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
- increase automation allowing your employees to focus on client-facing tasks or tasks that are more difficult to automate
- reduce manual errors: Bots do not get tired or bored. And they get cleverer over time as they see more cases and understand the process better.

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

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

And if you need a knowledgeable partner in this journey, feel free to reach out to us, we have consulted organizations from numerous Fortune 500 companies to unicorn startups on their RPA strategy. We can help you find the right partner.

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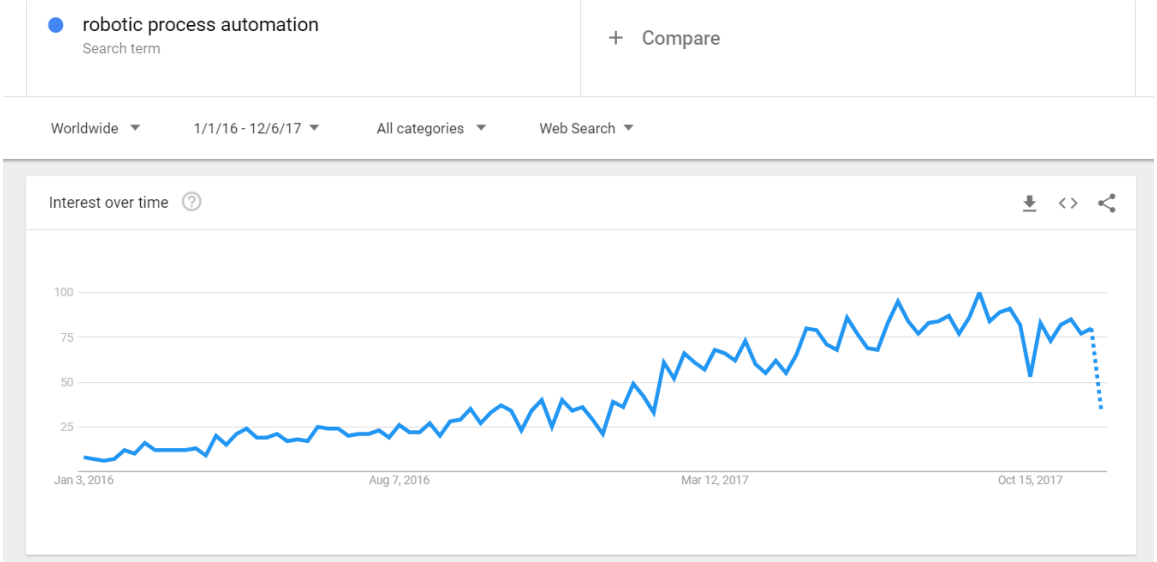
Introduction



As you can see in the graph above, interest in RPA has grown ~10x in the past 1.5 years. This is no surprise since Fortune 500 CEOs cannot stop talking about it. As John Cryan, CEO of Deutsche Bank said in September 2017:

“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 setup a fast, cost-effective RPA implementation initiative?

Manual processes are holding your organization back

Manual processes are unavoidable. We have not seen a single business that did not have manual processes that could be automated with today's technology.

Manual processes
- Slow down your organization reducing customer satisfaction
- Introduce manual errors due to fatigue and boredom reducing customer satisfaction and lead to costly fixes
- Reduce your employees' morale. No one wants to work like a robot

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 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
A large portion of the workforce works in the backoffice in non-tech functions
Some industries that have companies that fit both of these points are listed below. 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.

Financial services including banking and insurance

According to McKinsey Global Institute's 2017 report on automation 43% of these jobs are automatable. This is because data entry and processing are important parts of these businesses. Furthermore, these businesses are subject to constant changes in regulation such as KYC requirements. Bots can be taught regulatory changes quickly and in a centralized way. This helps companies avoid embarrassing compliance issues.

According to Accenture's report on insurance process automation, some good activities to automate are:

- Sales processes
    - Updating sales scorecards to agents
    - Conduct required regulatory and legal checks
    - Conduct credit checks

    - Account maintenance services not currently supported by straight-through processing
- Underwriting
    - Data entry for clearance and registration processes
    - Update systems with client information
    - Generate a renewal premium
- Policy servicing
    - Update to customer information including bank account details
    - Reject or cancel policies if payments are not received
    - Identify and reconcile policy premium discrepancies
- Finance
    - Automate daily bank reconciliations
    - Process low-risk payments

For example, claims processing is a good process to deep-dive. Claims processing is at the heart of every insurance company. Since customers make claims at a time of misfortune for them, customer experience and speed are critical in claims processing.

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 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 pre-defined rules. This approach takes care of all major issues with manual claims processing:

- Claim verification can be automated with rules
- Bots can deal with various data formats to extract relevant data
- Rules can be changed with regulatory changes, without any need for training, immediately ensuring compliance.

Utilities like telecom and energy

According to previously mentioned McKinsey report, 44% of activities can be automatable. Since these are the oldest subscription businesses, they have frequent payment and customer service requirements which can be automated.

All industries

These processes are common in most industries and are generally labor intensive and prone to errors before automation.

Quote-to-cash
Every business needs to sell to survive. issues in the operations side of selling can result in customer complaints or selling at reduced prices due to clerical errors.

Automating complete sales operations process eliminates these errors and provides fast service to your customers. Since automation processes sales faster than manual processes, customers will receive invoices earlier, leading to earlier payments and improved cash flow.

Procure-to-pay
Since procure-to-pay process involves extracting invoice and payment data from multiple systems like 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.
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.

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 manually migrate data using formats like CSV. RPA can prevent such manual labor and potential clerical errors it brings.

Periodic report preparation and dissemination
Every business requires regular reports to inform managers and ensure team are aware of their progress. Preparing such reports and sending them over every week or month is not labor intensive but it distracts employees. RPA solutions can easily auto-generate reports, analyze their contents and based on the 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 criticial issues and head of network should 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 there are other use cases as well. RPA provides your teams a Swiss Army knife of automation and they should be using it as automation opportunities arise.

Some other areas where RPA has been used are:

- Inventory management
- Mass email generation

RPA can automate your manual processes

In this section, we aim to explain in detail how RPA bots work. As industrial robots transformed the factory floor, RPA bots transform back offices. RPA Bots replicate employee actions like opening files, inputting data, copy pasting fields in an automated way. To set up an RPA bot, it isn't required to know programming. There are 4 ways to setup RPA bots:

Programming

As expected, the most powerful interfaces for programming bots is a programming language. However, using a programming language requires skill 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.

Graphical User Interfaces

Many vendors offering solutions to program RPA bots with drag&drop interfaces. Anyone in the company should be capable of setting up simple bots.

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, merging it with a report from MailChimp in excel to identify which customers to target during the company's routine customer activation SMS campaign.

Self-learning bots

These bots watch recorded employee activity to learn automatable tasks. They are the easiest to deploy bots. However, their learning is not always perfect since they rely on recognizing images in scraped screenshots. Especially during initial deployment, they could be making mistakes and their activity needs to be audited. Most of the time mistakes are avoided as bots understand when they see cases they don't know how to complete. In such cases, they contact employees for guidance.
Once bots are setup, an orchestration module helps start/stop bots and analyze their activity.

Possible activities of RPA bots

RPA bots can use the operating system applications like a human user. 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 processing
- Following logical rules such as “if/then” rules
- Making calculations
- Extracting data from documents
- Inputting data to forms
- Extracting and reformatting data into reports or dashboards
- Merging data from multiple sources
- Copying and pasting data

Bots can do these functions on virtualization solutions like Citrix or on Windows environment. Most vendors do not support other OS environments like Mac OS or Linux. This is because most office work is conducted on PCs.

Types of RPA automation

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

Attended automation

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 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. RPA bot can actually work a lot better than the rep, perform regulatory and compliance checks and would never do manual mistakes due to fatigue or boredom.

Launcher for RPA can be setup 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)
- auto-run when certain conditions are met. For example, if some KYC check needs to be performed on newly acquired customer phone numbers, bot can be launched as soon as the phone number field is filled. 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. They complete a data processing task 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

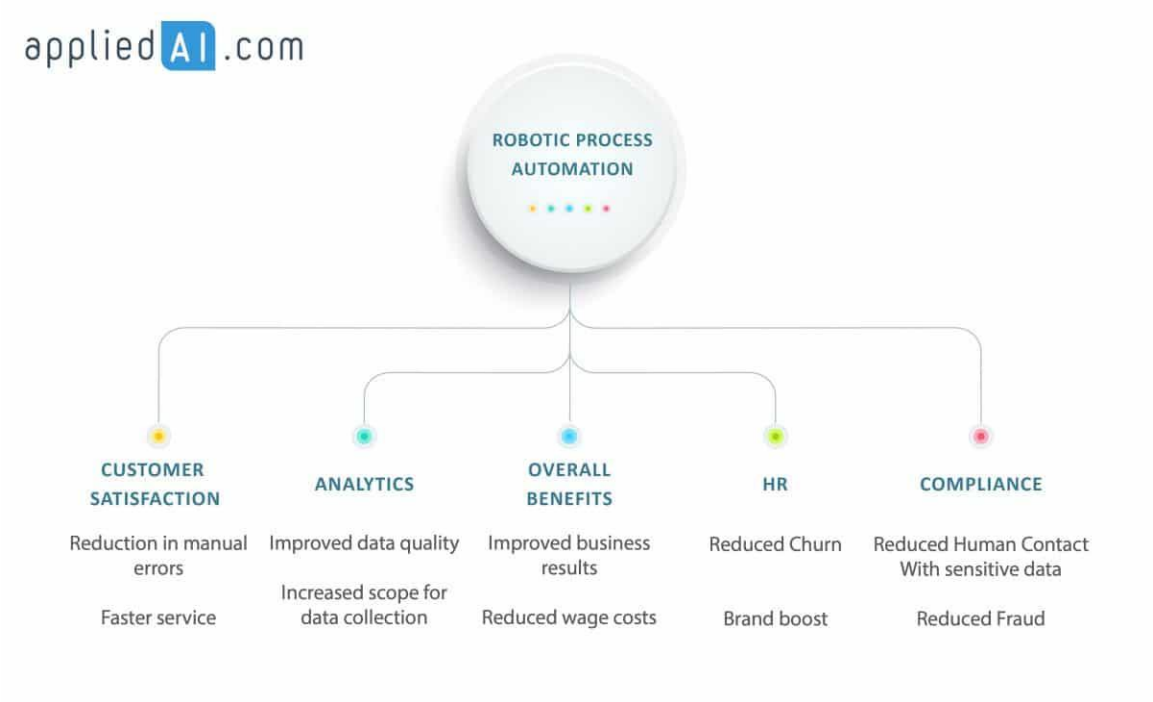
data processing is generally required to serve regulatory or marketing-related needs.

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, 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. Depending on the focus on the business, these could impact top or bottom line. Some positions already serve as stepping stone for higher value-added jobs. For example, call center personnel cold calling customers with new offers make the ideal face-to-face sales people as well. Face-to-face sales is 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: Though automation did not reduce jobs in the past, this can change. RPA vendors estimate 25–60% cost savings due to RPA roll-out. Leading AI experts like Andrew NG also predict AI will lead to loss of jobs for those those who work in automatable jobs and lack the skills to be successful at jobs that can not be automated.

These predictions are becoming more believable as they are uttered by CEOs of major banks. As CEOs in an industry that is tightly regulated companies, they need to be careful when talking about headcount decreases. Neither the public nor the government would be happy to hear that people will lose their jobs and inevitably negative perception about banks influences regulatory decision making. So CEOs wouldn't be talking about headcount decreases if they weren't 100% sure that they would happen. So I believed John Cryan, CEO of Deutsche Bank, when recently said that a large number of bank employees would be replaced due to automation.

Therefore, it is clear that automation will make some positions redundant. There could be 3 possible solutions: employing personnel in other functions, upskilling personnel and letting go of personnel so they can find opportunities in other companies.

If relevant opportunities exist in the company that fit these employees' skills, that's the easiest solution. 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 at 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.

Benefits to Customer Satisfaction

Reduction in manual errors: One of the greatest benefits of automation, machines do not get distracted! Once the RPA setup is complete, manual errors are eliminated. Customers will no longer need to complain about errors that you introduce to their data. These errors are some of the hardest to fix as your customer rep may not be able to correctly identify the customer on the line due to data entry issues. As a result, customer may need to go to a face-to-face channel which takes significant time and effort especially for busy professionals.

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.

Faster service: Back office processes hold back the speed of your business. Employees manually entering forms into systems or copying data between systems hold back your service speed. Bots work at lightening speed without break.

Benefits to Analytics

Improved data quality: Reduction in manual errors lead to higher quality data, enabling more reliable analyses.

Increased scope for data collection: Robots interact with legacy systems uncovering data that was previously labor-intensive to extract. This enables analytics team access more data which leads to more accurate analyses.

Benefits to HR

Employee satisfaction increase: No one wants to spend all day copying data from one system to another. Appreciation of work emerges as one of the strongest driver for employee satisfaction in numerous studies like this BCG study.

Reduced churn: 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

Employee brand boost & reduction in hiring costs: This is an indirect effect but reducing manual labor boosts satisfaction and makes a company more attrative, facilitating hiring.

Compliance benefits

Human contact with sensitive data can be minimized, reducing probability of fraud and compliance issues.

Conclusion

Our aim in this document was to demonstrate 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 critical technology.

Additional resources

Articles on RPA

http://blog.appliedai.com/rpa
http://blog.appliedai.com/robotic-process-automation-rpa-vendors-comparison/
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