Possibilities Unlimited

SSON's "How To" Guide to:
Process Discovery

Accelerating &
Amplifying your
Digital Strategy with
Process Discovery

assist**edge** | Discover

Introduction: visualizing opportunities

Automation, or RPA, is driving significant opportunities for digitization across processes and the enterprise. One of the challenges and a common stumbling block, however, is identifying the ideal process candidate. Another problem is that enterprises find it difficult to take the next step to deploy automation enterprise-wide and scale. Even where automation is deployed across a half-dozen use cases, plenty of opportunity is being left on the table.

Process Discovery makes identification easier by visually depicting manual effort or inefficiency hotspots in a given workflow, and highlighting opportunities to drive improvements.

Part of the problem is the inability to evangelize automation convincingly. Many businesses still don't have the depth of knowledge around automation that's required to convince all the relevant stakeholders of its value. These enterprises need credible scenarios and use cases to persuade decision makers. With many of today's managers still stuck in the "old school" of IT, however, there's a tremendous need to educate.

One of the difficulties is that these managers have biases when it comes to workflow and see their processes through the lens of their own pain points, instead of as part of a holistic strategy. The shift towards digitization requires transparency across the entire process landscape. That transparency has been missing until now.

Today, Process Discovery is delivering just that transparency, emerging as a critical competency in identifying processes that represent a good fit for automation, and thus playing a key role in enterprise transformation and operational excellence.

In combination with automation, big data, and data analytics, Process Discovery is playing an increasingly important role in driving agility across modern enterprises.

This report, produced in association with EdgeVerve, introduces Process Discovery as a means of identifying where to improve the efficiency of your processes; how to discover these opportunities; and why Process Discovery is so essential to service optimization.

Barbara Hodge

Global Editor
Shared Services and Outsourcing Network
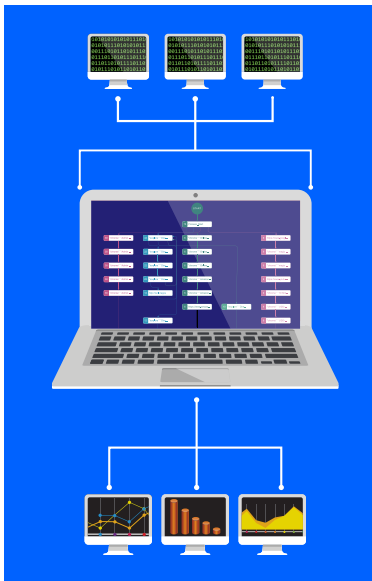
What is process discovery?

Process Discovery is a process management technique more and more enterprises are turning to as a means of achieving operational excellence. It establishes how effective the current process status quo is in terms of achieving the desired results or outputs by checking how far "as is" processes have diverged from their original definitions.

Process Discovery is an investigative process that combines the best of Business Process Management and Data Mining. It identifies, monitors and improves real-not assumed-processes by analyzing data captured from user key strokes in enterprise systems.

It is reinterpreted for today via technology software that analyzes business processes based on key strokes via specialized neural network algorithms. The resulting insights identify patterns and drive improved efficiencies by highlighting where automation can be applied effectively.

The underlying objective is to better understand existing business processes and identify where Digital Transformation can drive improvements. The transparency feeds into tactical as well as strategic plans to remove manual or inefficient activities from the process.

01 Process Discovery leverages user key strokes and sophisticated neural network algorithms to capture task level data

02 The data and information captured is represented with the help of an insightful business map

03 Using business maps, insights and recommendations from Process Discovery, automation and process improvement opportunities are identified

Process discovery

Gathers process information across activities and users non-intrusively

Provides detailed process analysis to build an Intelligent automation business case

Process discovery fuels digital transformation

Most enterprises, it transpires, are lagging in up-to-date process documentation and knowledge, and don't have appropriate transparency around exceptions and variations. This presents formidable challenges in deciding which process is suitable for automation, or indeed how they should be prioritized. Consultants and process specialists, whether third-party or internal, traditionally relied on interviews with Subject Matter Experts to come up with recommendations. Today, business process conformance is being driven by state-of-the-art performance analysis.

With millions of digital activities being processed every day, process inefficiencies contribute significantly to costs, delays, and loss of business opportunities - and revenue. Process Discovery drives full transparency on actual processes as a basis for operational performance improvement.

Dr. Lars Reinkemeyer, Global Process Discovery Lead at Siemens,

tells the Process Excellence Network* that in order-to-cash, Process Discovery has enabled the visualization of roughly 60 different process steps with more than 300 million individual activities. The analysis offers a comprehensive view on how activities are currently handled, highlighting optimal candidates for digitization. At Siemens this project alone has resulted in a reduction of more than 10 million manual activities in the last fiscal year.

While the advantages and benefits are clear, the market at large is still in the early stages of implementation and adoption. According to a recent survey of the Process Excellence Network's global members, just over a third of respondents were already making use of Process Discovery. However, an additional 30% plan to integrate Process Discovery within the next 6-18 months. A significant jump in a very short time.

This keen interest in Process Discovery stems not just from automation but also from process improvement targets. More and more operational leaders want to understand where the opportunities lie and how to deliver more agility. This pressure stems from the need to deliver an increasingly more personal experience to customers and react quickly to changing demands.

"Whether it's a vendor, a supplier, or a product inquiry - the reality is that businesses need to respond immediately, even real time, to stay ahead," says Parijat Sahai, Director, AI and Automation Solutions, at EdgeVerve. **"If the underlying, enabling processes have not kept pace with the digital changes at the front end, there will be a mismatch. And that quickly translates into loss of competitive edge."**

* Process Mining and Digital Transformation in Operational Excellence

Enterprise challenges in the automation journey

AssistEdge Discover enforces strict access control on the all the users that interact with the product. The access is strictly role based and each role is provided access only to the extent of requirement. Discover has four key roles and one additional responsibility

Challenges	Consultants Traditional Approach
Lack of Process documentation and Knowledge	SME availability - delayed projects
No clarity and empirical data on Business case	Quality of data (No. Of workflows, AHT)
Lack of knowledge on variations and exceptions in the real life processes	Time consuming process
	Manual documentation

Process Discovery is important because the opportunity cost of wrong process selection is enormous. In the Shared Services and Outsourcing Network's (SSON) 2019 industry survey, "wrong process selection" emerged as the leading cause of RPA performance failure.

Automated Process Mapping is a key tool to reduce this gap in performance. It is particularly useful in comparing how different businesses or regions manage the same process, and also easily and quickly identifies where a bot is running a process and where this is done by a human, highlighting inconsistencies.

Process Discovery supports detailed process analysis via:

	Conducting workshops with process owners and SMEs to develop initial understanding
	Creating high level process flow of key activities
	Identifying automatable activities
	Computing key Business Case metrics such as ROI and payback period

According to experts, up to 50% of RPA projects currently fail or stall. challenges include:

- Identifying the right process for automation

- Automating the process based on SME knowledge and manual documentation only

- Low quality of data capture - process fragmentation and inconsistencies

- Bots do not capture the complexity of processes

- Understanding exceptions happens at a later stage - a key reason why automation fails

Many current challenges can be addressed through the automation of Process Mapping.

Why do we need to automate process mapping?

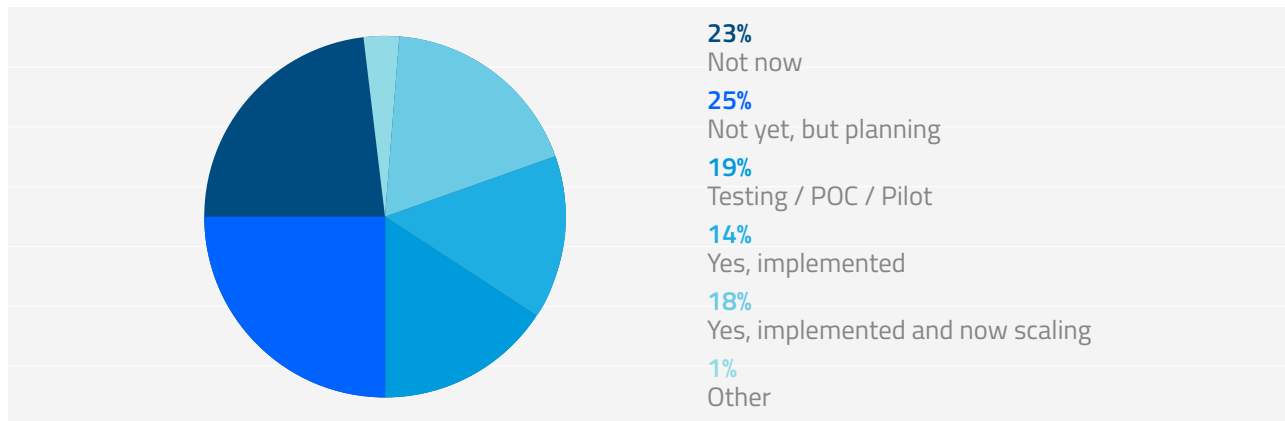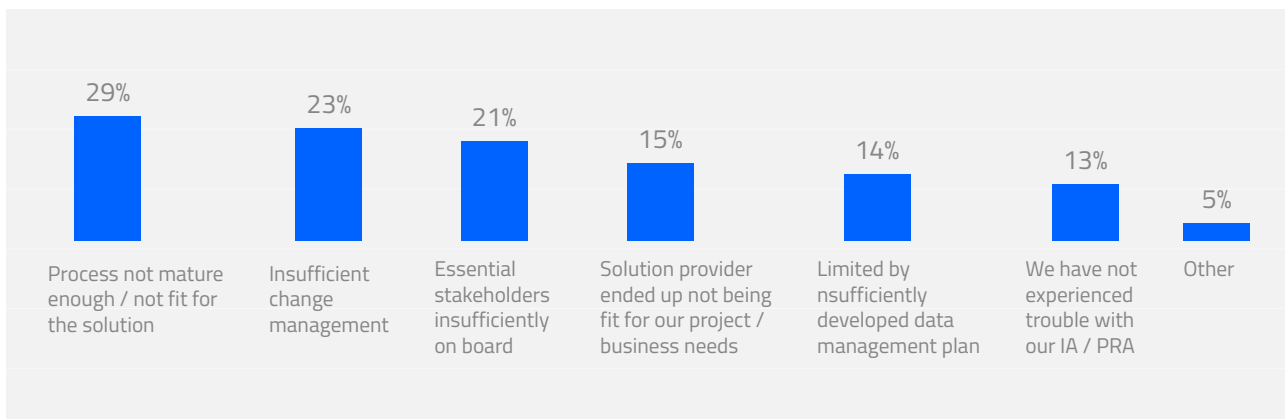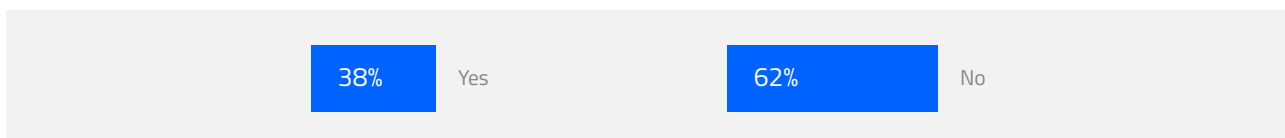| Advantages |
| --- |
| An alternative to current manual, time consuming approach, not always reliable |
| Process Discovery tool can be deployed across all user workstations at once and collate data irrespective of variations in SLAs or process steps |
| Results are accurate as the input is taken from actual data across users |
| Captures process gaps and scope of optimization |

Data insights on IA implementations and process mining

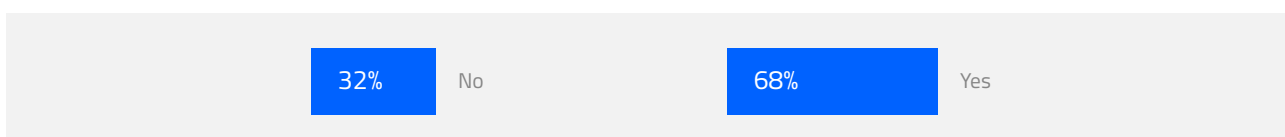## Is Intelligent Automation (e.g. RPA) part of your operations?

23%
Not now

25%
Not yet, but planning

19%
Testing / POC / Pilot

14%
Yes, implemented

18%
Yes, implemented and now scaling

1%
Other

Where your IA/RPA project has run into trouble, what do you attribute this to? (up to 3 options chosen)

29%	23%	21%	15%	14%	13%	5%
Process not mature enough / not fit for the solution	Insufficient change management	Essential stakeholders insufficiently on board	Solution provider ended up not being fit for our project / business needs	Limited by nsufficiently developed data management plan	We have not experienced trouble with our IA / PRA	Other

Do you use Process Mining?

38%	Yes	62%	No

Are you going to be using Process Mining in the next 18-6 months?

32%	No	68%	Yes

Which of the following areas are your biggest anticipated investment priorities or interest?

Area	%
Intelligent Automation	38%
Workflow Automation	36%
Analytics	36%
Process Mining/Mapping	34%
Culture	34%
Lean	34%
Change Management	32%
Leadership	32%
Business Intelligence	31%
Agile	30%
BPM	21%
CX Solutions	15%
Enterprise Architecture	14%
IT Solutions	13%
Other	7%
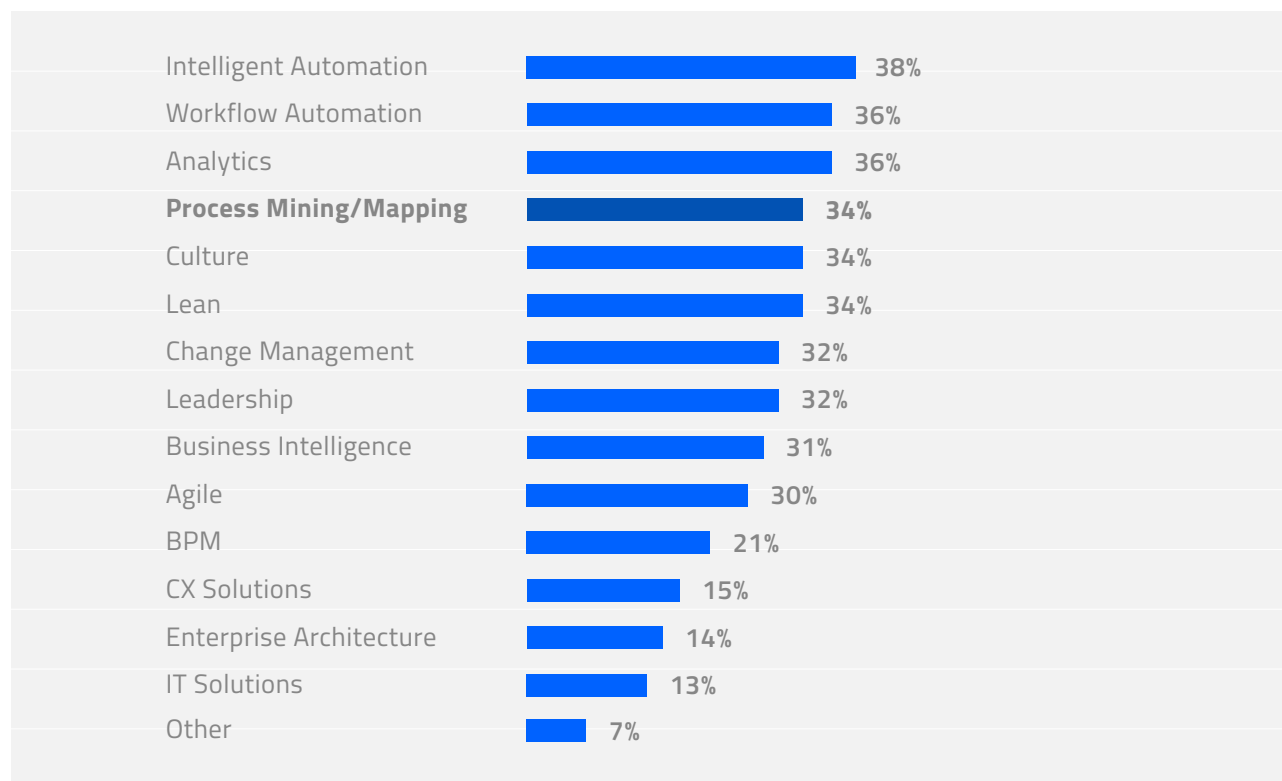
Acceleration and amplification

Process Discovery drills down to a high level of data granularity. Data at this level is extremely powerful, and hitherto untapped. "Most organizations have never had access to this level of data before," explains Sateesh Seetharamiah, Vice President and Global Product Head at EdgeVerve. "That's why it's such a game changer."

The opportunity today is to drive ROI by accelerating operations but also by amplifying the value of the process. "In fact, value can be amplified exponentially," Sateesh says. "This technology gives us the bits and bytes of every process which, in combination with Machine Learning and Data Mining, can be powerful in driving Digital Transformation."

Cognitive capabilities present one of the most radical tools for accelerating digital transformation and have the potential to redesign operating models entirely, and thereby rewire processes. That means, first, gaining a much deeper understanding over processes than enterprises currently have.

> "Value can be amplified exponentially. Process Discovery gives us the bits and bytes of every process which, in combination with Machine Learning and Data Mining, can be powerful in driving Digital Transformation."

The big opportunities today lie in accelerating and amplifying. Acceleration requires taking out manual steps or inefficiencies, explains Sateesh. At the same time, cognitive capabilities influence customer journeys, accelerating the time to value.

For successful Digital Transformation, enterprises need to be more agile in responding to the changing needs or demands of the market and its customers. Processes are the foundation on which enterprise capabilities are built. "Process Discovery," explains Sateesh, "is the key."

Process discovery made easy through automated solutions

Automation market leaders have been proactive in establishing partnerships with process mining developers and have been investing in Process Discovery tools through partnerships or by developing solutions in-house. There are a now a handful of providers who are making Process Discovery a competitive differentiator, embedded in automation offerings.

Today's automated solutions mine user data via embedded tracking software, capture it, and record the process. The activity data from agents' machines is then analyzed through advanced neural networks and AI algorithms, and the process assessment output is generated in the form of process maps and metrics.

Process Discovery generally follows three stages:

Data capture:
There are different means of capturing process data, but state-of-the-art solutions capture it directly via software installed on the operation agent's or employee's machines. This software captures all activities associated with business process management by leveraging user key strokes to construct a process model based on real events.

Process mining:
The data is passed through neural network based data algorithms, which can leverage artificial intelligence capability. It compares an existing model with the key strokes data to identify/analyze discrepancies between the data and the model, highlighting deviations from the SOP. The purpose is not to check conformance, but to improve performance of the existing model.

Process mapping:
The previous step results in a process map highlighting patterns and trends. This map and the associated analytics reflect the execution of the process real-time and specifically point out exceptions and variances. The combination of consulting methodology and advanced neural networks results in a map highlighting opportunities for improvement via automation.

Pressure to optimize drives adoption of process discovery

Many enterprises are undergoing rapid change as a result of digitization. However, the business pace of change is not easily reflected in legacy business processes. As the enterprise grows, business processes supporting it grow, too, but become slower and more bureaucratic. Change becomes a challenge, explains Shrikant Deo, Associate Director at EdgeVerve, who leads the AssistEdge suite of Process Discovery solutions.

"While the current market environment requires agility and quick reactions, business processes are slowing down the enterprise's ability to react appropriately," he explains.

"One of the reasons that business processes are lagging is that there is too little knowledge, internally, of how the process actually works," Shrikant says. "With multiple people involved in a given process, the process itself constantly evolving, and documentation frequently outdated, the little that is known generally does not reflect reality."

In the past, interviewing SMEs for their insights as to where to focus improvement efforts was time-consuming and tedious, he adds. "Today you can extract the real data from operations very quickly, through embedded tracking software.

Process Discovery tools are gaining traction as RPA has proved itself an attractive solution to productivity challenges, by significantly improving the success rate of automation and helping prioritize tasks. With enterprises constantly under pressure to do more with less, process discovery is the right tool at the right time.

One of its advantages is that "it identifies weaknesses, inefficiencies, and gaps that are not generally visible to the human eye, because they are difficult to analyze with the tools at our disposal," as Sadettin Sezer, responsible for Process Management - Accounting & Controlling, and RPA, at Daimler AG, explains. "This kind of analysis offers a brand-new opportunity to analyze precisely this data and identify areas for improvement."

A similar thought is echoed by Stephen Carpenter, Executive Director, GBS Digital, at Merck & Co., who has been using this approach to optimize automation. Shared Services' performance depends on combining the right technologies with the right process and the right people, and process standardization plays a big role here, he explains. The ability to analyze processes, along with the visual depictions presented by state-of-the-art solutions, makes it easy to identify problem areas.

In fact, this kind of detailed process evaluation represents the first step to successful automation for executives like Stephen. "If you take the information that is in your system and put a process point-of-view on top of it, the common paths as well as variations immediately pop out," Stephen explains. "Ultimately,"he adds, "these findings are about making processes smarter and faster."

This is particularly important when different entities or countries don't have consistent processes, a number of different tools might be deployed globally to do the same thing, or there may be multiple purchases of the same tool. At companies like Merck the objective is to move from a legacy human workforce to a smart digital workforce model. Optimizing automation via Process Discovery is a key strategy in achieving this objective, says Stephen. "We want to move from reports to exceptions-based reporting, along with suggestions on how to improve the process. To do that, you just have to take a process view, as opposed to a task view."

> "We want to move from reports to exceptions-based reporting, along with suggestions on how to improve the process. To do that, you just have to take a process view, as opposed to a task view."

Some of Merck's successes as a result of this approach include more robust process leadership and improved end-to-end alignment and harmonization. "What we're aiming for is agile automation," explains Stephen. "Workflow has proved invaluable but process redesign based on Subject Matter Experts alone is just not enough. Real improvement must be driven from a process lens. To do that, we need to understand the process first. That is where Process Discovery and Process Mining come in. We took the top four variants that emerged through visual Process evaluation and built automation around them," he says. "So, today, we are standardizing to the automation - not separate from it."

Start with pain points

Process Discovery is not in itself a transformation driver. It works by identifying the data buried deep inside processing activities, offering valuable analysis on how well the process is tracking to its original definition, or objective. The value lies in driving action from the information you get.

The choice of where to start depends on each enterprise's process landscape. At Daimler, the Shared Services team decided to focus on where the organization was struggling to
improve itself within traditional process improvement activities. "Certain processes were always easy to manage and others presented a challenge," says Sadettin. "So, we focused our efforts on the latter."

Results to date bear this strategy out. With the newfound insights, the team have been able to improve processes in a way that was not possible in the past.

At Carl Zeiss, Wolfgang Weckenmann, Director of Policies and Guidelines says that the choice of where to start is also determined by operational goals. "We were looking for a solution to help improve processes, especially across accounts payable and accounts receivable, and selected Process Discovery to identify gaps in how we handle invoices," he explains. Within accounts payable the focus was on processing quality and among the many KPIs that were listed, there were four in particular, including on-time payment, and PO associated with invoices, that were key for performance improvement. "That helped determine our initial focus area."

The wins in Process Discovery result from additional information coming to light, leading to a process being adjusted. For example, where loopholes emerge that result in certain steps being bypassed, Process Discovery highlights these. However, while Process Discovery covers the end-to-end process, it does not extend downstream or upstream, so it's important management gains transparency over the bigger picture to drive additional improvements.

"Certain processes were always easy to manage and others presented a challenge. So, we focused our efforts on the latter."

How to succeed with process discovery

As with any program that incorporates process change, sponsorship at a senior level is critical. An executive tasked with process transformation, even if the objective is as persuasive as agility or cost, will come up against hurdles in the shape of those attached to the status quo.

"Executive mandate is a must," explains Parijat Sahai. "You need people to commit time and to prioritize briefings. Without an executive mandate, these meetings simply won't happen," he adds. In addition, clearly communicating reasons for the initiative, and the connection between planned changes and improved decision-making, will be important in getting people onside.

One of the challenges in Process Discovery is that it's more difficult to drive a convincing business case upfront, in contrast, for example, to RPA. Presenting a business case for a tool that provides insight and analysis on underlying data is slightly less convincing than an automated solution to an inefficient process. Process Discovery solutions should, therefore, be integrated into a strategic investment in support of optimized services rather than be pitched on the basis of individual business cases.

Tips on Implementing Process Discovery

Start small and then scale up, to gain early experience	If you have a Continuous Improvement teams, leverage them	Consulting partners are valuable for best practices and experience

A potential pitfall is going big, and taking on too much scope from the start. These solutions can offer such a breadth of opportunity, that it's tempting to want to analyze everything, and teams can quickly find themselves overwhelmed with too much information. Optimal starting points are smaller processes that are not stable enough for humans to adhere to the correct guidelines.

Success comes more easily where the enterprise is well-versed in process improvement type initiatives. "If the concepts of bottlenecks and process breaks are already familiar," says Parijat, "the opportunities of Process Discovery will be quickly integrated, too."

A successful Process Discovery team will require technical skills alongside data interpretation skills. The best implementation teams combine business consultants with subject matter experts and process owners to ensure process familiarity, experience and influence are all leveraged. Data science skills are particularly important, as the raw data is not always intuitive.

Finally, building up experience is important for customers who want to retain vendor independence. Many solution providers provide initial training in installing the tracking software, running it to mine data, and analyzing the resulting process maps. While the technology is important, the ability to interpret the data coming out of it is critical. Customers thus trained on the first half-dozen or so processes, are generally well enough equipped to take on additional process assessments themselves. By the same token, vendor choice is critical to success. Choose a vendor that offers end-to-end capabilities - from Process Discovery, to helping put the findings into action, as well as, critically, the capability to Implement automations.

Summary

While RPA is making inroads within enterprises, there is still a long pipeline of opportunity slowing down implementations. The main reason for this, says Robin George, Global Head of Products and Platforms at EdgeVerve, is lack of clarity over which processes would benefit most and, therefore, should be prioritized. "Even organizations leveraging a Center of Expertise for RPA are struggling to get through their pipeline," he says, "so anything that helps to speed up the process is a big win."

In addition, many business cases are based on old-fashioned techniques around standard operating procedures that are out of sync, or lengthy time and motion studies. This means that individual process variances are often overlooked. "This also plays in favor of automating process analysis, to assess the as is correctly," Robin adds.

One of the most persuasive drivers for Process Discovery, however, is the fact that the requirements stage of RPA is simply taking too long. While in traditional IT projects, the requirement stage is quick, but the build and test lengthy - this is reversed in RPA.

"The automation part can be done relatively fast, but it's agreeing on all the various requirements up front that is just taking too long," Robin says. "So the evaluation stage is slowing down deployments for something that could otherwise be executed in a few months. Process discovery removes this hurdle, by highlighting requirements immediately."

Perhaps more significantly, there seems to be a tendency for organizations to have simply "lost track" of their processes, as Robin says. Process Discovery, therefore, becomes an opportunity to draw a line in the sand.

"Some customers use process maps to assess processes that they have outsourced to third parties; others need them as a benchmark to measure compliance requirements," Robin says. "Still others are seeking improved transparency over their utilization of different software."

As part of an overall reassessment, therefore, Process Discovery is proving a reliable and valuable tool.

Additional insights provided by

Sateesh Seetharamiah

Vice President and
Global Product Head at EdgeVerve

Robin George

AVP, Client Services,
EdgeVerve

Shrikant Deo

Associate Director and Lead -
Product Management, EdgeVerve

Parijat Sahai

Director, Solutions
Consulting, EdgeVerve

Possibilities Unlimited

Inspiring enterprises with the power of digital platforms

AssistEdge Discover

AssistEdge Discover unlocks the hidden business value trapped in processes. It is a powerful foundation for enterprises seeking cutting-edge technology to drive intelligent automation and process excellence. From non-intrusively capturing human-machine interactions to leveraging AI to creating actionable process insights, AssistEdge Discover sets you on the right path to embrace continuous improvement with a relentless focus on creating a hyper-productive enterprise.
EdgeVerve. Possibilities Unlimited.
https://www.edgeverve.com/assistedge/assistedge-discover/

About AssistEdge

AssistEdge, the cohesive automation platform brings to life your vision of building a connected enterprise - connecting people, processes, and data. It offers enterprises a comprehensive suite of products enabling them to drive process discovery, intelligent automation, and digital workforce orchestration enterprise-wide. Consistently rated as a leader, AssistEdge supports over 100 global customers in their automation journey powering some of the largest global automation implementations.
EdgeVerve. Possibilities Unlimited.
www.edgeverve.com/assistedge/

About EdgeVerve

EdgeVerve Systems Limited, a wholly-owned subsidiary of Infosys, is a global leader in developing digital platforms, assisting clients to unlock unlimited possibilities in their digital transformation journey. Our purpose is to inspire enterprises with the power of digital platforms, thereby enabling our clients to innovate on business models, drive game-changing efficiency and amplify human potential. Our platforms portfolio across Automation (AssistEdge), Document AI (XtractEdge), and Supply Chain (TradeEdge) helps inspire global enterprises to discover & automate processes, digitize & structure unstructured data and unlock the power of the network by integrating value chain partners. EdgeVerve, with a deep-rooted entrepreneurial culture, our innovations are helping global corporations across financial services, insurance, retail, consumer & packaged goods, life sciences, manufacturing telecom and utilities, and more.
EdgeVerve. Possibilities Unlimited.
www.edgeverve.com