

# ROBOTIC PROCESS AUTOMATION IMPLEMENTATION IN BUSINESSES

By Claire Bing

Robotic Process Automation, commonly known as RPA, is the use of software and machine learning capabilities to handle various tasks that once required human interaction to be performed.<sup>1</sup> Every day, society interacts with RPA bots to complete tasks.

For example, Siri, Alexa and Google Dot are robots that respond to various commands that humans speak to perform simple tasks, such as calling people, turning lights on and off, and searching for simple information. Online shopping websites also implement RPA bots to locate orders on actual repositories. These bots help to quickly and accurately dispatch items to the customer.

The benefits of RPA are numerous. The most notable, explained by Automation Anywhere, a top RPA development company, is the ability to navigate complex digital landscapes in a non-invasive, scalable way, while having the ability to integrate with other systems of an enterprise.<sup>2</sup>

Other widely used software, such as Excel macros, are able to complete various tasks just like RPA. However, they are unable to integrate with other systems of an enterprise, such as HR, payroll and accounting software. This limits the use of macros strictly to Excel functions and decreases the use and return on investment for implementation of such software.

RPA bots are able to integrate with other software used in insurance, health care, finance and manufacturing, among others. RPA bots are also able to provide flexibility, speed, accuracy and detailed data capture.<sup>3</sup> In a study of an insurer, there was a particular process where it previously took two days to handle 500 premium advice notes. It now takes only 30 minutes with the use of RPA and it is also now an error-free process.<sup>4</sup> Without the need for human interaction, these bots will be able to perform tasks at an accelerated pace as they work around the clock, without human error.

Due to the varying capabilities of RPA bots, many fear the implementation of RPA in businesses will replace humans and decrease job opportunities. In reality, with the use of bots, humans will no longer be required to complete monotonous, repeatable tasks but will instead be allowed to spend time on more challenging, thought-provoking tasks.

The shared perspective of those who develop bots and those who have experienced implementation of bots in a business setting is that RPA "takes the robot out of the human." Studies have shown that use of bots increases employee morale because those who were once spending weeks on mindless tasks now have the chance to create and improve processes.<sup>5</sup> This adds value and a sense of purpose as employees go to work every day.

## THE USE OF BOTS WILL ENABLE PEOPLE TO WORK ON FEWER MONOTONOUS, REPEATABLE TASKS.

### RPA Implementation in Businesses

Multiple RPA bots have been deployed in businesses to complete various tasks, including collecting email attachments, extracting PDF data and copying it into Excel, logging Excel data into web-based forms, and confirming process completion via email. The use of bots in the business setting reaches far beyond what the world can imagine as the development of RPA continues to grow.

When a company considers implementing RPA in various lines of business, its business analysts must study specific tasks to determine which tasks are best suited to be replaced by bots. Automation Anywhere, for



example, uses analysts who study the Process Maturity Model (PMM) to consider the costs and benefits of implementing RPA. PMM helps potential users study their processes in an organized and methodical way to determine if RPA implementation will be beneficial to the company.<sup>6</sup> Figure 1 lists the steps of the PMM and the following paragraphs describe each of the steps.

**Figure 1: Process Maturity Model (PMM)**

Automation Pipeline (1)	Feasibility Analysis (2)	Complexity Assessment (3)	ROI Analysis (4)	Automation Design (5)
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**Step 1: Study the Automation Pipeline.** The automation pipeline identifies and prioritizes processes eligible for automation with candidate identification, top-level benefit analysis and candidate prioritization. In the “candidate identification” phase, analysts study the volume and manual use of a process to determine which processes have the potential to be automated. Then the “top-level benefit” analysis lists and weighs processes based on organization focus areas like regulation, saving manual labor and quality.

In the “candidate prioritization” phase, the analyst studies each process by considering basic information,

manual hours, business priorities, complexity to automate, and output. The processes are then sorted by “business priority” score, “manual dollars saved” score and “complexity to automate” score, to determine which processes to automate first.

**Step 2: Perform a Feasibility Analysis.** This phase evaluates whether a process in the automation pipeline is feasible to automate, based on technical needs and financial feasibility.

An example of a feasible process would be the extraction of electronic PDF data from an invoice

for a consumer product company that would then be copied into an Excel spreadsheet. This process is rules based and high in volume because a consumer product company would receive multiple standardized invoices per day.

In addition, this process uses the digital data from the PDF, not handwritten data, and is initiated when an invoice is submitted. On the other hand, if there were any question about what information would need to be captured and copied, it would require a judgement call and therefore result in fuzzy logic.

If the invoices were handwritten, the bot would have

to read multiple different styles of handwriting, which could also result in an error of bot performance. These are examples of ways that a process would be infeasible to automate. See Figure 2 for characteristics of processes that are feasible and infeasible to automate.

- Unauthorized access to the robot, which could allow for opportunity to alter the bot; and
- The likelihood that the bot produces errors that become systemic and widespread as the bot continues operation.

Figure 2: Feasibility Analysis	
<b>Characteristics of Feasible Processes</b> <ul style="list-style-type: none"> <li>• Rules based</li> <li>• High volume</li> <li>• Data trigger-initiated</li> <li>• Processes using digital data</li> <li>• Functional and stable process</li> </ul>	<b>Characteristics of Infeasible Processes</b> <ul style="list-style-type: none"> <li>• Judgment calls</li> <li>• Fuzzy logic</li> <li>• Use of handwritten documentation</li> <li>• Mandatory date pickers</li> <li>• Use of captcha codes</li> </ul>

PWC has studied specific risk of RPA bot implementation and has defined five categories into which these risks fall.<sup>7</sup>

**1. Executive risk** is related to ownership for the RPA initiative within a company as a whole. When considering executive risk, companies should consider implementing a companywide

governance framework to promote efficiencies and reduce duplication of efforts.

**Step 3: Complete a Complexity Assessment.**

A complexity assessment helps the analyst understand the skills needed to automate a process. This phase estimates development and standardization, which in turn helps to plan automation design and development. In addition, analysts consider the different coding and development backgrounds needed based on the complexity of a given task.

**Step 4: Perform a Return on Investment (ROI) analysis.**

The ROI analysis looks at the cost of developing and implementing bots in a business unit or enterprise as a whole and benefits that the company would see within a certain time range. In addition, during this phase, the analyst studies what is needed to maintain and update the bot as company processes and software usages change.

**Step 5: Automation Design.** This final phase consists of everything from installing the software that creates the bots, to creating the bot, developing a monitoring plan and preparing infrastructure.

The decision to develop and implement RPA in a company is a lengthy process. Because the process is long and time consuming, it is best that one studies how bots will be implemented into their company before beginning development to ensure that they will maximize the use for RPA bots. Development and implementation can be costly and should be carefully considered when deciding which tasks to automate.

**The Risks Associated with Implementing RPA Bots**

As RPA is implemented within a company, management and executives must be aware of the risks associated with the implementation of RPA. Some of the most common risks with RPA bots include:

- Business process changes with failure to update the bot;

One way this can be implemented is through a Corporate RPA charter with a specified operating model. This charter should list standards and policies related to the selection, development and use of bots within the organization. These would include success measurement criteria and key performance indicators, ensuring that the company is producing expected results from the implementation of bots.

**2. Technical risk** is related to the control of robots' access system, as well as testing of the robots to ensure they are functioning as intended. With changes to IT platforms, the bot will not automatically adjust but will need to be recoded and edited to account for various changes. Depending on the extent of implementation of RPA bots within a company, technical changes will have a major impact on the workforce.

**3. Change management risk** considers the impact of RPA on human resources and how this information will be communicated to employees. Without communicating effectively to employees about changes that will take place, companies will experience resistance and a decrease in employee morale. The change of replacing positions with bots also creates the potential for gaps in various roles and problems with accountability in the company.

**4. Operational risks** need to be considered and companies should implement controls to monitor bot performance and ensure that bots are up to date with regulation requirements. Bot-related errors can affect validity of various regulatory reporting processes and cause inadvertent violation of laws by the bots.

Management must ensure that internal controls are put in place to address the operational risks associated with the bots to ensure that they are designed and operating



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effectively. Proper control frameworks should include controls of the entire transaction cycle, including source data, bot outputs and points where human intervention is required, such as investigating exceptions or making judgments.

Providing additional education and training programs is also beneficial to help management and auditors develop a sufficient understanding of how bots affect risk and to determine which controls are necessary for automation monitoring.

**5. Functional risk** is the last risk associated with RPA bots. This risk considers who designs the bots, their knowledge and expertise, along with the scalability limitations and core systems infrastructure.

In addition to these risks, management should consider how the development and implementation will affect the audit process. External auditors must understand how the RPA bots work in order to provide reasonable assurance of the quality of the financial statements to various users.

One way that companies can help this process is by holding regular planning meetings and providing regular and periodic updates specifically relating to bots that are being used in the internal controls of financial reporting process.<sup>8</sup> Through these meetings, management can help auditors align their planning and thinking regarding risk assessment. This can be done with the use of process-flow diagrams, and internal-control documentation that clearly articulate where and how bots are used within the accounting and finance organization.

As bots are developed, management should maintain a list of bots along with an explanation of the nature of the impact of bots employed by the accounting and finance organization. This will help auditors focus their procedures on those most relevant to the financial statements.

As a company considers the development and implementation of RPA bots within its business, it is important for those employees involved in the decision-making process to consider the various risks associated with RPA. Due to the costly nature of implementation, RPA bots are not something a business should take lightly when analyzing whether it is the next best step for the organization.

## So Now You Want to Automate

The financial gains for bot implementation are seen when more than one bot is implemented. For RPA, the average one-time acquisition cost for the bot is anywhere from \$5,000 to \$15,000. While this is a high initial cost, the financial returns of implementation have potential to be exponential.

A company consisting of 2,500 employees began the automation process within the HR department. It began with the automation of a single process and within the first month of implementation, the company was able to save 120 hours of manual labor.<sup>9</sup> By saving manual labor, the organization was able to reduce salaries and wages expenses for that process. Employees were able to focus on more thought-provoking tasks.

In addition, as processes change, the bots are able to be edited and updated to accommodate change, so there will always be ways that companies can put them to work.

As RPA is continuing to grow, there are many different ways companies can implement them into their workforce. One of the most common ways to do this is through an RPA provider. There are multiple providers today that develop and deploy bots for companies of all different sizes, from family owned businesses to Fortune 500 companies. In a recent article by Forrester Research, Inc., 30 different RPA providers were evaluated and ranked based on current offering, strategy and market presence. Of the 30 companies studied, UiPath, Automation Anywhere and Blue Prism emerged as market leaders.<sup>10</sup>

## AS RPA CONTINUES TO GROW, THERE ARE MANY WAYS COMPANIES CAN IMPLEMENT THEM INTO THEIR WORKFORCE.

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Big 4 accounting firms have relationships and alliances with the top RPA providers to bring RPA solutions to their clients. These alliances help ensure that the bots are being used efficiently and are being implemented with proper internal controls. The endorsement of these providers from Big 4 accounting firms attest to the integrity of the robots that these providers develop.

In addition to implementation with providers, many of these companies offer community editions about bots at no charge or give subscribers access to libraries of bots for a low cost. If a company is looking to implement RPA in a few processes at a lower cost, it can consider hiring a specialist in coding and development to create bots. With knowledge and expertise of bots, community editions have proven to be user friendly and easy to manage. Rather than outsourcing the development, a company should consider training and hiring an individual for small scale integration of RPA bots.

Many businesses currently have multiple processes and tasks that can be performed by RPA bots. Implementing them to run these tasks allows for accurate results within a shorter time frame than if humans were completing the



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task. RPA is continuing to grow and develop every day and will soon be a significant competitive factor of the workforce across all industries. The sooner a company invests in RPA on any scale, whether for a few processes or multiple processes, the greater their return on investment.

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