Robotic Process Automation Comprehensive Guide

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Executive Summary

As an executive, your aims are clear: To create a responsive, lean organization that delivers results. Robotic Process Automation (RPA) provides you an automation tool to achieve that.

RPA bots are software bots that mimic repetitive actions of your employees. In both back-office and front-office, they can:

- **Increase execution speed:** They can work 24/7 and are much faster than humans in data processing
- **Reduce staff workload:** By taking over mundane tasks, RPA bots allow your employees to focus on client-facing tasks, or those that are more difficult to automate
- **Reduce manual errors:** Bots do not get tired or disinterested. Through ML, they also get more intelligent in dealing with tasks through repetitive interactions with data and processes. So as long as they are programmed correctly, they will do the same task over and over again with the highest possible precision rate.

In this guide, we explain in detail all you need to get started with RPA: The problem it solves, how it works, and its benefits.

However, it all starts with a decision of increasing automation through new initiatives. RPA is an initiative that needs to be on every strategy leader or CEO’s agenda.

If you need a knowledgeable partner in this journey, feel free to reach out to us at info@aimultiple.com, we have supported organizations from numerous Fortune 500 companies to unicorn startups on their RPA strategy.
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Introduction

As you can see in the graph above, general interest in RPA looks to have slightly dwindled in the last two years. But the topic still remains as one of the most popular ones that has engulfed different industries. In banking for instance, John Cryan, CEO of Deutsche Bank, has said back in September 2017 that:

“In our banks we have people behaving like robots doing mechanical things, tomorrow we’re going to have robots behaving like people”

With so much interest in the topic, consulting companies like BCG, McKinsey and Accenture have put together their RPA offerings. However, the question still remains: How do you set up a fast, cost-effective RPA implementation initiative?
Manual processes are holding your organization back

Manual processes are unavoidable. But we have not seen a single business that did not have manual processes that could not have been automated with today’s technology.

Some downsides are manual processes are the following:

- They slow down your organization, reducing customer satisfaction.
- They increase the possibility of manual errors due to employees’ fatigue and boredom.
- And they dampen employees’ morale. No one wants to mindlessly work like a robot, doing the same thing over and over again.

Industries ripe for automation with RPA

If you ask the vendors, they will tell you that any industry is ripe for RPA automation, which is technically correct. However, RPA can have a greater impact in some industries than others. RPA is a solution you should put at the top of your company’s agenda if your business fits any of these descriptions:

- Uses legacy systems,
- And/or a large portion of the workforce works in the backoffice in non-tech functions.

Now, some companies, which we will be listing below, might fall in both of these categories. Most of these are old companies that rely on legacy systems. RPA can achieve significant savings and customer satisfaction increase in branches, call centers and the backoffice.

We have a dedicated article that goes in-depth into 65 use cases of RPA across different industries, if you are interested.

Financial services

Insurance

Claims processing is a good process to deep-dive. Claims processing is at the heart of every insurance company. And since customers make claims at times of personal misfortune, customer experience and speed are critical in claims processing.
However, there are numerous factors that create issues during claims processing such as:

- **Manual/inconsistent processing**: Claims processing often involves manual analyses completed by outsourced personnel.
- **Input data of varying formats**: Customers send in data with various formats.
- **Changing regulation**: No insurance company has the luxury of not accommodating to changes in regulation in a timely manner. This requires constant staff training and process update.

These lead to human biases in claims processing, which can lead to losses, customer dissatisfaction, and lack of visibility in such a crucial process.

RPA bots can deal with all these issues. Essentially, bots take in unstructured data in forms, extract structured data, and process claims based on predefined rules.

This approach takes care of all major issues with manual claims processing:
- Claim verification can be automated in a rule-based manner.
- Bots can deal with various data formats to extract relevant data from.
- Rules can be changed with regulatory changes, without any need for training or changing of the infrastructure, which ensures immediate compliance.

**Banking**

**Financial planning**

Financial planning involves the unexciting exercise of processing and merging financial statements from numerous departments in a Financial Planning & Analysis (FP&A) system which can be at least partially automated.

**Bank statement reconciliation**

Extracting data from bank statements to reconcile records and compare them against the company’s own records was manually done via complex spreadsheets.

However, this is a process that can relatively easily be automated. An important point to pay attention to is that rules based automation could break when the company changes the banks it is working with. It is best to test the bots’ initial outputs after your company changes its banking service providers.
Daily P&L preparation

Large financial services companies, especially those in the trading business, track P&L and risk exposures daily. While some companies have automated these processes, some companies still rely on excel, legacy tools, and manual effort to complete these reports.

Know Your Customer (KYC)

While dedicated KYC solutions are emerging, if your company does not prefer to use one, it is possible to use RPA bots to automate portions of the KYC process. For edge cases that require human intervention, cases can be forwarded to an employee.

Loan processing

As with most document processing tasks, this process is also suitable for RPA automation as complex business logic can be embedded in bots partially automating loan decisions and the manual processes that follow the decision.

Audits

Banks need to reply to requests by the auditors for company audit reports. Bots have been used to find all the customer’s accounts year end balances and return the audit to the audit clerk in the form of a Word document.

This can reduce an average audit which can take several hours to complete and a large audit that can take several days into an operation that can be completed in minutes

Trade finance

Trade finance involves multiple parties coordinating and ensuring the delivery of goods and payments. Banks and companies communicate through letters of credit and other documents which need to be processed.

Utilities companies, such as telecom and energy

Since these are the oldest subscription businesses, they have frequent payment and customer service requirements which can be automated.

All industries
Most labor intensive and error-prone processes, such as quote-to-cash, procure-to-pay, data migration and entry, and periodic report preparations, which are present in all industries, can be automated.

**Quote-to-cash**

Every business needs to sell to survive. Issues in the operations side of selling are costly, they can result in customer complaints or selling at reduced prices due to clerical errors.

Automating complete sales operations process

- Reduces the rate of manual errors
- Provides a faster service to your customers. Since automation can speed up processes, customers will receive invoices earlier, leading to earlier payments and improved cash flow.
- Reduces costs

**Procure-to-pay**

Since the procure-to-pay process involves extracting invoice and payment data from multiple systems like supplier emails, enterprise resource planning (ERP), customer relationship management (CRM), banks, vendors, logistics companies and since not all these systems provide easy integration methods they generally involve some form of manual labor. RPA bots can fill integration gaps. Since they work on the front-end, they can provide an easy way to automate integrations.

Additionally, some of the information coming in will be in the form of forms (e.g. invoices that the company receives from its suppliers). This data needs to be extracted, validated and enriched. For example, companies need to assign general ledger (GL) accounts to invoices without purchase orders (POs). For more info, feel free to read our articles on automating invoices and extracting data from invoices.

With a fully automated procure-to-pay, you can ensure that procurement best practices are followed and there’s a single source of truth for all transactions.

**Customer onboarding**

Most B2C businesses have a customer onboarding process that is critical to reduce churn and get customers to start using the product.
Using OCR and cognitive automation, most customer onboarding actions can be completed instantaneously even in companies that rely on legacy systems, greatly improving customer experience.

**Data migration and entry**

Legacy systems still perform critical functions at companies. For example, legacy billing systems need to interface with other systems, and such systems may not have the capability to pull relevant data from APIs. In such cases, employees will be forced to manually migrate data, using formats like CSV. RPA can prevent such manual labor, and potential clerical errors, by automating the process of data migration and entry in a rule-based framework.

**Periodic report preparation and dissemination**

Every business requires regular reports to inform high level executives, and to ensure that teams are aware of their progress. Preparing such reports and sending them in a timely manner is not labor intensive, per se, but it’s an automatable task that will free employees.

RPA solutions can easily auto-generate reports, analyze their contents, and based on their contents, email them to relevant stakeholders.

For example, a report of a telecom operator showing areas with connectivity issues has different recipients based on its severity. CTO should be copied in reports with critical issues. Moreover, the head of the network should also be copied in reports with major issues. RPA bots can analyze reports to modify recipients according to provided criteria.

**Other areas**

We listed some major areas of RPA applications. But the list does not end there. RPA provides your teams a universal apparatus of automation that could be leveraged as opportunities arise with time.

Some other use cases of RPA include, but are not limited to:
- Inventory management,
- Mass email generation,
- Updating user preferences,
- Lead nurturing,
- Fault remediation,
- Candidate sourcing,
- Absence management,
- And issuing refunds.
RPA can automate your manual processes

In this section, we aim to explain in detail how RPA bots actually work. As industrial robots transformed the factory floor, RPA bots can transform back offices.

RPA Bots replicate simple employee actions, such as opening files, inputting data, and copy pasting fields in an automated way. Most modern RPA products and packages are low code, and thus do not require the user to be knowledgeable in programming languages.

There are mainly 4 ways to setup RPA bots:

1. Code based

As expected, the most powerful interface for programming bots is coding the program with a programming language. Need to explicitly code the tool to perform the necessary actions to replicate a process or functionality.

However, coding requires training and patience so this method is relevant for technically inclined personnel. Programming instructions essentially tell the bot which programs to use and how to interact with those programs.

2. Low code/No code RPA solutions: Graphical User Interfaces (GUI)

Most modern RPA vendors offer low code and no code solutions to program simple RPA bots with drag & drop interfaces. Technically proficient personnel (those that can code excel macros) should be capable of setting up simple bots. For more technical users, these tools also offer code based bot programming interfaces.

3. Recording macros

Just like macros in excel, bots can complete recorded actions. Recorded actions can involve numerous enterprise software, such as taking data from Salesforce and merging it with a report from MailChimp in excel to identify which customers to target during the company’s routine customer activation SMS campaign.

4. Self-learning bots

Programmable RPA solutions require significant coding, increasing the time until RPA roll-out. Self-learning bots are able to program themselves by monitoring employee activity in order to learn automatable tasks. They also leverage OCR
and NLP to understand unstructured data (e.g. images, PDFs). They are the easiest to deploy but they are currently a relatively emerging field of RPA.

We have a dedicated article that discusses each approach’s limitation in more depth.
Possible activities of RPA bots

RPA bots can use the operating system applications as a human user would.

This means bots are capable of:

- Launching and using various applications including
  - Opening emails and attachments
  - Logging into applications
  - Moving files and folders
- Integrating with enterprise tools by
  - Connecting to system APIs
  - Reading and writing to databases
- Augmenting your data by
  - Scraping data from the web including social media
- Data and document processing
  - Following logical rules such as “if/then” rules
  - Text annotation
- Making calculations
- Extracting data from documents
- Copying and pasting data

However, most RPA solutions do not come with leading edge document processing technology. Using RPA in combination with such document automation solutions can have critical benefits like increased process speed, reduced costs/errors, improved data quality, and employee satisfaction, as these processes are low skill tasks that are required to be done continuously. Cognitive RPA solutions, mentioned in the future of RPA section, provide such capabilities as part of the RPA suite.

Bots can do these functions on virtualization solutions like Citrix or on Windows environments. Most vendors do not support other OS environments like Mac OS or Linux. This is because most office work is conducted on PCs. To explore RPA use cases, feel free to read our comprehensive list of RPA use cases and applications.
Types of RPA automation

There are 2 types of RPA automation that serve different needs:

Attended automation

Attended automation (also called Robotic Desktop Automation) is where these bots reside on the user's machine and are invoked by the user. They are appropriate for tasks that are triggered at programmatically hard-to-detect points.

For example, a customer service rep will understand the customer's inquiry and will need to complete a transaction in the system. Let’s assume that due to system limitations, customer service rep would normally need to work with 3 screens and complete 5 manual steps to complete this transaction.

Instead of doing those, rep launches the attended automation code. RPA bot works like the rep, performs the necessary operations, and asks for guidance from the rep, if needed.

Arguably, the biggest benefits of RPA bots is that they work more efficiently and quickly than human representatives, can perform constant regulatory and compliance checks, and are less likely to make manual mistakes stemming from mental fatigue or lapses in concentration.

RPA launcher

Launcher for RPA can be set up in 3 main ways to facilitate employee’s access to the tool. Launcher can be:

- On an RPA client tool, where the customer service rep selects the bot to be launched,
- Embedded on the personnel screen when certain conditions are met (e.g. when the rep is talking to a customer),
- And auto-run when certain conditions are met.
  - For example, if some KYC check needs to be performed on updated customer contact information, the bot can be launched as soon as the new phone number is updated.
  - In this manner, RPA bots can be launched automatically with no intervention from the employee.

Attended automation is a good way to augment your employees that face customers but still need to complete manual work.

Unattended automation
Unattended bots are like batch processes on the cloud, meaning they complete data processing tasks in the background. They are ideal for reducing work of back-office employees.

There are a few options for launching unattended automation:

**Data input in a specified location**

Most unattended bots are triggered when data is input in the system. Whether it is new transactions or employees, additional data processing is generally required to serve regulatory or marketing-related needs.

**Bot initiated**

A bot can also launch another bot. This can be useful when a bot operation has various different outcomes. For example, a KYC inquiry may either require manual investigation, or automated processing to complete the customer’s registration. Based on the outcome, the bot can notify the investigation team or launch another bot to complete registration.

**Orchestrator initiated**

RPA administrators can use orchestrator software to stop or launch bots.

**Specified intervals**

Bots can be launched at specific times to batch process data.

**Benefits**
Overall benefits

Improved business results

Focusing employees on higher value added activities will result in improved business metrics, 27% of managers have reported that improved productivity/performance is one of the top RPA benefits. Depending on the focus of the business, these could impact the top or bottom line. Some positions already serve as stepping stones for higher value added jobs.

For example, call center personnel cold calling customers with new offers make the ideal face-to-face sales people. Face-to-face sales are easier, with higher conversion rates and higher ticket goods sold. RPA and AI will reduce these stepping stones as those lower-value add positions are automated and humans focus on higher value added activities.

Reduced wage costs

Deloitte estimates that on average 20% of FTE capacity could be provided by bots, whereas those who have implemented RPA have had such a positive
experience that they believe that 52% of FTE capacity could be provided by robots.

For example, a bank leveraged RPA to automate payment processes conducted in their foreign trade finance. This resulted in reducing the number of full-time employees they needed in this department from 110 to 47, cutting their salary budget for this team by over 50%.

Leading AI experts like Andrew NG also predict AI will lead to loss of jobs for those who work in automatable jobs and lack the skills to be successful at jobs that can not be automated.

Businesses can tackle such issues by:

- **Employing personnel in other functions**: if relevant opportunities exist in the company that fit these employees’ skills.
- **Upskilling personnel**: there could also be opportunities for the redundant personnel to upskill themselves and start new positions in the company. If relevant opportunities for upskilling do not exist in the company then with a generous severance package and coaching, redundant personnel could be incentivized to upskill themselves and work in an environment more suitable for their skills.

Even when current headcount is preserved, enabling automation will make your personnel aware of automation opportunities and keep departments lean.

**Improved ROI**

Businesses that have correctly implemented RPA have reported significant improvements in ROI. McKinsey has estimated that automating business tasks via RPA offers a potential ROI of 30–200% within the first year alone.

**Reduced risk**

System upgrades tend to go over budget and deliver below expectations. RPA projects are low risk, non-invasive projects that get completed quickly without disturbing existing systems. On the other hand, leveraging RPA bots to automate error-prone processes reduces the risk of manual errors (e.g. duplicate or outdated data, unauthorized access to privileged data, undiscovered cyber threats).

For example, a financial services provider leveraged RPA to automate processes in audit and assurance, tax and consulting, and cybersecurity and privacy. The financial service company claims that a single RPA bot was able complete the tasks of one or more employees, and they were able to eliminate quality and risk.
management efforts entirely in rule-based tasks. In turn, this saved the company $8M of annual risk management costs.

**Benefits to Customer Satisfaction**

**Reduction of data entry errors into customer data**

A [2021 survey](https://aimultiple.com) has revealed that error reduction is the second most important benefit of RPA after automation of manual tasks. This is because human errors and low quality data are estimated to cost businesses billions of dollars each year. Leveraging RPA can provide better quality data as bots do not miss or duplicate data, and generate event logs for further analysis and audit.

For example, a top 30 U bank leveraged RPA for automating document ordering, data entry, and data verification. This resulted in significant error reduction, saving the bank $1M of their annual costs.

However, this does not mean that RPA provides error-free operation. Edge cases that were not part of test cases have potential to cause RPA bots to malfunction. RPA operations should be checked from time-to-time to ensure that edge cases are also covered successfully by RPA bots.

**Increased customer engagement**

RPA allows for rule-based workflows for engaging with customers. If done manually, tending to some customer grievances might fall through the cracks. Automating the process; however, optimizes the likelihood that a company’s customer base is always heard and that the generated insight is acted upon.

**Faster service**

It’s estimated that employees spend 10%-25% of their time on repetitive tasks, and IT teams may spend 30% of their time on basic low level tasks. This significantly reduces time efficiency and efficacy. Leveraging RPA to automate rule-based tasks such as data entry, reporting, or generating mass email, frees up employees to focus on more valuable processes.

**Benefits to Analytics**

**Improved data quality**

Reduction in manual errors lead to higher quality data, enabling more reliable analyses. Case studies reveal that RPA can improve data quality as it can extract and manipulate data at ~99% accuracy, rising from 62% when data was extracted manually. Additionally, RPA can contribute to better analytics by
providing metadata for analyzing RPA performance, as well as enabling analytics tools access to data in legacy systems.

**Increased scope for data collection**

Robots interact with legacy systems and web browsers uncovering data that was previously labor-intensive to extract. RPA automates data entry and data extraction enabling the analytics team to develop more accurate analyses.

For example, RPA can be used to collect web data in order to provide businesses with real-time competitors' prices, help them protect their brand, and monitor consumer sentiments. See our article on web scraping applications to explore web data benefits and use cases.

**Reduced workload**

Data science and analytics teams spend ~80% of their time on data collection and cleaning tasks. Automating data collection via RPA, as well as automating the reporting of data can be especially valuable for the data science and analytics department, allowing them to focus on more sophisticated, custom analysis, and development of business models.

**Benefits to HR**

**Increased employee satisfaction**

A 2021 survey by salesforce revealed that 89% of employees are more satisfied with their job and 84% are more satisfied with their company as a result of using automation in the workplace. Employees have also reported that automation has provided them with more time to:
- Learn new skills
- Take on new challenges and projects
- Deepen relationships with customers and stakeholders

**Reduced churn**

A 2020 EY survey revealed that 20-30% of employees who do repetitive tasks leave their jobs annually, requiring businesses to hire new workforce every year. Leveraging RPA to automate repetitive mundane tasks will reduce this rate as employees will be focusing on higher value tasks.

As an example, a 2021 research study found that automation created autonomy and job-crafting opportunities. The study also indicated that employees who have
found automation to decrease their repetitive work found more opportunity to engage in internal and external collaboration and working relationships, redevelop services, and/or thinking about and solving more complex work-related problems, which can result in value-adding solutions and innovations.

Over time, automation will reduce the speed at which you hire for growth. As a result of this efficiency increase, you will be managing a smaller, more effective and satisfied workforce. This will give you plenty of opportunities to reduce churn.

Reduction in hiring costs

This is an indirect effect but reducing manual labor boosts satisfaction and makes a company more attractive, facilitating hiring. For example, a UK based company leveraging RPA for operations’ automation was able to cut down on the cost of recruitment and training of 22 staff members.

Benefits to Technology Unit

Reduced IT workload

As business users are empowered to automate their processes, IT will get less small automation requests. Businesses can also leverage workload automation (WLA) to reduce IT workload, such that workload automation tools can be programmed to schedule, initiate, and monitor workflows on several business platforms. For IT, workload automation tools can be used for automating:

- ETLs
- FTPs
- Data warehouse management
- SLA management
- KPI monitoring
- Cloud management/provisioning
- Workflow lifecycle management

Improved focus on IT innovation

IT teams spend ~30% of their time on repetitive mundane tasks such as data entry, reporting, and solving rule-based helpdesk issues. Leveraging RPA in IT services (e.g. data and network management, system updates, employee onboarding and offboarding) enables IT teams to focus on high value tasks. For example, research has shown that employees who had more free time due to automation focused on innovation, accepting new challenges at work and developing their skills.
Focus is key for any department. However, focus is especially critical for IT as IT has the challenging tasks of serving all departments. Having less automation related work allows IT to focus on more important technology problems.

**Compliance benefits**

**Minimizing exposure to sensitive data**

Automating sensitive data processes via RPA minimizes human contact with that data, reducing probability of fraud and compliance issues.

For example, a US-based bank leveraged RPA for optimizing [anti-money laundering](https://en.wikipedia.org/wiki/Anti-money_laundering) processes for due diligence on prospects, clients for periodic review, and subjects of suspicious activity monitoring. Leveraging RPA increased regulatory compliance, and generated 75% saving on due-diligence costs.

**Maintaining an audit trail**

RPA bots generate event logs of the processes they automate, creating accurate audit trails in case issues arise. For example, a telco company leveraged RPA for automating maintenance processes. This resulted in 78% reduction in maintenance efforts and improved IT audit quality due to detailed event log records.
Future of RPA

RPA tools are one of the most successful generalist automation tools for the modern enterprise but implementing RPA is not without pitfalls as we outlined before.

We see 5 trends shaping the future of RPA:

1. Facilitate development with no code RPA

Simplifying RPA programming will help democratize RPA and expand its use. Currently, most automation through RPA is achieved through programming which is one of the most major costs of RPA implementation. It’s also a limiting factor as RPA developers are required for RPA development. Unless you know the latest no code RPA solutions, you could get stuck with a long programming period and heavy reliance on 3rd parties.

Anyone who dabbled in coding knows that it is hard. It’s complex and requires a methodical way of thinking which most people are not used to. That’s why leading VCs view the trend of making programming easier, low code/no code, as one of the biggest trends in enterprise software with already big success stories like Twilio and Airtable.

RPA is no different. Once the process is clear, it needs to be programmed. Though RPA programming is easier than more complex programming like back-end programming or full stack programming, it still requires an effort to learn. There are numerous RPA training courses launched both by RPA companies and others. This is also why RPA companies rely on partners like consultancies and system integrators (SIs). While consultants and SIs supply and charge for the programming time, RPA companies provide the software licenses.

This is changing. Startups are launching no code solutions while RPA companies try to simplify programming. To understand no code RPA better, we created a comprehensive guide on no code RPA and reviewed top no code RPA solution providers. Democratizing RPA can be as powerful as the launch of excel which empowered and changed the finance community forever. Given RPA’s broad field of application, no code RPA has the potential to revolutionize white collar work.

2. Automate RPA design with process mining

Even before programming, RPA developers need to understand the process they are programming. However, accessible process information is lacking in most
companies. Auto-extracting process knowledge from videos and logs is one of the top priorities for RPA companies.

Unless you work for governmental agencies, even the most repetitive processes rarely have manuals or up-to-date diagrams. Companies like Software AG achieve multi billion valuations with tools like ARIS process modeler. However, it’s very rare for a successful company with an exhaustive and up-to-date process catalogs. It takes so much effort to keep those catalogs up-to-date that good companies decide that it’s more efficient not to have them.

The current solution is to run interviews to gain a high-level understanding of the process, cross-check logs for outliers and run extensive pilots to ensure that process has been modeled correctly. This is a manual and time consuming process.

Both startups and large RPA companies are working to solve this problem. Using videos of users running a process along with system logs is an exciting area of RPA research. Though we have read about vendors discussing this technology, we have not yet heard large scale success stories from customers yet.

Another approach is to leverage system logs. Process mining involves auto analyzing systems to extract process flows and generate insights about processes. Process mining has numerous use cases but it can also support RPA development. Process mining companies and process mining modules developed by RPA companies help understand process flows, facilitating RPA development.

3. Facilitate integrations via RPA marketplaces

RPA marketplaces enable RPA bots to have a larger set of capabilities, allowing companies to automate processes more easily. This is because no single provider can provide all the functionality to automate the diverse number of processes in use at companies. Marketplaces allowed operating systems (e.g. Apple App Store), CRM software (Salesforce AppExchange) and numerous other platforms to extend their reach. Read our articles on RPA marketplaces and reusable RPA plugins to learn more.

A common example where marketplaces are helpful is automating document based processes. Most RPA developers rely on simple OCR tools built into RPA systems and rules based programming to extract data out of documents. Machine learning based document extraction tools can make automating document based tasks both easier and more accurate. Most common document based process is invoice processing, feel free to read our articles on invoice capture and processing.
A new approach to RPA marketplaces is to enable developers of popular software to easily submit their code into RPA deployments.

4. Make RPA smarter with cognitive automation

While the previous 2 areas make RPA easier and faster to deploy, cognitive automation enables RPA to leverage AI and machine learning to expand the scope of processes it can automate, such as:

- Integrating RPA solutions with chatbots to create an end-to-end automated experience for users in healthcare, customer service, or IT.
- Leveraging OCR and NLP to tackle handwritten documents, such as KYC documentations, financial transactions, and insurance policies.

See our comprehensive article on cognitive automation here.

5. Make RPA cheaper and more transparent with open source

With the introduction of Microsoft in the RPA ecosystem, leaders of RPA companies are seeing increased commoditization of RPA. A capability that was offered by a handful of vendors just a few years ago, is now offered by almost hundred companies as of 2022. It is becoming less costly to build a competitive RPA solution.

The demand for open source RPA software is expected to increase. With all things being equal, enterprises favor open source solutions since they offer more transparency and tend to be cheaper as enterprises only need to pay for services.

These developments favor open source RPA. And we are seeing growth in the open source RPA ecosystem with new companies being launched. If a for-profit company can find a way to monetize open source RPA products, it could claim a significant portion of the RPA market. We do not yet see such a solution in the market yet but feel free to read our overview of the current state of the open source RPA market which includes both leading open source and free-to-use solutions.
RPA vendor evaluation

There are plenty of sources on criteria for choosing RPA providers. For example, the list above from Forrester which is based on 105 answers by managers listing their primary criteria for selecting an RPA solutions provider. We created the full list of criteria and categorized them to make the list more manageable.

**Total cost of ownership**

This includes initial setup cost of RPA system, ongoing vendor license fees and maintenance cost.

**Initial setup cost**

Initial setup costs can also be negligible if in-house process experts can train bots. However, if in-house resources are better utilized elsewhere, business consulting companies like Accenture and Infosys can augment your workforce and speed up implementation.

**Ongoing vendor license fees**
Workfusion recently rolled out a limited selection of free-to-use bots to disrupt the market. UiPath also offers a free community edition. However, these vendors only offer their rule-based bots for free. Cognitive bots that learn by watching employees are a premium product and can be priced per bot or per process. Since different vendors use different pricing models, you need to estimate the total vendor license fee you will pay.

**Maintenance cost**

As inputs and systems change, your bots will require maintenance. When you roll-out bots, your teams will need to set up the alerts needed to identify bot issues. As those alerts arise, your teams will be fixing bot configurations to maintain bots. This is not a directly measurable financial cost however it will distract your employees. An easy-to-maintain solution will make your employees happier and more productive.

**Ease of programming and control**

**Ease of automation**

A user friendly solution easy enough to be used by your team can help them implement RPA in new areas and increase both efficiency and employee satisfaction. Easier to use solutions will also require less training and allow your new hires to get up to speed faster. Ease of use depends on bot development options, such as availability of Graphical User Interface (GUI) for drag&drop bot building and macro recording.

Additionally, new vendors are pushing for completely code free RPA solutions that are simpler/easier to implement. Finally, you can’t know ease of use without using the product. Once you reduce your shortlist to 2 or 3 vendors, pick the simplest use case that you really need to automate, sit down with vendor personnel for an hour and automate that process on a demo environment. Automating a process will help you understand how easy to use each RPA solution is.

**In-person or virtual training options**

Quality of available training is also an important factor here. Great text or video tutorials and availability of hands-on training can help employees become quickly proficient in RPA solutions. Some leading RPA solutions providers offer community versions of their products.

To support RPA development by their community, they offer free courses, training material and community forums to help users support one another.
Ease of control

Once your process is automated, you will need to make adjustments to how it is running. For example, you may need to stop bots during systems maintenance and add bots when process volume increases. Different providers offer different levels of automation and granularity of control.

That’s why it is good to use the bot orchestrator before the purchase.

Ease of use (from an end-user perspective)

**Attended RPA or RDA (Robotic Desktop Automation)** bots are triggered by end-users such as call center agents. Therefore, ease of use of bots from an end user perspective is important for these bots.

The most important feature we noticed in this case is concurrency which enables an end-user to work at the same time as a bot. Without this feature, bots that need to take long periods of processing time do not become feasible to use in attending RPA.

Technical criteria

The technical criteria needs to be evaluated by the company’s technology team. RPA software needs to comply with the technology guidelines of the company in terms of:
- Minimum system requirements in terms of software and hardware
- Security
- Integrations
- Screen scraping capabilities
- Cognitive or intelligent automation capabilities
- Compliance to company’s product roadmap
- [Click to learn more about technical evaluation of RPA software from our dedicated article on the topic](https://aimultiple.com)

Vendor experience

Ideally, it is best to work with a vendor that serves a company similar to yours both in terms of size and industry. This may not be easy to find but it would be easier to work with a vendor that understands the needs and processes of your business. Such experience can drastically improve speed of implementation by reducing the work required to implement RPA software.

Vendor support
While some companies will require quite some hand-holding, others have technically competent, eager-to-learn staff who can program RPA bots themselves.

Based on the needs of your company you need to consider the level of support you will require from your RPA vendor. For a company that requires a lot of support, working with a BPO provider may be a good solution.

**Existing vendor relationship**

It is faster to get started with a provider that is already familiar with your company.
Conclusion

Our aim in this document was to demonstrate to you the power of RPA and how it can transform your business.

Next, I would recommend identifying top processes to automate and starting your RPA journey quickly to gain an understanding of this valuable technology.
Additional resources

Articles on RPA
https://blog.aimultiple.com/rpa
https://blog.aimultiple.com/robotic-process-automation-rpa-vendors-comparison/
https://blog.aimultiple.com/rpa-tools/
https://blog.aimultiple.com/rpa-implementation/
https://blog.aimultiple.com/rpa-pitfalls/
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