the numbers are easy to prove, many companies are eager to delve deeper into automation, extend the return on investment they are realizing with RPA and find places in IT or the back office where they can reap the next wave of operational efficiencies.

And for this, many are looking at cognitive technologies. While these solutions are still nascent, early case studies show that, in situations where RPA can automate 30 percent of the tasks associated with a specific business process, adding cognitive technologies on top of RPA can automate another 30 percent. For instance, let's look at a simple example of invoice processing. First, invoices are received digitally or on paper. An RPA bot checks to make sure each invoice matches the purchase and verifies receipt. During this step, if an invoice doesn't match the purchase, RPA kicks it to a human for exception processing. This is where cognitive technologies come in. The technology uses algorithms to "learn" the process by watching humans' interactions with the data and the resulting outcomes. Once the cognitive technology handles the invoice exception, it puts it back into the process for approval and disbursement.

The challenge for those interested in cognitive solutions like this one will be to set realistic expectations about the next wave of automation benefits. The experience with RPA – its low cost, its ease of implementation and its healthy ROI – has raised the hopes of technology buyers everywhere. Not only do existing cognitive solutions cost more than RPA, they do not yield equivalent ROI, and they do not handle their assigned tasks with the same ease. Still, investigating the gains to be had in implementing cognitive solutions is well worth the effort.

Interested buyers will have greater success if they address the following challenges from the outset:

Answering the Data Question

Many companies know that if they could better manage their data – know what data they have and where it is – they could leverage that data to gain valuable insights about product development and customer preference, insights that could help transform their business and generate new revenue. But much of the data that companies collect – data from voice interaction, user navigation, payment history, user behavior and online forms – are neither connected nor correlated. These "dark data" – data that is acquired and collected through various sources but untapped for deriving insights for decision-making – are a curse for even the most tech-savvy companies.

Before investing in cognitive solutions that consume exactly these kinds of unstructured data feeds, a company must assess its environment and develop a data strategy that does three things:

- Identifies relevant data for the cognitive solutions

- Prepares the data so it can interconnect with the cognitive solution

- Establishes the appropriate governance for continuously providing data to cognitive solutions.

No question about it, data is the biggest challenge to address when it comes to making the most of a cognitive technology implementation. However, too many companies get caught in the do-nothing trap or suffer from "paralysis by over-analysis." A data strategy is an essential part of preparing an organization for the automation journey.

Calculating the ROI

The collective desire in the market are that cognitive solutions will ride the RPA wave – that the ROI will be just as high and simple to calculate and that it will be easily delivered in a similarly aggressive timeframe. Many organizations on the automation journey assume the business case for cognitive technologies is the same as the business case for RPA. But, while there are likely substantial savings and operational benefits, successfully implementing cognitive solutions is a bit more complicated.

Calculating ROI should be straightforward – (benefit – cost) / cost – but achieving the ROI with cognitive technologies requires setting expectations with stakeholders early on and then resetting them throughout the development of the business cases as needed. Cognitive technology buyers should begin by answering the following questions:

1. What are the assumptions in the model?

2. Is there agreement among stakeholders on those assumptions?

3. What is the solution solving?

4. What are the timelines?

5. Are we optimally leveraging RPA?

6. What other technologies are needed?

7. How will the solution be maintained?

Setting the right expectations with the solutions team and the business unit that will be using the solution will enable a buyer to both calculate a realistic ROI and adequately communicate the goals.

Conducting Due Diligence

Today, RPA software purchases sit squarely with the business, sponsored by global business services and shared services leaders or by business users in Finance and Accounting or HR. Cognitive technologies will need to follow a similar path and operate as software platforms or software-as-a-service. Because the technologies are a bit more complex, implementing and maintaining them likely will be a more technical undertaking, with significant involvement from IT.

The trick will be to make sure these solutions remain business-driven. During due diligence, dive into the details. Interested buyers may find it tricky to distinguish solution providers' marketing language from the reality of implementation, delivery and ongoing support. Buyers should pay particular attention to the following:

- **Technology**: How is it architected? Does it scale? What are the security implications? How is it delivered and supported? How does it really learn?

- **Readiness:** Is my organization ready to take the next step in the automation journey? Is there a viable strategy for change management? How mature is my automation center of excellence?

- **Vendor viability:** How long has the vendor been around? How many employees does it have? What are its annual sales? How secure is the vendor for the long term?

- **Implementation:** What is the process for implementing the solution? What will it take to be successful? Does the vendor have a proven and referenceable track record?

- **Skills:** What types of skills are needed from the vendor to implement and support the solution? What types of skills does the customer need to have in house?

- **Services:** What type of services does the vendor offer? Does it partner to fill the gap? What's required by the client in terms of resources and time?

- **Applicability**: Where is a project happening with similar instances or similar use cases? Ask for references and check them out!

- **Price:** How much does it cost? What hidden costs are involved? What is the total cost of ownership? What is the ROI? What does a cognitive solution do to the company's reputation? Do the costs make the investment worthwhile?

- **Compliance:** How can we audit the solution? Can we leverage it in regulated environments? How does the solution report its actions? What controls are built into the solution?

Be wary of solution providers that promise their cognitive solution will solve all your problems or that you will see an ROI within three months. And don't allow a solution provider to conduct a science project in your environment or on your tab. Look for solutions that have

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been implemented elsewhere, that have proven benefits in similar scenarios and that can go into production within the implementation timeframe the provider lays out. Ask potential providers for solutions that require a light technical touch. Consider any potential solution provider as a strategic partner rather than a vendor.

Understanding the Capabilities

As with any emerging technology, questions about capabilities often go unanswered. And where there is confusion about capabilities, confusion about how to best use them is sure to follow. In fact, cognitive solutions may have the most potential today in the places where RPA technologies fall short. For example, traditional RPA performs well following rules-based work steps reconciling accounts in the F&A business unit. However, when RPA encounters a situation it was not configured to address, it considers it an exception and escalates it to a human for resolution. A situation like this – one that requires reasoning or research to determine the steps needed for a particular exception – is an ideal setting for a cognitive solution. The cognitive solution can "learn" responses based on "tribal knowledge" catalogued in historical data so the next time this same exception occurs, the answer is automated and does not require human intervention.

Extending current automation initiatives to reap the benefits of cognitive technologies changes a purely back-office process efficiency play into a true digital-labor initiative – one that can lead to business growth or even new revenue streams. For those hoping to advance along the automation curve, consider cognitive even as you are establishing a foothold with RPA. Building a solid center of excellence to manage the data strategy and using teams that have implemented and interacted with RPA bots will allow you to leapfrog companies that are automating one process at a time or implementing one new capability at a time.

Cognitive solutions can vary in their approach to processing and understanding data, which impacts how they automate tasks and makes recommendations. Some cognitive solutions providers offer the capability to ask questions of the data to drive optimal behavior based on various algorithms. Some work the other way around by offering suggestions and asking questions of the user. It's important to understand the differences and capabilities of the cognitive solution so it can be applied to the right process.

A solution based on a suggest-and-learn approach, for example, may be better suited to learn from processes that experience frequent human interventions. What if the cognitive system asked questions users didn't even know they should be asked? Wouldn't this be a true test of cognitive reasoning and understanding of data? Regardless of the cognitive approach, the solution needs to have a mechanism that allows it to continually learn through human interaction and autonomous capabilities. This will better ensure its long-term viability for an organization.

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In short, a buyer interested in cognitive technologies should fully understand the capabilities of the technology and ensure it can solve specific business problems without endless customization or future features. Beware of vaporware.

Optimizing Implementation

The ongoing debate about when to implement RPA also is happening in regard to cognitive technologies – and the answer is the same for both. Implementing cognitive technologies in environments with processes in their "as is" state is not only faster and cheaper but also allows users to gather data about how the process works so they can better understand how to improve it. Because a business user observes and knows the performance of a current process, that person can help configure the automation without unknowns creeping in and causing delays. Known processes have proven keystrokes, known system interactions and known outcomes. This is not to say there isn't a time to re-engineer a process, but it makes the most sense to grab the ROI from the new solution as soon as possible and rethink how the process can be improved afterward.

No matter which processes a business may consider automating, a cognitive solution will leverage data from different systems. Assessing your security needs before deciding on a solution will help determine whether it needs to be an on-premises solution or a capability offered as software-as-a-service. Thinking through these requirements will help narrow the field of solution vendors.

Managing Organizational Change

No matter which route an enterprise may choose to get to Automation World, it must face the fact that the organization will change. The labor force will change. The way work gets done will change. These changes are already happening in most enterprises today. With RPA, the changes come much more quickly than traditional IT solution deployments. The pace of change introduces a new set of questions. What will be the impact of cognitive solution implementation? How far does automation need to reach into an organization? What types of employees does a company need to work with a mostly digital labor force? What internal and external message should accompany an investment in automation?

Change management should be at the core of an automation strategy. Consider your new cognitive capability as you would any other new capability that would leverage an automated digital labor force. Avoid shadow IT by bringing the new solution fully into the IT environment. Consider whether it will be a core competency of the organization that requires existing resources, in-house PhDs and data scientists, or whether contracting with a partner will deliver the results you need.

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Preparing staff who will be directly or indirectly impacted by the new solutions can take several forms. First, openly recognize the novelty of the technologies and set organizational expectations. Second, communicate clearly the complexity of implementing cognitive solutions and build appropriate accommodations into the plan. Third, bring the organizational change implications to the fore. Using cognitive solutions to extend the automation journey beyond RPA – which necessitates expedited change management to match its rapid deployment – will require a longer-term change management plan that provides a pathway for commensurate personnel and operational change.

OVERCOMING THE CHALLENGES

If you are like many enterprises on their way to digital transformation, you may have already landed in RPA territory and are looking for your next stop along the way to optimized operations. Some destinations promise a thrilling adventure, but the flight can be expensive. It's difficult to know where to go and how much to pay. In many ways, it's easier to stay where you are, wait until someone else travels to the new territory and lets you know whether the trip was worth the money.

But cognitive technologies are not to be feared. Instead, imagine how they might free your organization from time-consuming or otherwise "painful" tasks associated with data collection, exception processing, IT monitoring and analysis. Identify specific problems you need to solve and educate yourself about which solutions and providers are best suited to solve them. First steps should include assessing your environment for cognitive opportunities and then evaluating technologies from the best-in-class solution providers that solve those specific business challenges.

Think of Automation World as a hub into which you arrive and from which you depart for the next journey – all the while learning from your previous travels. Those who move first will have an advantage to shape the landscape itself, laying the groundwork for future use cases. As the journey unfolds, they will find places that have been only tentatively named on the map, and they may even run across yet undiscovered lands.

Indeed, it's an exciting time, but the decisions companies make today may impact their ability to take full advantage of the opportunities in Automation World. Technologists, advisors and service providers are working every day on solutions and services that have the potential to revolutionize your business. Waiting for others to go ahead of you may be a safer route to take, but it may cost you competitive advantage. Bold travelers will charge ahead!

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