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THINKING OUTSIDE THE BOTS

Why True Intelligent
Automation Needs More
Than Just RPA

An Avenir Digital White Paper



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About the Authors



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Introduction & Objectives

This whitepaper is intended to map out the complete suite of integrated digital technologies required for successful Digital Transformation using Intelligent Automation.

It will do this using the accumulated best-practice experience of Avenir Digital, derived from years of implementing these technologies in enterprise environments.

To describe Intelligent Automation and its place in delivering Digital Transformation, a travel metaphor is helpful:

- **The Destination** – the Digital Enterprise – a more efficient, agile, competitive and compliant organization that's also less prone to error.
- **The Journey** – Digital Transformation – delivering more efficient processes, reducing costs and human error, enhancing existing products and services, and creating new products and services.
- **The Vehicle** – Intelligent Automation – the integrated, harmonious and holistic use of complementary digital technologies.
- **The Engine** – Robotic Process Automation – but like all engines, RPA needs an integrated infrastructure (the equivalent of a transmission, dashboard and fuel system) to bring its power into useful operation to drive the vehicle to its destination. The most powerful engine is useless without these things.

In the same way, courtesy of our many enterprise implementations, it's clear to us that by itself, RPA is not enough to meet the demands placed on businesses operating in a digital world.

Customers demand 24/7 interaction with businesses across digital channels, via a seamless, efficient and simple process that supports them across all channels and devices.

Employee experiences, and resultant satisfaction and retention, have also become a post-Covid priority, as skilled knowledge workers have become a sought-after resource.

Resilient organizations need to be agile in order to survive and thrive, and therefore must rapidly identify and automate core business processes and key customer and employee journeys. This in turn involves end - to - end automation spanning and linking existing processes and functions.

RPA has an important role to play in this, but only once other digital technologies have optimized its potential effectiveness

Let's take a look at those technologies and their roles in true Intelligent Automation.



Process Mining

Process Mining, also called task mining or task intelligence, refers to techniques and tools that collect and analyze user interaction data while executing user-driven tasks.

In the context of Intelligent Automation, Process Mining accurately identifies those business processes most suited for RPA, using a data-driven approach based on integrating with back-end systems,

- **Process Mining collects and cleans data**, capturing user activities as UI logs, including events that are executed for one or more tasks by a user in a given time. UI log data specifies these activities based on the event type, timestamp, origin and other information, such as the labels for buttons.

Once the data is collected, Process Mining tools identify and filter events that are irrelevant to any action and thus should not be automated.

- **Process Mining detects the tasks best suited to RPA**, discovering repetitive sequences of actions executed by users to complete tasks. Once the routines are discovered, Process Mining identifies the ones that can be automated by evaluating the execution frequency and length of the routines.
- **Process Mining facilitates RPA**, having detected the candidate routines for automation, it analyzes the activation conditions of these routines, looking for specifications and time that triggers the routine and performance of the routine, mapping the actions based on these specifications and then generating an executable RPA script.

- **Process Mining's role in Intelligent Automation**

Pairing RPA with Process Automation ensures the best outcome for automation, providing the necessary context to ensure RPA deployment is successful.

Process Mining provides a 360° view of processes to standardize and accelerate enterprise automation using technologies such as machine learning (ML) and artificial intelligence (AI).

Process Mining affords businesses an holistic view of their processes, allowing the identification of process improvement opportunities, increasing efficiency and reducing costs.

Process Mining analyzes how people get work done, identifying and automating repetitive tasks, and thus eliminating human error.

In the context of our travel metaphor, Process Mining is the Transmission which ensures the power of the RPA engine is applied appropriately in the right places.

Process Discovery

Process Discovery complements Process Mining, concentrating more on discovering **HOW** business processes are executed.

Process discovery employs an AI-based approach to unveil ad hoc human-digital interactions and uncover variations.

In other words, process mining shows what has transpired digitally while process discovery brings in the human element, by focusing on user interaction data.

To take an example, suppose an employee wants to submit a purchase order for office supplies. She completes a purchase order entering the vendor's information, products, prices, and payment terms. A process discovery solution will focus on her interactions, to add context to data already extracted from event logs through process mining.

Unlike process mining, process discovery technologies do not require integration with an organization's back-end system; process discovery works through a virtual agent on the user's desktop that records user interactions such as keystrokes and mouse clicks. These interactions are combined with context recognition to determine how tasks are performed and to identify variations.

• Process Discovery's role in Intelligent Automation

Process mining and process discovery are not mutually exclusive. Combining the two technologies helps organizations to learn more about their business processes, optimize their processes, and ensure later automation by RPA is more pervasive and effective throughout the organization.

In the context of our travel metaphor, Process Discovery is the Controls or Dashboard, ensuring that the driver directs the engine, and therefore the vehicle, in the right direction.

Intelligent Data Capture

Intelligent Document Capture (IDC), sometimes referred to as intelligent Document Processing, is a set of technologies that can be used to understand and turn unstructured and semi-structured data into a structured format, thereby rendering the data and insights in them accessible and useful.

Intelligent Document Capture is a software solution that captures, transforms, and processes data from documents (e.g., e-mail, text, Word, PDF, or scanned documents). Using AI technologies such as computer vision, Optical Character Recognition (OCR), Natural Language Processing (NLP), and Machine/deep Learning, The extracted data can then be analyzed, categorized, transformed, and exported to external systems in an end-to-end process.

RPA technology can be applied to the extracted data, for enhanced validation and to automatically enter it into existing applications.

• **Intelligent Data Capture's role in Intelligent Automation**

By 2025, IDC predicts worldwide data to exceed 175 zettabytes. Most of this information is in unstructured and semi-structured documents – emails, text, PDFs, and scanned documents—think for a moment of the volume of data in email alone—it poses a real barrier to automation and digital transformation.

Avenir's IDC reads and understands documents much like a human, allowing the automation of documents previously not accessible.

Intelligent Data Capture uses artificial-intelligence-based technologies to process semi-structured, and unstructured documents, enabling straight-through processing of these documents by automatically capturing, extracting, and processing data embedded in them.

This in turn means that Robotic Process Automation (RPA) can use the extracted data for digital routing and delivery of relevant documents – a key prerequisite for the automation of key business processes and journeys.

In the context of our travel metaphor, Intelligent Data Capture is the Fuel System, ensuring that the engine has the raw material input it needs to function efficiently.

Summary

RPA adds a lot of value to the business. In fact, when properly implemented, enterprise-wide RPA deployment serves as the cornerstone of a broader digital workflow transformation. The technology is very good at automating repetitive manual tasks that occur in a relatively stable environment using structured data. This frees up the people who were doing those tasks to do more productive things.

However, many workflows are complex. What happens when you have processes that aren't consistent or require human intervention? What about the unstructured data coming in via emails, financial documents, forms, contracts, images and digital assets? RPA bots don't make decisions; they follow business rules. When the rules don't sufficiently anticipate possible conditions that can arise within a workflow, bots can't complete the process. They don't have the appropriate business logic to handle the situation.

The challenge then is figuring out how to optimize the entirety of the process to deliver better results to customers, partners and suppliers, while creating a better work experience for the people executing the processes. Optimization will include RPA, but it will do so as part of a larger Intelligent Automation approach.

IMPORTANT

Don't just automate – innovate! Processes which were previously impractical or too expensive – say because they'd have required a small army of seasonal trained clerical workers – become viable because of RPA's speed, accuracy, flexibility and efficiency.

A leading pharma company found that RPA created a new route to market for certain medicines, enabling them to sell them online while remaining compliant with MHRA, EMA and FDA reporting rules, without expensive clerical back-up.



Intelligent Automation is the holistic and comprehensive use of complementary digital technologies – in addition to RPA – to streamline and scale automation and drive greater value. When RPA is implemented as part of a well-planned, thoughtful Intelligent Automation deployment, business rules and logic can be integrated into the workflow to handle more complicated eventualities.

This is why, based on our considerable enterprise experience, we recommend implementing RPA as the final stage in a four step Intelligent Automation process.

Process Mining highlights the critical business processes, process discovery guides on how they should be automated, and Intelligent Data Capture allows RPA to access and process key enterprise data.

Four Steps to Intelligent Automation

Process Mining

Integrate with back-end systems to discover, monitor, and improve existing business processes. Automatically monitor processes, extract data from event logs, & provide stakeholders with fact-based insights to aid decision-making and optimization.



Process Discovery

Virtual agent on user desktop discovers how a business process is executed. Records user interactions—keystrokes and mouse clicks. Interactions combined with context recognition to determine how tasks are performed and identify variations. Gives stakeholders a complete picture of a process by identifying unknowns.



Four Steps

RPA

Use RPA three ways:

- Automate existing processes
- Link existing processes to completely automate key customer and employee journeys from end to end.
- Create new processes made possible by RPA.



Intelligent Data Capture

Unstructured data— PDFs, fax, web or email, automatically classified, extracted, validated by IDC and shared with business digital workflows.



When done right, the benefits of Intelligent Automation are considerable, and include:

- **Cost savings**
- **Improved customer experience**
- **Improved employee experience and productivity**
- **More accurate data**
- **Better data management**
- **Faster processing times**
- **Better and faster decision-making**
- **Improved Compliance**



In closing, we hope this whitepaper has proved useful and instructive to you in planning your digital transformation strategy. We'd love to discuss things with you in more detail, so – to do this – please use the contact information overleaf.

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