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Automation of Business Process Using RPA (Robotic Process Automation)

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Abstract: ***The automation of robotic processes has increased the interest rate trend in recent times. However, most of the Researches describes only theoretical foundations on RPA or industry outcomes after implementing RPA in specific scenarios, especially in finance and outsourcing. With RPA, software users create software robots, or "bots", that can read, replicate, and then execute many rules-based business processes. RPA automation enables users to build bots by observing human digital actions. Show your bots what to do, then let them do the work. Robotic Process Automation software bots can interact with any application or system the same way people do—except that RPA bots can operate around the clock, nonstop, much faster, and with 100% reliability and precision.***

I. INTRODUCTION

RPA stands for Robotic Process Automation. "Robotic" describes the program that you can set up to do work—the same way you would—with computer systems and applications. "Process" refers to the work that you want to get done. And "Automation" is what it sounds like—making work happen on its own.

Using RPA or Robotics Process Automation which is the technological imitation of a human worker, we can tackle structured tasks in a fast and cost efficient manner.

RPA is simply implemented by using software robots and these robots work or execute processes or whatever jobs that have been assigned to them same as a human operator. In other words, you can say that these simply mimics human actions with the help of the programs that have been injected into them.

RPA is defined by Van der Aalst as ''an umbrella term for tools that operate on the user interface of other computer systems in the same way as humans''. In RPA, repetitive tasks performed by people are entrusted to software robots. The most important thing is that RPA bots neither modify nor replace any pre-existing information system in the organization. They replace users by interacting with the user interfaces of the same pre-existing information system that human users were using before. people can focus more on other difficult tasks and problem-solving logics after passing the burden of performing the repetitive task on RPA.

Many benefits related to RPA implementation within industries and organizations have been communicated. However, it is still facing many challenges since the implementation of RPA as the research is still new. One of the most important challenges is the determination of business tasks that can be automated with RPA.

II. BACKGROUND

RPA tools provides software bots that can mimic human actions performed on a computer while interacting with various user interfaces of different systems ([1], [2]). RPA is defined by IEEE Standards Association [3] as ''A preconfigured software instance that uses business rules and predefined activity choreography to complete the autonomous execution of a combination of processes, activities, transactions, and tasks in one or more unrelated software system to deliver a result or service with human exception management.''

RPA software enables businesses to capture and interpret information for tasks processing a transaction, modifying data, triggering responses, or communicating with other software. According to Grand View Research, the key demand of organizations for RPA is the automation of structured processes. Allowing a software bot to take on these activities, companies:

- free up human employees from mundane low-value tasks to perform higher-value activities that require human creativity and inventiveness;
- improve data-driven decision-making;

There are a variety of benefits for businesses that choose to use robotic process automation. According to Protiviti 2019 Global RPA Results, the biggest benefits of RPA are increased productivity, better quality, and higher customer satisfaction.

What are the biggest benefits of RPA use? (By industry)

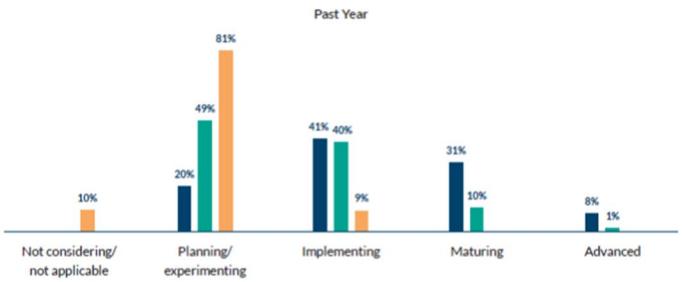
	Financial Services	Technology Media Telecommunications	Healthcare	Energy Utilities	Manufacturing Distribution	Consumer Products Retail
Increased productivity	19%	19%	22%	24%	23%	23%
Better quality	11%	21%	16%	13%	18%	15%
Stronger competitive market position	18%	15%	13%	16%	14%	15%
Higher customer satisfaction	12%	12%	24%	10%	10%	12%
Greater speed	8%	10%	9%	11%	14%	10%
Greater employee satisfaction from elimination of mundane tasks	11%	5%	6%	5%	8%	8%
Improved compliance	6%	6%	5%	6%	4%	6%
Fewer errors	6%	5%	6%	6%	5%	4%
Higher revenue generation	5%	4%	6%	5%	3%	4%
Reduced costs	4%	3%	3%	4%	1%	3%

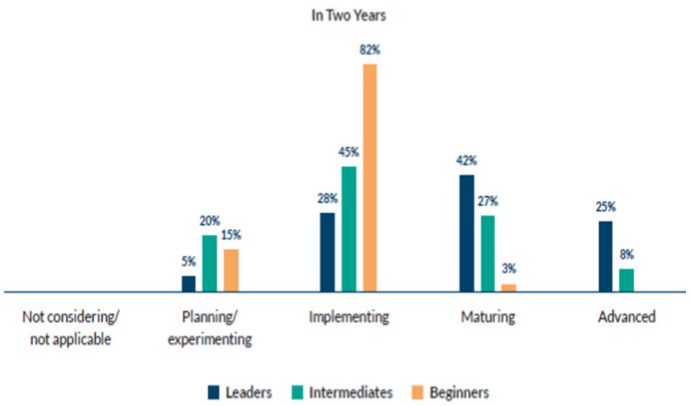
Here are some highlights of the benefits and lessons learned while adopting RPA:

1) *Use RPA more than only Cost Saving:* RPA leaders are putting RPA to use to improve quality, speed and performance. They are planning to increase the use of bots in everything from IT management and marketing to research and development and product development in future.
2) *Creating Business Cases that Deliver value in a Broad Range of Areas:* Now days RPA leaders are gathering a wide variety of benefits from these tools. The top 3 criteria for these businesses are better quality, speed to market and employee engagement.
3) *Heavy Investment:* If the investment is not sufficient in RPA technology as well as people and governing processes can damage an organization because competitors outflank them in efficiency and effectiveness. Thus RPA leaders these days are spending five to ten times as much as other companies.
4) *Reap Payoff Before Everyone Else:* RPA leaders have the most aggressive expectations of growth driven by RPA in the next two years. They are far more likely to see improvements in revenue generation, productivity and cost reductions than other companies.
5) *Solve Employee Concerns:* The RPA leaders understand their employees concerns about job disruption. And to remove these risk or fears, RPA leaders explain their plans of communicating with the employees and actively train more staff for more productive work.

III. USE OF RPA AND MATURITY STAGE

The maturity stages of RPA varies by industries. Financial services as well as technology, media, telecommunications companies are far ahead then other domain like Healthcare, consumer goods (including retail), and manufacturing and distribution organizations.





Percentage of beginners, intermediates and leaders (as measured against their competitors) at each stage of maturity, currently and in two years.

The organizations belonging to these areas are still in starting phase. Energy and utilities companies on the other hand have progressed the least, with only 9% at the maturing and advanced stages. It is assumed that in 2 years, all industries expect to make headway, but those who are leading in the RPA industry will remain so.

IV. RPA SUPPORTS AI TECHNOLOGIES

Many researches points to a growing convergence between RPA and AI particularly when processes require more sophisticated solutions to cope with process variability. In this case, companies can make RPA bots more accurate by turning to AI to understand these complex variations.

Mr. John Harvie, a director at Protiviti, believes that RPA and AI work well together. "You can use AI to predict and then RPA to take action," he says. He cites a company working on improving issuance of refunds. "The process is relatively straightforward and a prime candidate for RPA," he says. "However, the company uses AI to read and understand the complaint ticket to determine the refund and verify it."

By merging RPA and AI skill sets allows companies to more readily layer advanced technologies, such as natural language processing and visual recognition, onto RPA. This also facilitates movement into the higher levels of technology maturity.

It can be said that at the moment process re-engineering and automation are ongoing journeys and by adding on advanced forms of AI will lead to greater improvements.

V. CONCLUSION

Robotic Process Automation is a new and trending topic for performing repetitive and routine tasks without human intervention. One of the most faced challenges of RPA implementation is determining the business tasks that can be automated and performed using RPA. Knowledge of the tasks is pre-requisite before implementing/creating robots for it. According to the academic studies, RPA is Driving a new way of productivity as well as efficiency in global labour market. However, many studies show that RPA also triggers optimum job satisfaction and intellectual stimulation. Nevertheless, RPA is transforming business with automation, agility, accuracy, and better ROI model and expects to bring more changes to the existing business framework in the future. RPA is in the initial stage of business automation, and it is creating a roadmap toward achieving complete digital transformation. The pilot stage of RPA deployment gives enough time and scope to a business house to take a further decision on future plans of automation. Being an entry-level strategy, RPA becomes a first-hand partner to lead you to optimum automation. RPA is the first step toward developing new business models and digitalising companies. Still it's possible that unplanned automation without success metrics may fail. If one Identify tasks for automation properly, reviewing the system's profitability, and hiring a competent RPA software vendor will maximise its benefits. You may refer to IT experts who can offer the necessary solution, help implement the program, and provide support.

In this work we presented that how RPA is popular in businesses these days because of its cost saving, reliability and precision in work and how it's going to change the business processes in upcoming years.

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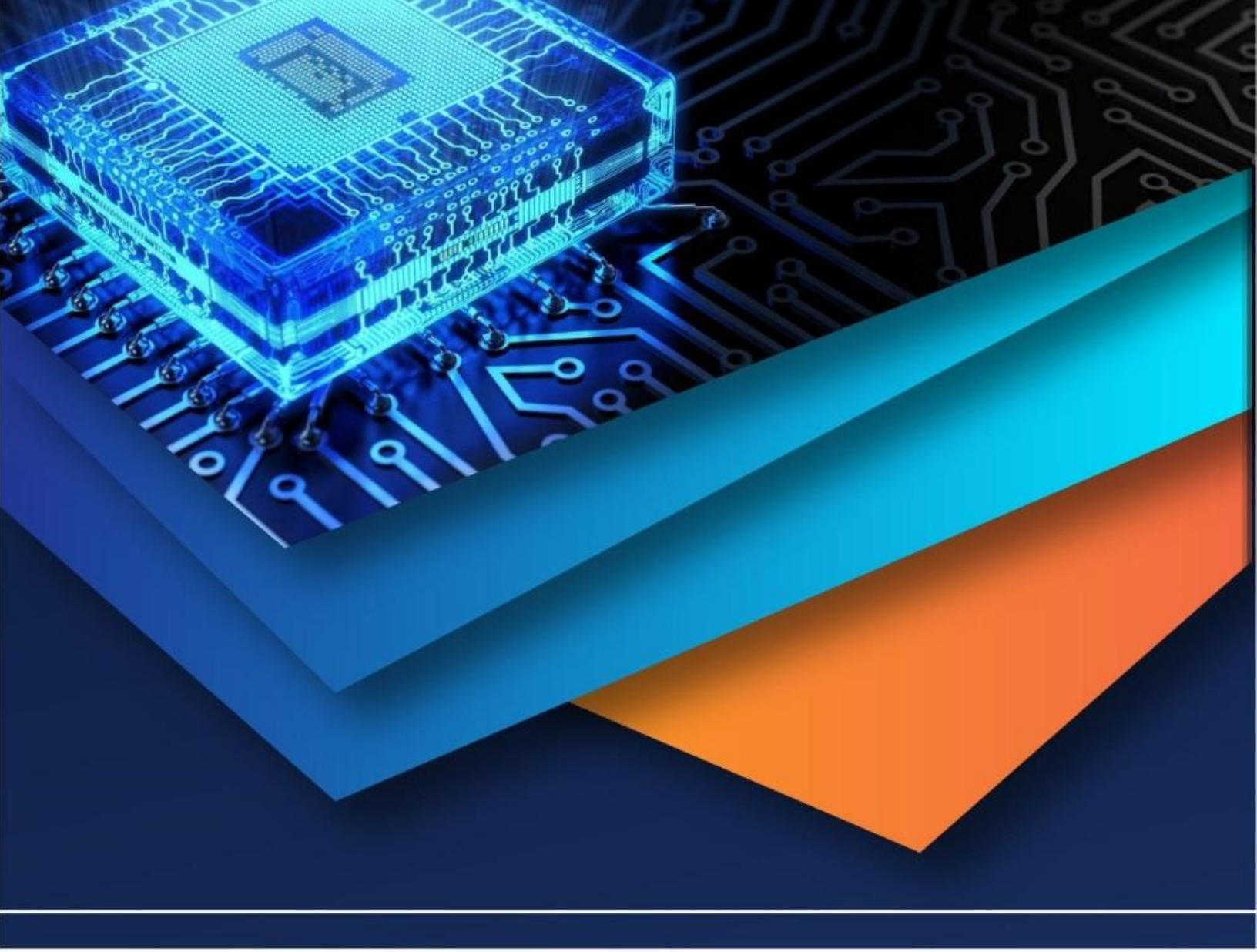

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