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# A Review of Research on Robotic Process Automation

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**ABSTRACT:** Robotic Process Automation (RPA) technology for automating tasks using robots. Robots can mimic human actions on computer system. Automation can minimize the possibility of human error and the time pay in extracting information would be saved. Recent studies report the benefits of the application of RPA in term of productivity, costs, speed and error reduction. The result show that productivity improvement is the main benefit of RPA. Automation is new development of technology and its application so that we can control and watch on production and giving various good services.RPA software allows developers to develop automations to suitable for company's process. It develops different tasks that were earlier done by humans.

**KEYWORDS:** robotic process automation, business process, digital transformation

## I. INTRODUCTION

Automation has changed the aspects of business. Robotic Process Automation (RPA) which allows organization to automate task just like human being was doing them across application and system. For example, data entry into an ERP system. Automation is used in a different sectors like manufacturing, transport, service, information technology, Defense etc. It can be considered as the low-risk process of performing various types of tasks in as automated manner. When it comes to robotics, people usually imagine it as shiny bots. However RPA stands for virtual or invisible bots which is inside the system, moving between various applications checking, updating, and processing many more operations. Instead, RPA is different from any other types of automation.Today's RPA system are more flexible and appropriate than humans. They enhance compliance and available 24/7. Once the RPA tool has been trained with well-defined business rules it can then perform the functions being automated exactly like human operator would. RPA technology is situated for highly repetitive, rule based activities and processes, and transaction oriented back office processes. RPA automation are often went to automate workflow, infrastructure, back office process which are labor intensive. These software robots can interact with website, user portal, in-house application, etc. The Robotic Process Automation is a software program which runs on an end users pc, laptop or mobile device. It is a sequence of commands which are executed by robots under some instructions.

## II. WHAT IS ROBOTIC PROCESS AUTOMATION?

RPA means a machine that imitates the human actions, which involves a sequence of steps to perform a meaningful activity without any human interfere.RPA is technology that can automate business processes that are rules-based, structured and repetitive. A company can use RPA tools to communicate with other digital systems or digital technologies, capture data, and retrieve information, process a transaction and many more.

RPA which allows organizations to automate task just as human being.

The main goal of Robotic Process Automation to replace repetitive task. RPA automation does not required the development of code it require database of the applications.

### A. How does it work?

RPA works by retrieve information from your existing IT systems. There are various ways that RPA tools can integrates with your applications. First option is through connections to databases and enterprise web services in the backend and Another is through front end or desktop connections that take multiple forms. RPA robots can mimic human actions. They log into applications, move files and folders, copy and paste data, fill in forms, extract structured data from documents, scrape browsers and lots of more.



**B. Benefits of Robotic Process Automation**

- The software robotic tools can perform various tasks quicker than a human.
- It is possible to perform the various operations 24/7 with the robotic tool, as it don't require any sleep.
- Robotic Process Automation delivers direct profit while improving accuracy across organizations and industries.
- Software robots are easy to train and they integrate smoothly into any system. They constantly report on their progress.
- Robotic automation eliminates these risks by accurately producing and changing the standard of production, passing and failing appropriate.

**III. ROBOTIC PROCESS AUTOMATION IN EDUCATION**

In today's modern education system, technology is playing an important role in automating tasks, which are repetitive, time-consuming and rule-based. Eliminating the paperwork and manual work using automated education system. The software can used for admission, attendance, scheduling meeting, automated timetable generation, assignment mailing etc.

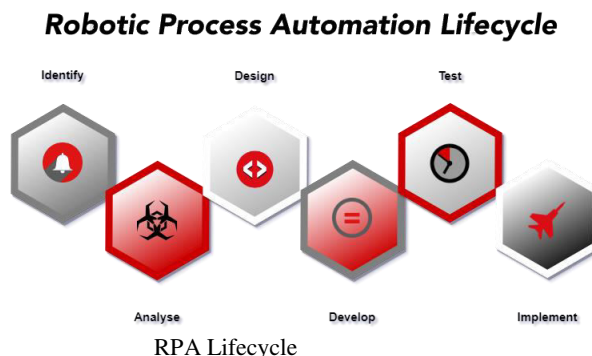


Robotic Process Automation in Education

Colleges and Universities have to manage and operate with limits resources with well-qualified IT staff. Education institutes are moving towards automation which beneficial to all the staff, students and administrator for their various educational activities. RPA can easily reduce the human and increase productivity with reduced time.

**IV. ROBOTIC PROCESS AUTOMATION LIFECYCLE**

Robotic Process Automation has six stages. Each stage has its own exclusive beginning and end but different in case of separate environments. If you are planning to implement RPA in your existing workflows, think about these stages carefully before you begin.





## Stages of RPA Lifecycle

### Stage 1 – Identification

RPA strategists identify the business processes with the team of RPA development.

### Stage 2 – Analysis

The identification phase is the initial phase of the RPA lifecycle. In this phase, the RPA process analyse the requirements of the client.

### Stage 3 – Design

In this phase create a flowchart to understand the flow of the process. If the final flowchart is ready then RPA tool to automate the process is selected.

### Stage 4 – Development

In this development phase requirements fulfilled by developers.  
After developing the bots, the next step is to test the developed bots.

### Stage 5 – Testing

In this phase the robots are tested in the pre-production environment to check the quality and performing as per the user's requirements.

### Stage 6 – Implementation

Once all the modules are built, testing should be done. All the modules are tested to smoothen the integration then that allow the processes to be tested outside the live production system.

## VI. CONCLUSION

Due to the various benefits of Robotic process Automation most of the organizations already execute the RPA technology. It will not executing in industries such as banking and insurance.

Most of the organizations are using RPA technology for testing and eliminating the old testing tools. Most of the companies are now experimenting in combining RPA with artificial intelligence to create robots that can manage more challenging tasks.

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