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Four Reasons Why Leading Companies Are Implementing RPA

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Over the past 12 months Robotic Process Automation (RPA) has "broken out". It has shifted from being a relatively niche technology, principally interesting to Business Process Outsourcing (BPO) providers, to being explored and implemented across a much broader swathe of industry. This report shows why RPA is so interesting to so many organisations. It provides a primer to help you understand RPA's potential business value, and how you can realise it in your organisation.

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Top takeaways

1 RPA provides a non-invasive alternative to IT-led 'traditional' integration work

RPA technology delivers self-contained software agents that gather and update information in other business software applications by automating actions against their existing user interfaces. It therefore provides a non-invasive alternative to the creation and use of specialised integration APIs, or programmed integration by other means (for example hooking into underlying databases via triggers, or hooking into application code directly).

2 A real-world solution to a real-world problem

We've encountered IT architecture purists who struggle to understand why RPA is popular. However even these purists acknowledge that, in many cases, projects struggle because it's not possible to find people and technology resources needed to integrate systems in the "proper" way.

For almost all businesses of significant size, there is a very sizeable 'long tail' of integration requirements that can't be economically addressed by IT-driven integration projects. RPA projects have the potential to be delivered much more quickly and at significantly lower cost – with significantly lower levels of involvement from hard-pressed specialist enterprise IT specialist groups.

3 RPA can add value, whatever your industry

RPA's initial advocates have come from within the Business Process Outsourcing (BPO) and financial services industries, but in fact there are clear use cases across a much wider spread of sectors, including retail, energy, utilities, telecom and manufacturing.

4 An important tool in your automation toolbox

RPA has the potential to return significant business value, whether by itself or in combination with other elements of a digital business platform.

As you explore the business value of RPA, it's always worth looking at the broader business process context of tasks you might want to automate. In practice, there are strong arguments for combining RPA technology with BPM and Case Management technology platforms, Decision Management tools, application integration platforms and specialised Document Capture platforms.

Introducing Robotic Process Automation

Five years ago, practically no one had heard of Robotic Process Automation (RPA). Even one year ago – at the start of 2017 – few were familiar with the term or what it represented. Now, though, RPA appears to be everywhere you turn. Certainly, some of the success stories are very striking: for example, a large European consumer-focused insurance group implemented RPA across 35 business processes, halving the administration workload in its call centres – and significantly improving its Net Promoter Score (NPS) along the way, demonstrating significantly increased customer satisfaction.

However, we also see a lot of confusion about the role that RPA can play in an enterprise, and the extent of the value it can provide.

Let's start by briefly explaining what RPA is and what it does.

What is RPA?

Robotic Process Automation (RPA) is a business and technology practice that deals with the configuration and management of software 'robots' that act as synthetic application users, automating highly repeatable, highly structured tasks across business software systems.

RPA technology delivers self-contained software agents that gather and update information in other business software applications by automating actions against their existing (Windows-based, web-based, or other) user interfaces. It therefore provides a non-invasive alternative to the creation and use of specialised integration APIs, or programmed integration by other means (for example hooking into underlying databases via triggers, or hooking into application code directly).

It's very important to emphasise that despite its name, RPA technology is not for the most part concerned with (or capable of) the automation of end-to-end business processes. As our definition introduces, RPA technology automates individual tasks or activities that exist within broader end-to-end business processes.

However, it's also important to reiterate that RPA as defined here, and RPA "done right", is about more than just the automation technology at its heart. As figure 1 shows, RPA more broadly is a business and technology practice that spans the whole lifecycle of:

- Discovering and refining use cases for automation in the context of business processes.
- Designing and testing the behaviours of 'robots'.
- Deploying and operating those robots.
- Managing change to their configuration and task assignments over time.

Figure 1 An overview of RPA practice
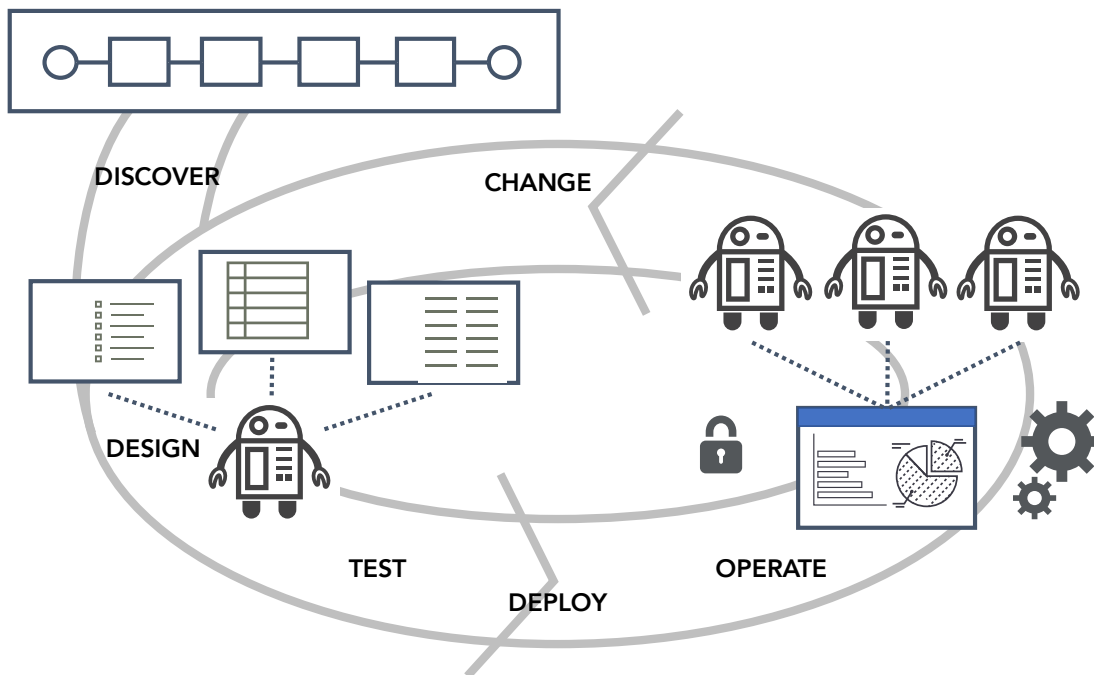
With this in mind, it's absolutely key for RPA initiatives to explore end-to-end business processes, even though the individual robots that get created by those initiatives will end up automating individual tasks.

RPA's origins: automating the factories of the information age

RPA found its first wave of advocates in the Business Process Outsourcing (BPO) provider community. Here, the business processes being operated are for the most part highly structured, highly repeatable and very well-defined (down to a low level of detail). This is partly because in the servicing of BPO contracts, staff with no direct experience of a client's business may frequently cycle in and out of working in any particular service environment. Process work in these environments needs to be easy to learn, easy to check and easy to measure.

This high level of process structure, repeatability and strict definition makes outsourced administrative processes particularly amenable to automation; and as it happens, forward-thinking BPO providers have themselves been keen to find ways to change their game.

As large businesses hosted in developed economies first began to adopt BPO in the mid-1990s, the value proposition of the BPO providers was largely based on labour arbitrage – the simple idea that offshore labour was dramatically cheaper than onshore labour. The economics of this shift of labour have changed significantly over the past 20 years, though, and so BPOs have sought ways to do more to lower their cost of operations. Work automation is one obvious way to do this.

With many clients' business processes being taken on by BPO providers 'as is' – legacy technology systems included – and with little opportunity to invest large sums to redevelop or replace core systems, BPO providers have found non-invasive RPA technology to be a natural fit for their needs. Often, BPO providers have managed to use RPA technology to automate significant proportions of the tasks involved in processes under management.

Flavours of RPA: attended and unattended automation

Not all RPA technology is created equally. In particular, there are two common ways in which the core UI-automation technology used is delivered: 'attended' and 'unattended' RPA. Both these implementations of RPA have value, but it is slightly different in each case.

In 'attended' RPA, the robots that automate interactions with users' desktop applications execute within each user's desktop environment itself – working 'side by side' with each user. In 'unattended' RPA, robots execute on a separate server or virtual machine (or multiple of these), automating interactions with applications 'behind the scenes' and carrying out their work when triggered by other software systems.

The principal advantage of attended RPA execution is that the user is in control, deciding when to use automation, being able to see when automations might benefit from changes or improvements, and being able to intervene if problems occur. The principal advantage of unattended RPA execution is that robot-driven automations completely remove certain tasks from users' concerns, significantly streamlining their work environments and the business processes they participate in. Centralised operation also makes monitoring and auditing data easier to gather.

Some RPA technology vendors only support unattended RPA technology deployment; some vendors only support attended RPA deployment. Some vendors (including Software AG and Kryon Systems and others) support both deployment modes, either separately or in combination.

Why you should explore RPA, and where you should look

A real-world solution to a real-world problem

We've encountered IT architecture purists who struggle to understand why RPA is popular. However even these purists acknowledge that in many cases, projects struggle because it's not possible to find people and technology resources needed to integrate systems in the "proper" way.

In the context of BPO operations, RPA wins because more architecturally-pure (but invasive, to some extent) methods of integrating systems and automating tasks just aren't feasible, because of financial and technical constraints that BPO providers are under. In the context of enterprise operations, the conditions are often different. Still, though, RPA has real-world value – because for almost all businesses of significant size, there is a very sizeable 'long tail' of integration requirements that can't be economically addressed by IT-driven integration projects.

'Traditional' IT-driven integration projects involving legacy systems can be difficult to justify, for many reasons (including software and labour costs, skills availability, security and operational risks, and more). Because RPA technology is non-invasive, RPA projects have the potential to be delivered much more quickly and at significantly lower cost – with significantly lower levels of involvement from hard-pressed specialist enterprise IT specialist groups.

Today's RPA activity hotspots

Today, we see two particular hotspots of RPA technology implementation adoption within enterprises: firstly, in call-centres and contact-centres; and secondly, in back-office administration environments (particularly in finance and accounting functions).

Both these business areas commonly suffer from aging IT systems; and in both areas, business processes commonly contain clusters of highly-structured clerical tasks where operators frequently need to:

- Enter data into multiple systems.

- Retrieve data from one system and enter it into another.

- Reconcile data across two or more systems.

- Run system reports and act on the results in a structured way (perhaps adding a report total into a separate system, for example).

A great deal of the work involved in these tasks is automatable in theory, and with RPA it can become automated in practice.

In comparison to human workers, automated software systems (including those enabled by RPA) don't need to rest, can work 24x7, and don't lose concentration. Looking specifically at RPA project outcomes, it's not uncommon for RPA implementations to lead to 60-70% reductions in labour costs in target business processes. Unexpected errors will of course occur, but in well-designed RPA systems, we find that error rates on automated tasks can be very low (<0.5%).

Potential drivers for your RPA exploration: digital transformation, operational efficiency and regulatory compliance

Digital transformation often starts with customer experience – but it has to 'reach back'

We know that where organisations are pursuing digital transformation initiatives, the most common starting point is using digital technologies to drive new, improved customer experiences (through more personalised, more dynamic and interactive websites, mobile apps, social platforms, and so on). However, customer services and call-centre teams are also key agents in the delivery of customer experience. Poor request turnaround times (TAT) and poor first-call resolution (FCR) rates are strong contributors to customer experience problems – and so anything that can make it easier for agents to respond more quickly and accurately is going to be a valuable tool in this context.

The underlying strategic issue here is that focusing digital transformation initiatives only on the 'front edge' of customer interactions opens up significant risk – because true customer experience excellence only comes from joined-up behaviour and outcomes across the whole of a customer's journey with an organisation (from interactions driven by marketing and sales, through to operations and service interactions).

RPA technology can not only help assist agents in their work and connect digitally-powered customer experiences to existing business processes – while also bridging gaps between functional silos; it can also, in some cases, act as a foundation on which some customer requests and transaction types can be handled in an automated way through online customer service portals or chatbot channels.

Improving operational efficiency

Regardless of whether your organisation has a digital transformation initiative, the chances are that you have back-office administrative functions where operating procedures have significant manual, clerical elements.

In our experience, these administrative functions are very often 'Cinderella' functions – parts of businesses that rarely get much strategic attention, and are often at the bottom of technology investment priority lists. For senior executives, it can be a question of "out of sight, out of mind" – administrative functions, though they provide the glue that holds many operations together, can be quite invisible when organisations look for big opportunities to improve. This is particularly true in industries where margins are low; historically, retailers, utilities and manufacturers (among others) have found it very difficult to justify the kinds of IT investments that would really help cut through the clerical waste that back-office operations can so often suffer with.

The RPA premise and value proposition is naturally very well-aligned to back-office administrative functions – particularly in large-scale organisations within low-margin industries.

Demonstrating compliance

Compliance with the new EU General Data Protection Regulation (GDPR) is (or should be) high on the agenda of every organisation holding data on EU citizens; but it's only the most recent cross-industry regulatory issue to come along. As well as investigating RPA's value in the context of your digital transformation efforts, you should also explore its potential value in the context of regulatory compliance.

Driving successful compliance outcomes is always as much about being able to demonstrate compliance, as it is about complying day-to-day. Any kind of 'white-box' automation – where automation of work is configured using a high-level language that non-technical specialists can understand – is a valuable weapon in this regard.

The best RPA technology platforms, just like BPM technology platforms, use model-driven specification tools that show graphically how robots interact with systems; and they also generate operational data that can be analysed and understood by non-specialists.

Moreover, looking specifically at compliance with the GDPR, a significant element of day-to-day GDPR implementation will revolve around clerical activities (including searching for personal data in response to a subject access request, carrying out data deletion, and preparing personal data reports). RPA technologies have the potential to streamline this work, minimising costs and maximising the quality and timeliness of responses.

Example RPA use cases across industries

Building on our discussion of RPA investment drivers above, the table below highlights a variety of example use cases that can profitably be addressed with RPA implementations – with a focus particularly on industries where lean operations are (or should be) always strategically important.

Figure 2   Example RPA use cases across industries (continued over page)

	Business area			
Industry	**Finance and Accounting**	**Customer service**	**Operations**	**Compliance**
Retail	Financial close processing Order to cash for not for re-sale items	Call centre administration processes Customer appointment scheduling	Returns processing Supplier and business partner onboarding Stock administration	GDPR data protection
Energy	Financial close processing AP / AR / Reconciliations Shared cost centre allocation Land entitlement payment processing	Customer profile updates Customer account administration Trade settlement documentation	Employee onboarding / offboarding Trade reconciliations Supplier onboarding Distribution partners settlement reconciliation	Regulatory reporting Staff compliance training Rate case project cost allocations GDPR data protection
Utilities	Financial close processing Inter-company exception processing Procure to pay contract validation Invoice to cash contract validation	Customer profile updates Customer account administration Estimated bill overrides Customer appointment scheduling	Employee onboarding / offboarding Trade reconciliations Supplier onboarding Power purchase agreement performance monitoring Inventory re-ordering	Regulatory reporting Staff compliance training GDPR data protection
Telecoms	Financial close processing	Service management administration	Order management	GDPR data protection
Manufacturing	Invoice payment AP automation Freight rate & payment auditing	Quote creation Order correction Product registration approval	Product administration Inventory re-ordering SKU updates Inventory, AP, sales pipeline and pricing report creation	GDPR data protection

Financial services	Audit employee reported hours vs. scheduled hours	Call centre administration processes	Dormant account/zero balance account management	GDPR, AML, KYC
	Payroll processing	Overdraft protection processing	Underwriting automation of boilerplate/plain vanilla policies	Wire transfers checking for beneficiary vs. control lists (fraud/AML)
	AP / AR / Reconciliations	Incoming customer email routing	Underwriting processing	Regulatory reporting
	Automate valuations data	Dispute resolution	Claims processing	Fraudulent account closing
	Migrate & aggregate financial accounting data	Statement reconciliation	Claims payments	Staff compliance training reminders/monitoring
			Policy administration and servicing	
			Generating renewal premiums	

Automation Architecture: putting RPA in context

As we've seen, RPA has the potential to return significant business value. RPA is just one tool in the toolbox you should maintain as part of a modern digital business platform toolkit, though.

The non-invasive nature of RPA means it's particularly useful where you want to streamline operations that rely on clerical activities carried out using collections of legacy IT systems (where 'swivel-chair' operations is a key symptom, for example); and where you want to drive results quickly without going through the hassle of trying to re-engineer those existing legacy systems.

Beyond RPA

However RPA is unlikely to be the best answer where:

- **You want to automate the flow of work across a number of tasks**, particularly where people are involved in carrying out some of those tasks. Here, you should look at BPM and Case Management platforms to build applications that co-ordinate the flow of work and knowledge between people and teams.

- **You want to co-ordinate the flow of data between systems and applications that already have documented APIs**, or where data requests and responses need to operate at high performance (more than a few requests per second). Here, you should look at specialised application integration platforms or BPM platforms.

What's more, in some scenarios, even though RPA technology might be the core of the solution you need, you should be prepared to augment RPA technology with other technologies.

RPA with BPMS

In a great many cases, the tasks that you're exploring automating with RPA will in reality be just individual activities within broader business processes – processes that rely on knowledge from, and the discretion of, multiple people and teams as well as including highly structured tasks that can be readily automated.

In these situations it's always important to consider the potential business value of not only automating the 'low-hanging fruit' of the highly-structured tasks with RPA, but also using a BPM technology platform to orchestrate the overall flow of work, manage the distribution of work, and monitor the progress and performance of cases through the process. Using a BPM technology platform in conjunction with a RPA platform gives you an automation and management backbone for end-to-end business processes; and what's more, it gives you a platform that enables you to complement work carried out by a 'robotic workforce' with human expertise – for example, to make it easy for a team of human specialists to, in a structured and transparent way, correct errors that arise from automated processing and improve robot configurations.

RPA with Decision Management

Where there's a requirement to automate material business decision-making as part of clerical tasks (for example, when a task requires an operator to identify and enter a discount rate that a given customer is eligible for, based on their order history or other data), you should explore using a decision management system alongside your RPA platform. You'll use your decision management system to manage the business rules involved, and have your robot definitions invoke those decisions via an API. This avoids encoding key business rules in script as part of your robot definitions, and will improve the comprehensibility and long-term maintainability of your implementation.

RPA with Document Capture

In a similar sense, if you're exploring automating tasks that take unstructured or semi-structured information as part of their input (for example, customer emails, letters, handwritten forms and so on in a digital mailroom; or invoices submitted to an Accounts Payable operation), you will benefit from exploring using automated document capture technology alongside RPA technology.

Critical RPA success factors

As you start to explore the potential of RPA technology in your business, it's important to bear in mind the lessons that others have learned as they've delivered value from RPA projects.

The most critical success factors commonly cited by RPA early adopters include:

- **Weigh all the business value variables**. As you work through your operational processes to uncover opportunities to use RPA technology, you may well uncover a great many potential use cases. It's vital that you prioritise these correctly if you want to return eye-catching business benefit from an RPA investment. You should create and use a standard business case analysis template, which prompts analysts to explore all the key aspects of cost and risk that are present in the 'as-is' environment. For example, it's important to consider not only the fully-loaded hourly cost of the existing task workers; the daily / weekly / monthly frequency of task execution; and the time it typically takes a human worker to complete the task – it's also important to consider the risks of tasks being incorrectly performed (in terms of extra costs / time incurred, reputational damage, and so on).

- **Don't wait to engage**. RPA technology implementation is a business change exercise – it will affect the ways that people do their jobs (indeed, that's the precise point of RPA implementation). You need to think about the people-change implications of your work, right from the start of an RPA project – understanding who's most likely to be affected and how. Work to get as many of those people involved in thinking about those implications, as early in the process as possible. Don't be tempted to avoid engaging with those likely to be affected because it might lead to difficult conversations. Instead look at engagement as an opportunity to get new contributions about how work might be done more efficiently, or how customers might be better served.

- **Build resilience into the system**. Robotic automation is ultimately 'programmed' in advance, even if robots are configured primarily through visual modelling rather than low-level programming. This means that in real-world operation, there's unlikely to be such a thing as a perfect automation: errors will occur, and robots will encounter situations that they can't deal with. You need to make sure that any system you implement can handle errors and problems gracefully, and make it easy for expert humans to reverse and correct erroneous processing when it does occur, and make it easy for robot configurations to be corrected / improved when appropriate.

- **Work across the business-IT divide**. It may be the case that your first steps with RPA technology can proceed without direct involvement from an IT department; however, sooner or later, you will need contributions from IT specialists – whether that's to do with software installation, security configuration, reporting and analytics, or something else. The experiences of early adopters show us that those organisations which engage with IT early in RPA adoption minimise the risks of projects stalling and maximise the robustness (and therefore the business results) of their investments. Best practice is to rapidly work to set up a cross-functional Centre of Excellence for RPA, once the first pilot projects have delivered their benefits and learnings.

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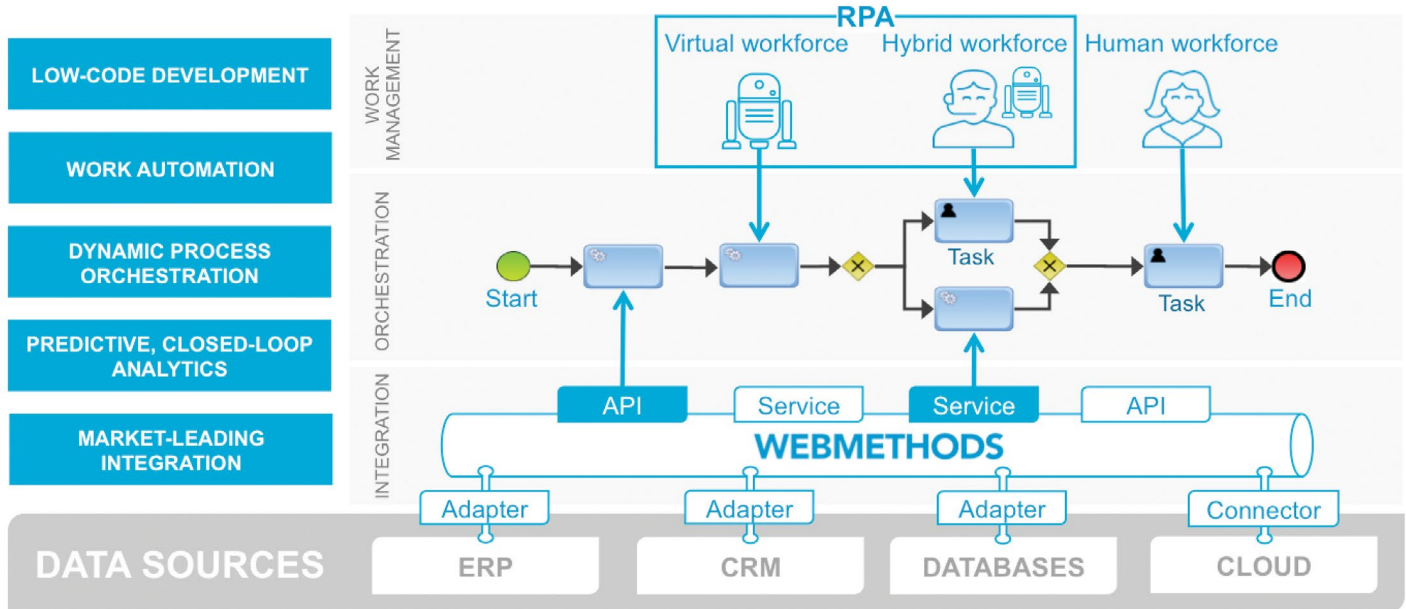
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