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# ROBOTIC PROCESS AUTOMATION (RPA)

# RPA

- Robotic process automation (RPA) tools perform "if, then, else" statements on structured data, typically using a combination of user interface (UI) interactions or by connecting to APIs to drive client servers, mainframes or HTML code.
- An RPA tool operates by mapping a process in the RPA tool language for the software "robot" to follow, with runtime allocated to execute the script by a control dashboard.

Gartner

# RPA

- Is an application of technology, governed by business logic and structured inputs, aimed at automating business processes.
- Using RPA tools, a company can configure software, or a “robot,” to capture and interpret applications for processing a transaction, manipulating data, triggering responses, and communicating with other digital systems.
- RPA scenarios range from generating an automatic response to an email to deploying thousands of bots, each programmed to automate jobs in an ERP system.

CIO

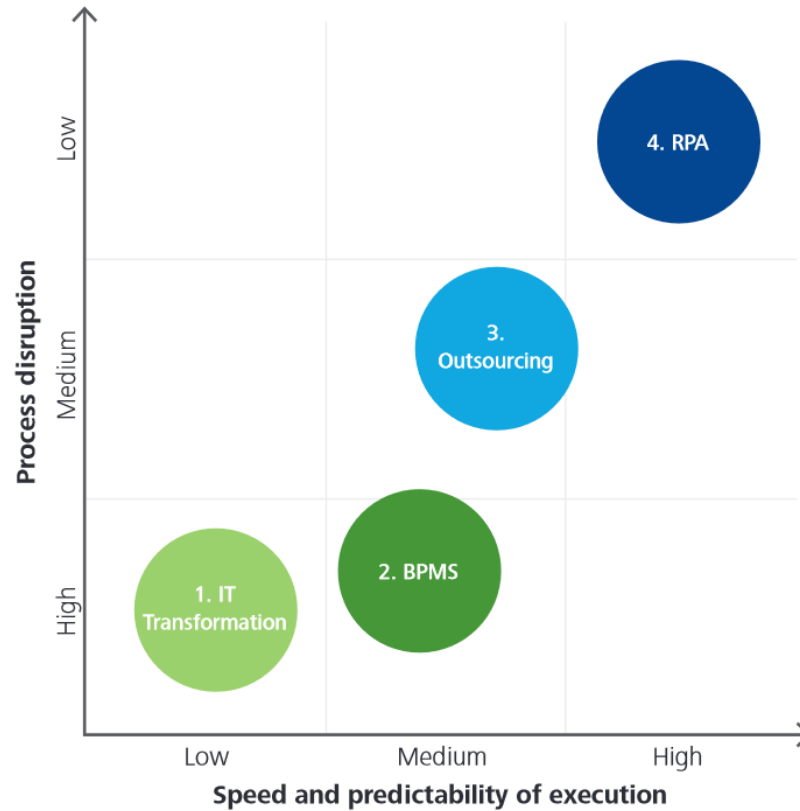
# RPA

- s an emerging technology that refers to software that can be easily programmed to perform routine activities that are currently carried out by human workers, in a controlled, flexible and scalable way.

Deloitte

# Process Transformation Approaches

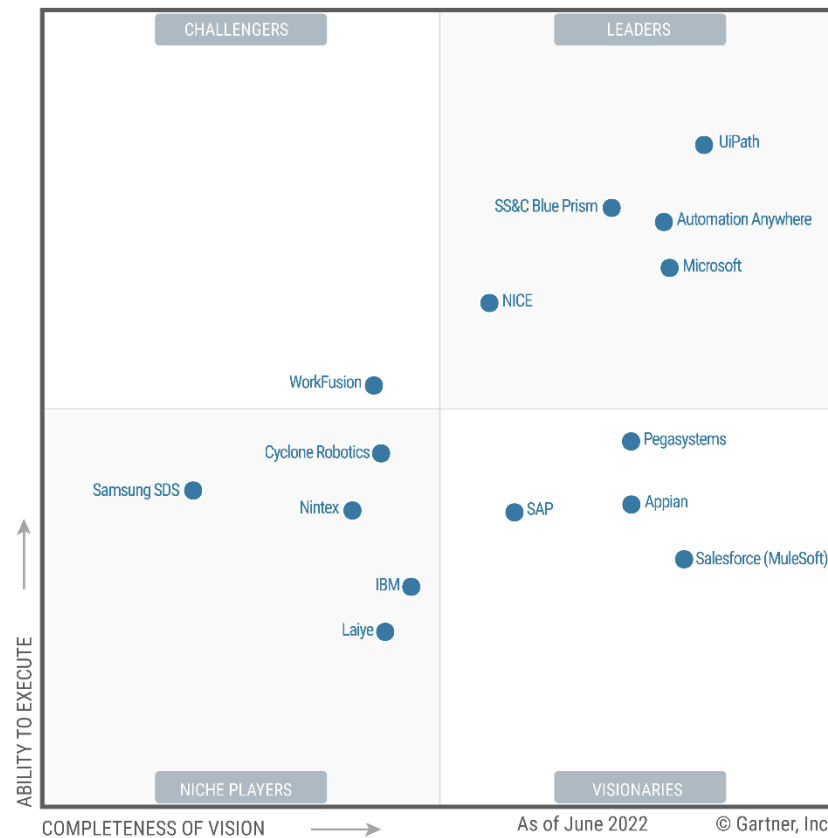
Figure 1: RPA compared to traditional process transformation approaches



Source: Deloitte Analysis

# Process Transformation Approaches

Figure 2 Magic Quadrant for Robotic Process Automation



Source: Gartner (July 2022)

# What processes are suitable to deploy with RPA?

- Repetitive
- Susceptible to error
- Rules based
- Involve digital data
- Highly administrative.

Deloitte

# Why Robotic Process Automation?

The benefits of RPA solutions go beyond cost reduction and include:

- Decreased cycle times and improved throughput
- Flexibility and scalability
- Improved accuracy
- Improved employee morale – enables them to add more value
- Allows time to innovate and focus on customer satisfaction
- 24/7 availability.

Deloitte



# Applications



<https://www.processmaker.com>

# Applications

- **Banking** (e.g. Romão et al. 2019)
- **Finance** (e.g. Ortiz e Costa, 2020)
- **Auditing** (e.g. Calçada, 2020)
- **Invoice processing** (e.g. Oliveira, 2021)
- **Retail** (e.g. Oliveira, 2021)



# Vendors



MS Power Automate



IBM Robotic Process Automation



SAP Process Automation



blueprism



TruBot



Rocketbot



# Other



# Bibliography

- Calçada, L. I. S. (2020). *Robotic Process Automation e a Auditoria Financeira: Modern Framework* (Master Thesis, Universidade de Lisboa (Portugal)).
- Oliveira, A. R. A. (2021). *Utilização de robotic process automation para integração de processos de pagamentos* (Master Thesis, Instituto Superior de Economia e Gestão).ISEG, Ulisboa
- Ortiz, F. & Costa, C. (2020) "RPA in Finance: supporting portfolio management : Applying a software robot in a portfolio optimization problem," *15th Iberian Conference on Information Systems and Technologies (CISTI)*, 2020, pp. 1-6, doi: 10.23919/CISTI49556.2020.9141155.
- Romao, M, Costa, J & Costa, C. (2019) "Robotic Process Automation: A Case Study in the Banking Industry," *14th Iberian Conference on Information Systems and Technologies (CISTI)*,, pp. 1-6, doi: 10.23919/CISTI.2019.8760733.