Digital Transformation for Leaders

simplilearn

Robotic Process Automation

Learning Objectives

By the end of this lesson, you will be able to:

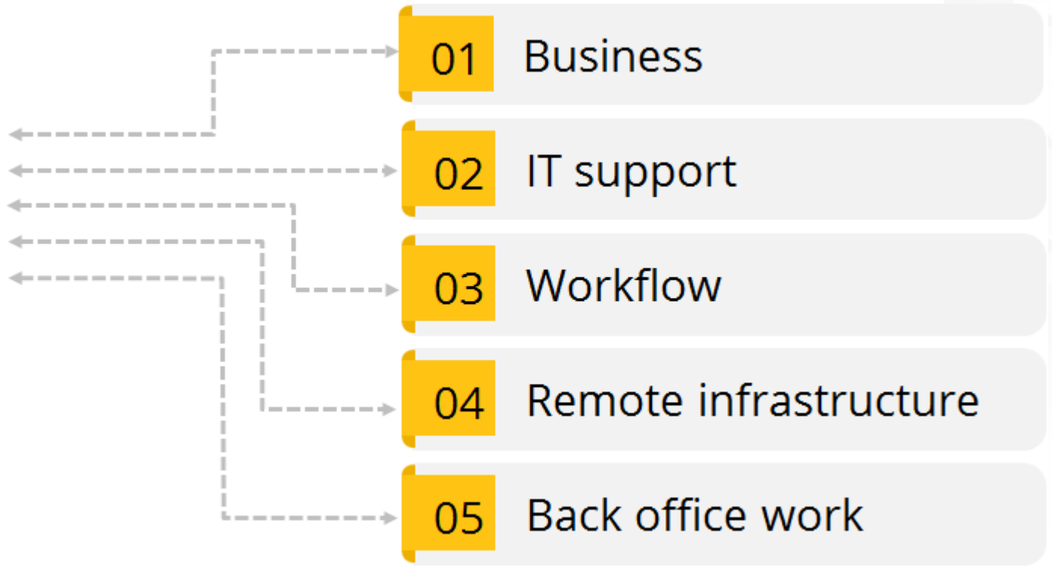
- Discuss the meaning and definition of robotic process automation
- Understand the benefits of robotic process automation
- Explain the three stages in which RPA provides solution
- Describe RPA implementation process
- Identify popular RPA vendors and their tools and platforms

Robotic Process Automation (RPA)

What Is Robotic Process Automation?

Robotic process automation is a form of automation where intelligent software processes, referred to as *robots*, take over repetitive and rule-based tasks that would have been otherwise performed by human beings.

As opposed to industrial robots, RPA robots automate and administer processes such as:



Definition of Robotic Process Automation

Institute for Robotic Process Automation and Artificial Intelligence (IRPAAI) defines Robotic Process Automation as follows:

> “Robotic process automation (RPA) is the application of technology that allows employees in a company to configure computer software or a “robot” to capture and interpret existing applications for processing a transaction, manipulating data, triggering responses and communicating with other digital systems.”

Benefits of Robotic Process Automation

Provides flexibility and scalability

Prevents employee burnout by automating labor-intensive tasks

Provides faster turnaround time

Increases productivity and accuracy

Reduces processing costs

Makes processing times predictable and consistent

Improves regulatory compliance

RPA in Industries

Customer order processing	Payroll processing	Benefits administration
Credit card applications	Call center operations	Claims processing
Shipping	Complaints processing	Data migration and management
System access and setup	Statement reconciliation	IT and infrastructure support

RPA in Banking

Deutsche bank is using RPA to increase efficiency and effectiveness in its back-office administration. Dean Mazboudi, the head of innovation lab in New York, stated that RPA tools, when coupled with cognitive capabilities, can automate repetitive manual work.

RPA has helped in automating functions like trade finance, cash operations, and loan operations. It has also reduced the time taken to train the employees, thus ensuring efficient work delivered in less time.

RPA in Logistics

Amazon is practicing the effective use of robotics in logistics with the purchase of Kiva Systems, which was renamed to Amazon Robotics. It has equipped several U.S. warehouses with squat, orange-wheeled robots that move stocked shelves to workers, instead of having employees seek items amid long aisles of merchandise.

The robots have helped Amazon to save fulfilment costs by reducing the number of times a product is touched.

RPA in Healthcare

Transenterix, a medical device company, is using robotics to improve minimally invasive surgery. RPA addresses the clinical and economic challenges associated with current laparoscopic and robotic options.

Three stages of RPA Solution

Stage 1

Stage 2

Stage 3

- Stage one of RPA involves dealing with static rules and structured data.
- Tasks like data entry and validation are automated in this stage.
- Primary benefit of this stage is the decrease in cycle time.

Three stages of RPA Solution

Stage 1

Stage 2

Stage 3

- Stage two of RPA primarily consists of implementation of natural language processing capabilities.
- Tasks such as content analytics and process automation are performed in this stage.
- This stage brings in flexibility and scalability and improves accuracy.

Three stages of RPA Solution

Stage 1

Stage 2

Stage 3

- Stage three of RPA consists advanced natural language processing and cognitive capabilities.
- It includes RPA systems capable of human-like decision-making.
- This stage helps improve employee morale and brings in detailed data capture.

RPA Implementation

RPA Implementation: A Five-step Process

What?

Assess opportunities of automation

1. List down the processes that best fit the automation

2. Evaluate the relevance of a different process for pilot project

3. Analyze how to engage process owners to try automation

4. Anticipate the results of the pilot project on automation

Why?

Develop the prototype of business

1. Analyze significance of automation to business needs

2. Evaluate the pros and cons of the adoption

3. Examine how it will alleviate the pain areas

4. List down the metrics to validate the automation

5. Create a strategy for using the existing resources after automation

How?

Determining most efficient operating model

1. Evaluate the relevance of different operating model

2. Determine the availability of human resources to carry out the work

3. Identify the number of people required to manage and monitor the software robot

RPA Implementation: A Five-step Process

Who?

Identify automation partners

1.Discover the main vendors in the RPA space

2.Determine the vendors that suit your needs

3.Analyze the sourcing options

4.Determine the metrics that will facilitate comparison of different pricing models

When?

Planning framework for automation

1.Determine the time frame of pilot project

2.Evaluate the stages after the pilot project

3.Analyzing the scale of strategy execution

4.Create a framework for the stakeholders to justify why it is important to automate

Popular RPA Tools

Popular RPA Tools

- RPA tools can be used in cognitive technologies such as:
  - Machine learning
  - Speech recognition
  - Natural language processing

- Three vendors that have developed RPA tools with cognitive capabilities are:

RPA Tools: Automation Anywhere

- Automation Anywhere has developed computer vision technologies and machine learning capabilities in-house.
- The company has used natural language processing techniques in loan processing, which extract sentiments from supporting documentation in order to establish loan applicant's creditworthiness.
- Products developed by Automation Anywhere:
  - Automation Anywhere Enterprise
  - IQ Bot
  - Bot Insight
  - BotFarm

RPA Tools: Blue Prism

- Blue Prism’s cognitive strategy centers on partnering with cognitive technology specialists.
- The company has proclaimed a partnership with IBM Watson to desegregate cognitive technologies into method flows.

RPA Tools: UiPath

- UiPath is working with cognitive technology tools from third parties, including open source machine learning libraries to craft point solutions for clients.
- The company has developed various platforms and tools including Orchestrator, Robot, and Studio.

Key Takeaways

- Robotic process automation is a form of automation where intelligent software processes, referred to as robots, take over repetitive and rule-based tasks.
- Robotic process automation provides solution in three stages.
- Automation Anywhere, UiPath, and Blue Prism have developed RPA tools with cognitive capabilities.