RPA Vs IPA: What Is The Difference Between RPA and IPA?

As the second decade of the twenty-first century comes to a close, we're all still anticipating (or perhaps dreading) the robot maids, cars, and soldiers pop culture has promised us for years.

Nevertheless, robots *are* becoming an important part of our daily lives, in the form of the software robots powered by artificial intelligence.

Robotic Process Automation (RPA) is rising in prominence as a critical part of effective digital transformation, and as it becomes more prevalent, so too does *Intelligent Process Automation* (IPA), a complementary tech designed to bring even greater utility and versatility to RPA.

While they *are* related and sometimes confused or conflated, IPA and RPA are distinct from one another, and have unique roles to play in business process management (BPM).

Understanding the difference, and applying that knowledge, can help your company reach its goals for improved efficiency, profitability, and innovation.

Comparing RPA vs IPA

Both RPA technology and IPA solutions are emerging automation technologies born out of digital transformation.

Robotic Process Automation is built around the capabilities of software robots. These specialized applications form a "digital workforce" ideal for tactical applications.

They can be used to quickly and effectively automate and optimize high-volume, manual processes.

RPA tools are versatile and scalable, and are a key part of entry-level automation platforms.

They are designed to use structured data for quick, repetitive actions that don't require a lot of contextual analysis or contingencies, although they can accommodate and perform the actions detailed in such contingencies if provided with the correct information and rule sets.

Data entry, workflow management (e.g., approval routings), and automated help desk/support systems are examples of tasks where RPA technology shines.

Intelligent Process Automation, also known simply as *intelligent automation*, is a set of new technologies designed to transform and expand the skill set of RPA.

IPA is the "next level" upgrade to RPA, allowing it to handle more complex processes and accommodate a measure of decision making rather than simply automating repetitive tasks.

IPA accommodates both structured and unstructured data, two of the most commonly used data types in the Big Data era.

For end users, this means IPA solutions uses advanced data management and analysis tools to extract useful, structured data from formerly inaccessible (or at least difficult to access) sources.

Some of the new technologies IPA brings to RPA include:

- **Natural Language Processing** (NLP), a data analysis tool that allows

software to recognize and parse human speech for useful content. For example, NLP might be used with speech recognition to allow users to search company databases for essential information using everyday speech (e.g., "What was our total spend for Vendor X during September of this year?") rather than proprietary search language or codes.

In addition, NLP is used to create chatbots, special RPA-powered software bots that can converse with humans and perform a range of tasks that involve both rules-based, repetitive tasks and contextual decision-making. So, for example, a chatbot designed to improve customer experience might draw on both a database of that user's past purchases to provide support information *and* use natural language processing to assess and answer questions about other products.

- **Data Extraction**, in which unstructured content is analyzed and mined for useful information to be stored, organized, and accessed by other applications. This can involve:
    - **Optical character recognition** (OCR), which scans text (either digital or physical) and converts it to editable formats while also parsing it for content
    - **NLP,** which can perform the same function with audio or video.
    - A combination of both.
- **Machine Learning**, which ups the "IQ" of RPA software robots by allowing them to evaluate their own efficiency and efficacy in performing tasks. In essence, every iteration of a given task becomes more efficient and productive as the system makes tweaks to the process(es) involved to meet established goals for cost reduction, accuracy, etc. Over time, machine learning supports **deep learning**, wherein applications can apply the lessons they have learned in one context to others to support continuous improvement, better decision making, and strategic planning. Such learning is also often known as **operational analytics.**

IPA solutions are more robust, have a much broader scope, and require a greater investment of time and resources to deploy.

However, its capacity to learn from both its own experiences and from guidance and interactions with humans mean it has the potential to generate savings and process improvements that are simply beyond the reach of RPA.

IPA's advanced data extraction and analysis tools can help it extrapolate to "fill in

the blanks" when critical data is outside established parameters, incomplete, or missing if it has been trained through observation of humans performing similar tasks. It doesn't require the hard-coded "hand-holding" that RPA can.

For example, where an RPA bot can be used to file incoming documents based on keywords, file size, or attachments, IPA tools can observe human behaviors (such as how a human files Word Documents from a specific colleague in a named folder or moves it to a shared server) and, over time, learn to automatically sort those files without the need for explicit instruction to do so.

An IPA-powered bot might also take note of the interlocking schedules of stakeholders responsible for approvals and automatically route purchase orders or invoices based on out-of-office status to prevent bottlenecks.

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Combining RPA and IPA in Procurement

The value of machine intelligence paired with automation can be truly transformative for businesses of all sizes.

This is especially true for applications like PLANERGY, which allow users to develop their own digital workforce of RPA bots and manage them using IPA tools.

Consider the improvements RPA and IPA bring to the Procure-to-Pay (P2P) process, for example:

- Hands-free automation of essential P2P workflows, reducing errors, lowering costs, and freeing staff for more strategically valuable tasks.
- Automatic and complete collection, organization, and analysis of all your data, from spend data to vendor performance and compliance.
- IPA-guided decision-making, strategic planning, and supplier management.
- Elimination of maverick spend, invoice fraud, and other common P2P woes.

Choosing an IPA solution like PLANERGY gives users a robust, versatile, and completely customizable way to integrate the latest automation and data management technologies as part of an effective and strategic BPM strategy.

Bots, Better Performance, Bigger Profits

The future has always promised us better living—or at least business—through technology.

Tap into the powerful potential of RPA and IPA solutions to give your business its own private army of robot workers, learning as they labor and putting their virtual smarts to work for your success.

What's your goal today?

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