A STUDY ON ROLE OF ROBOTICS IN DIGILISATION OF HUMAN RESOURCE DEVELOPEMENT: IMPACT AND RPA IMPLEMENTATION

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ABSTRACT:

The world is in the middle of revolution in the way that work is done, more like the transition from agricultural age to industrial age. Robotic revolution will place the 21st century at a crucial place in history. When it comes to the role of robotics, artificial intelligence with a layer of automation can provide us with more accurate and efficient results. A knowledge gap still persists about organisational implications, when it comes to HR collaboration. Human Resources are considered as the backbone of any business or an industry. It plays a pre-planned role in managing and engaging employees, retention, payroll, to meet the object and purpose of the ultimate goal. As per the study of present market Robotics adoption increases the production of the economy. It is now proven to be a fertile arena for the application and adoption of Robotic Process Automation. This study helps to understand the robotic implications and how it replaces the human power. This paper tries to study the impacts, advantages and limitations of the RPA.

Key Words: Human resource (HR), ROBOTICS, Robotic process automation (RPA), Robotic revolution.

1.0 Introduction

In the early 1900s they were no telephones, let alone computers were almost unheard of one hundred years ago, but now Smartphone has become a daily commodity. Internet has almost taken over the world. We are at the cusp of technological change push us through the next level of things that a revolution we never even thought of possible before. A new technological revolution known as: Robotic Revolution. But what is robotic revolution? To answer that we must know what a robot is and its new technology, that will impact our lives and the lives of our future generation. Robotics is the science of design, construction and operation. Robots have input sensors, controls for decision making controls, and effectors for output. But still it took years to make it right. The main goal of a robot is to design intelligent machines that can help to reduce man power in repetitive works. A Cazec novelist Karel Capek in a 1920 play titled Rassum's Universal Robots; he introduced the word Robot for the first time. Czech word usually means worker or a servant.

Every country has different approach in adopting multinational cultures. Every human being is drawn to living a lifestyle with comfort of having all the privileges they can get. Due to changing economy, collaborations along with new technologies such as Big- data, Internet of things, Artificial intelligence and other technologies, besides Robotic process automation are being spotted and it is now beginning to impact HR process. When it comes to other countries "Deloitte states in a survey that 53% of their surveyor's initiated to implement RPA, and expressed that this percentage will increase to 72% by 2022". While the RPA market in India at a CAGR of above 20% during the forecast period 2019-2025".
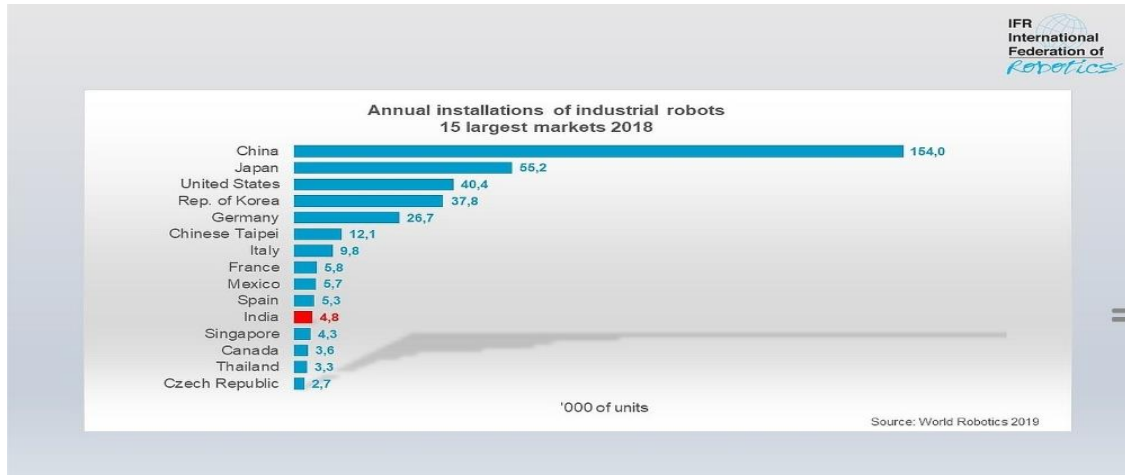
"The first rule of any technology used in any business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency"- Bill gates.

2.0 Objectives of the study

This paper has the following objectives for study-
- To study the role of robotics in HR.
- To study the impact, advantages and limitations of Robotic Process Automation (RPA).

To study RPA implementation in the HR practices

2.1 Research Methodology

2.2 Sources of data:

The present study mainly uses Secondary data as the nature of research is explicit in nature and so various books, magazines, web sources have been used for the research work.

2.3 Limitation/Scope of the study: This study covers and analyzes how HR is impacted with the RPA and problems faced to adopt this new technology in India.

Robotic process automation (RPA) in HR is becoming popular as companies strive to improve efficiency and focus on more human-centric projects. According to UiPath, RPA in HR can save up to 40% of employees' time and onboard employees 10 times faster. This is supported by a report from Deloitte, which claims that RPA deployment leads in 10-20% savings not just in HR, but for the overall business processes. In this blog, we'll explore how RPA can ease the burden of HR professionals by explaining some of the real-world use cases.

Robotic Process Automation is the technology that allows anyone today to configure computer software, or a "robot" to emulate and integrate the actions of a human interacting within digital systems to execute a business process. RPA robots utilize the user interface to capture data and manipulate applications just like humans do. They interpret, trigger responses and communicate with other systems in order to perform on a

vast variety of repetitive tasks. Only substantially better: an RPA software robot never sleeps and makes zero mistakes.

RPA in HR:

1. Shortlist Resumes

RPA bots can sift through several resumes and application forms received for open positions in minutes. These bots compare the information with the description of the job to shortlist the right candidate for further follow ups. This information gathering and comparing can be customized based on predefined rules. The candidates that are the best potential matches are then notified and called for the interview while the ones that don't match are sent rejection emails.

2. Administer Offer Letters

Offer letters are customized according to the selected candidate and must comply with several regulations. This is a labor-intensive work since the HR professional has to gather information from several systems and databases, often leading to manual errors. Software robots, on the other hand, can quickly gather all the required information, create the offer letter, send it, and eventually monitor the appropriateness of returned documents. In other words, when RPA is deployed, it collects all the relevant data, builds the offer letter, and sends it.

3. New Hire On-boarding

On-boarding new hires is a tedious task since it requires the gathering of data from different systems to create a new user account, email address, IT equipment, access rights, etc. RPA bots allow smooth on-boarding of employees as it streamlines the whole process by activating a template for the on-boarding workflow. The bots are also capable of making rule-guided decisions on the credentials to be assigned and documents to be sent to the new employee. It can also make the process of employee ID creation prompt and swift.

4. Analysis of Company Reviews

Reporting is traditionally a time-consuming process that must be created with the right information and format to help facilitate informed decision making. This can be especially difficult if the data is stored in different systems, which is often the case in most companies. RPA can be deployed to support periodic reporting requirements for HR analysis. It can also be used to screen company reviews and surveys across several internal and external sources.

5. Expense Management

The manual processing of travel and expense involves several issues such as late submissions, missing receipts, and unclear expense claim reasons, all of which have a negative impact on compliance reporting and employee satisfaction. That is why more and more software robots are being deployed to cross-check individual expenses against company rules and external expenditure regulations.

6. Employee Data Management

RPA bots allow HR professionals to effectively manage data of current and former employees, vendors, new hires, and applicants. Since employee data includes payroll and benefits among other critical information, it requires consistent, orchestrated actions across various systems and databases as well as departments. When

data is managed by bots, there is data compatibility across multiple systems, minimal risk of incorrect data entries and regular update of data.

7. Attendance Tracking

RPA in HR is used to track the attendance of employees to process their salaries. These bots compare self-reports or time-sheets against time captured in the company's system and notify HR about any discrepancies. These software bots can also be programmed to recommend the reallocation of employees to prevent any workflow disruptions

8. Payroll Management

Payroll management is the ideal candidate for RPA in HR since it involves a lot of high-volume, repetitive, monotonous tasks, including data entry. When done manually, there is a high chance of human error, which can eventually compromise data integrity. To avoid such costly errors, bots can be used to have accurate data and avoid any delay in payments of salaries to employees and vendors.

9. Compliance

In most countries, labor laws are subjected to several frequent modifications that can make it difficult for the HR team to adapt and manually prepare compliance reports. That is where RPA bots can be leveraged to comply with the rapidly changing regulations and prepare accurate reports by gathering and entering data from various disjointed systems.

10. Exit Management

Like on-boarding, RPA can be used for a consistent employee exit experience. Most of the manual processes involved in exit management are error-prone and can make the transition a nightmare. RPA in HR can be used for better-organized off-boarding and the de-provisioning process by automating tasks such as generating exit documents, conducting exit surveys, sending notifications to the concerned departments and people, revoking systems access, collecting company assets and processing final payments.

Robotics in HR:

It is being continuously doubted that robotics in HR can reduce the workforce in the industry by replacing highly intelligent technology. The HR domain has many transactional activities that are ideally suited for the robotics process. Organizations can computerize HR tasks that are rule-based, repetitive and standardized and as a result to free up the employees to focus on other areas like policy implementation, strategy development, talent development, and retention. According to the Deloitte report, 42% of the employees in the organization have actively participated in the Global Human Capital Trends survey reported that they have fully implemented or made major progress in adopting robotics within their workforce. In another report of global shared services, 45% of HR employees have articulated their confidence that the implementation of robotics will lead 10% to 20% in savings to their business. (A report on Robotic Process Automation in Human Resource by Bernard Marr, 2018)This amalgamation has now opened the opportunities for developers to create the software bots to manage the repetitive and task-based work
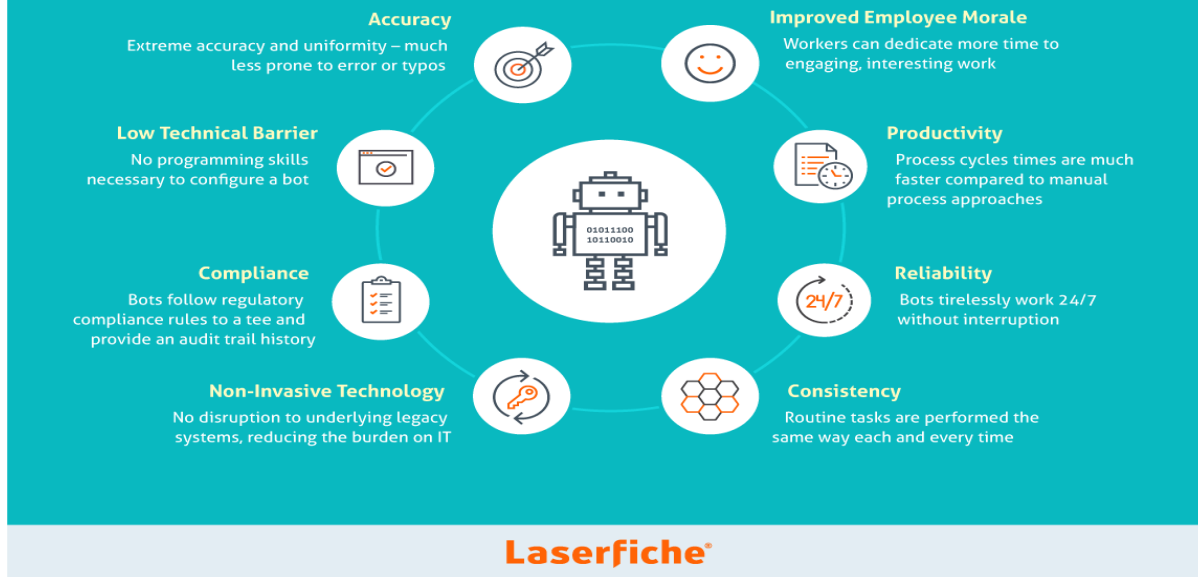
Current Trends and Impact of Robotics in HR and Industry:

Robotics has progressed and expanded to multiple industrial sectors. Another Perspective of the digitalized industry can enhance the value of robotics.

Low Risk and easily incorporated: Robotic Automation Process (RPA) is a low –risk no insidious technology that can be easily implemented on the existing systems. This helps the employees to create a stage for the continuous progress expansion of machine learning tools.

Increased efficiency: RPA can reduce the level of work and free up the employees to focus on the other areas of high-value work tasks more creatively which can help an organization to meet their goals by increasing their overall efficiency.

Cost: The cost of RPA is insignificantly low which is depending on the need and nature of the business and reduce the cost of other operating sources. RPA is a one-time investment for a longer period.

Accuracy: In data analysis, RPA gives accurate and precise output in comparison to human counterparts.

Productive Work: Many factories use RPA to make their production line more efficient and time-saving. These robots work more precisely and accurately with high quality of work. Their quality ensures their work and makes fewer mistakes than human workers; they can work continuously without pause and break if they have power.

The statists and trends of RPA:

- RPA as an industry is growing exponentially– the global robotic process automation market size is expected to reach USD 10.7 billion by 2027, expanding at a CAGR of 33.6% from 2020 to 2027 – Grand View Research
- The RPA industry will grow from $250 million in 2016 to $2.9 billion in 2021. This is one industry that is growing at a lightning speed. It was already worth $1.7 billion in 2018 – Forrester
- RPA will achieve "near universal adoption" in the next 5 years – Deloitte
- By 2025, the market for collaborative robotics is expected to reach $12 billion – Markets And Markets
- By 2024, organizations will lower operational costs by 30% by combining hyper automation technologies with redesigned operational processes. Gartner
- The RPA fast adoption is helping business to reduce the operational costs and enhance overall customer satisfaction, improve transparency and visibility for service functions and reduce of manual efforts – Report linker
- 11,214 results this is the number of open positions produced by a recent automation "on LinkedIn's jobs site. Titles vary within this growing IT jobs category, but "RPA developer" (and variations of the same) is an increasingly common one – reflecting the need for IT pros who can build the bots that enable organizations to offload repetitive, time-consuming tasks – LinkedIn
- RPA deals with the application of advanced technologies including artificial intelligence (AI) and machine learning (ML), to increasingly automate processes and augment humans – Gartner
- RPA is offering a lot of benefits to the business by giving access to collaborative intelligence where humans and technology works side by side so that they can perform their roles optimally. As employees don't need to perform repetitive tedious tasks, they can be educated to work with automation tools and learn the latest business and marketplace information through machine learning
- The market for RPA in Healthcare is driven by the increasing demand to automate claims and process management. RPA vendors are focusing on developing best-in-class intelligent process automation bots – Research and Markets

Role of Robotics in HR

HR is taken into account as the backbone of any industry or businesses. Human resource management are answerable of each aspect of the worker life starting from recruiting, management, employee relationships, payroll, training and development. Robots play an important role in simplifying human lives. However, robotics has been developed rapidly round the country leading to massive changes in the economy that results us to enhance our lives for a far better future. When it comes to fulfilling our job roles in the respective areas many of the industries have been automated by adapting to the newest trend Robotic Process Automation. Why use of RPA? Robotic Process Automation (RPA) is a simple but powerful automation software that enables you to create your own personalized robots or bots that makes your business process easier and efficient.

Modern HR systems rely quite more on automation on repetitive work, analytics on business improvement and predictive capabilities. HR processes is generally based upon the relation with the employees, but when we dig deeper it is more of getting a job done with accuracy that requires attention in detail and requires more time. Things which are repetitive in nature and follows similar steps by adding a layer of automation to that and it does the work. To understand it lets assume a company which is offering an internship to students. The seats vacant are a 1000 in total. But they received applications of more than a 10 thousand members. Can a set of humans go through all the applications and recruit them in same day? The answer is probably NO. No company or industry can take the chances of human error in this situation. This is where RPA pitches in. It takes all the data in and by using the software which the company has designed with its requirements for eligible candidates; it accurately screens every candidate and selects who are perfect for the job.

Much of HR can be automated. RPA can be applied to transactional rules based on required tasks, structure data, predefined rules and parameters. The automation helps in great precision and no room for error.

4.0 Impact of RPA in India

Robotics uses AI (Artificial Intelligence) to make the tasks done seem more efficient and with minimal human intervention. This is where the debate begins on whether robotics will wipe out jobs or creates new jobs.

India has always been into adapting and developing new technologies that help our economy. At the same time India is a very price-sensitive market. That makes it more difficult for Indian Industries to overcome the mindset and approaching Robotic investment. Many fear of losing jobs but robots are here to assist. In India robots are not efficiently working as they were envisioned. It needs our tremendous attention in implementing the use of RPA in India. Some jobs might not be present anymore but it creates more skill full jobs. Everybody has their doubts about how can we leverage the skill robots posses? But in reality it is bound to create new set of opportunities to improve our state of living. Robots are designed to assist human.

According to the survey of International Federation of Robotics, RPA market in India will grow at a CAGR of above 20.0% during the forecast period 2019-2025. The market place for RPA has been gradually increasing for automation and process management. India is taken into account as a favourite destination for the RPA growth market.

4.1 Advantages and limitations of RPA in HR

Advantages of RPA in HR:

Biggest markets of robots have been the industries. RPA helps in development of business and people outcomes in different ways. As per the study of Indian market robotic automation increases the production and thus developing Indian economy.

Some of the advantages of RPA in HR are:

- Reduces human error i.e.., 100% Accuracy.
- Integrate across platforms.
- Premium customer experience.
- AI enables end-to-end automation at high speed.
- Reduced costs.
- Increased efficiency.
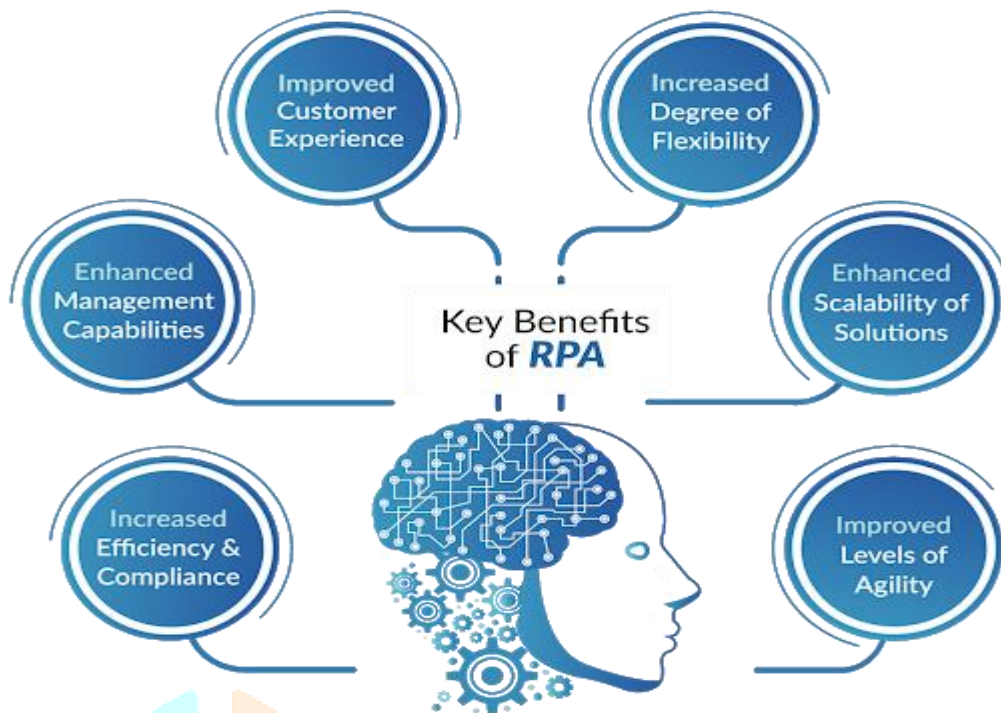
The first step to validate the process eligibility for RPA automation is to assess the process maturity and standardization. Evaluating process maturity involves verifying whether the results of the HR process are stable and predictable. Standardization entails validating that the HR organization across different teams and branches is adopting a standard process to accomplish the HR outcomes of the said process

The second step requires assessing the RPA potential of the HR process, meaning the capacity of software robot to do the work that has so far been performed by humans. This RPA potential of the HR process is assessed based on properties of – (a) the extent of manual interaction involved in the HR process (b) whether there is use of a software application to execute the process and (c) if the activity is based on clearly defined business rules

The third step is to evaluate the RPA relevance of the HR process. RPA is fit for a process with high transaction volume, but low degree of complexity (7). Transaction volume refers to the average number of transactions of the activity performed per day. Complexity of the process refers to the total time required to complete the process.

The fourth step is to classify the HR processes suitable for RPA. An HR process is suitable for RPA if both RPA potential and RPA relevance are highly suitable for a RPA approach. On the contrary, a HR process is not suitable for the RPA approach if both RPA potential and RPA relevance are low

Limitations of RPA in HR:

Robots mimic human behaviour; they lack human's ability to adapt to changes that a company or industries undergo over the time. If the changes in the companies or industries are rapid then implementing the robots will become so much a burden than success. Robots give minimum or no excuse for errors but constantly working it may expose to some mechanical malfunction, viruses that cause serious problems and may even shutdown which leads to operational failures.

One of the foremost concerns of RPA is Employee resistance. It helps employees to focus on more value work rather than doing repetitive works. But HR collaborations make it hard for the employees to increase their knowledge to keep up with their jobs.

5.0 RPA Implementation in HR practices

RPA has taken the global market by storm. RPA has the potential to adapt quickly in this running economy and enhances the chance of better living than replacing them. The scope of RPA is enormous and it is constantly growing. It will incorporate AI for advance decision making and about 6 years of banks are going to be completely automated. Tools which are used in RPA are Automation is Anywhere, UIPath, Blue prism, Open span.

5.1 RPA lifecycle

For implementing RPA first we need to understand the RPA life cycle.RPA lifecycle consists of 5 stages.
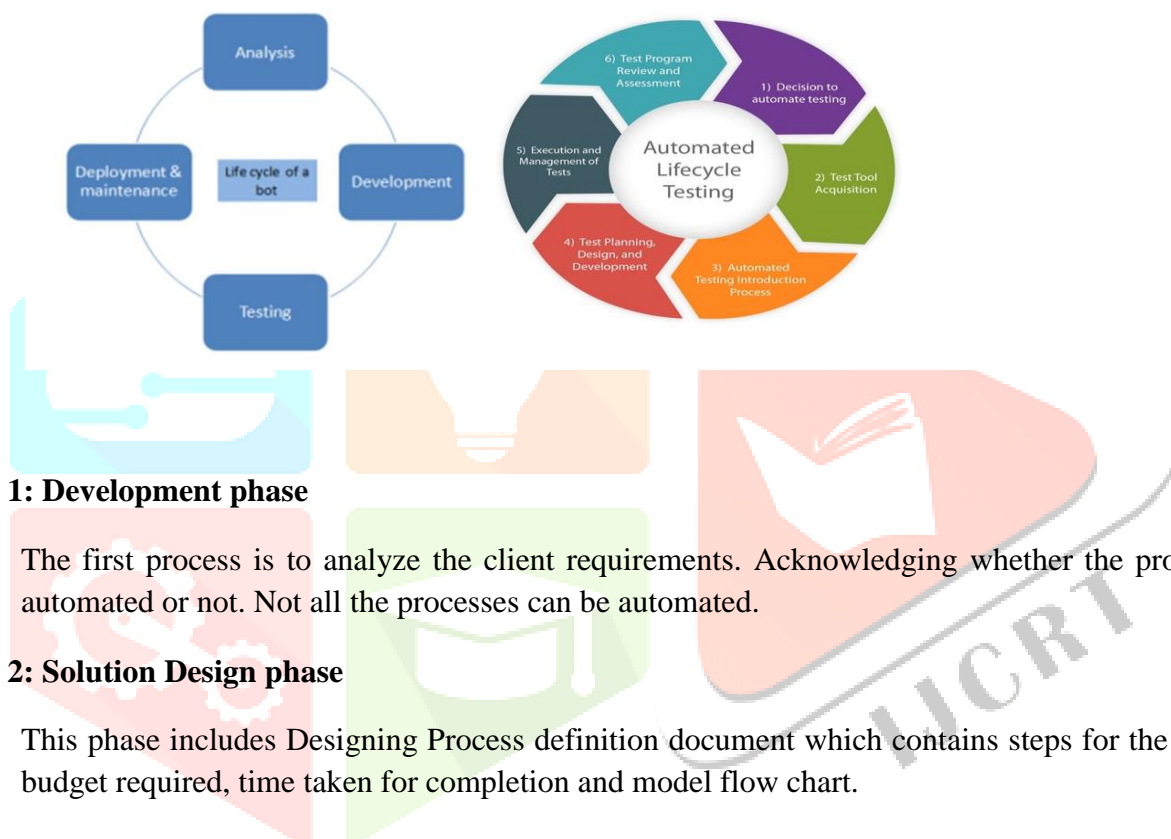
Stage 1: Development phase

The first process is to analyze the client requirements. Acknowledging whether the process can be automated or not. Not all the processes can be automated.

Stage 2: Solution Design phase

This phase includes Designing Process definition document which contains steps for the automation, budget required, time taken for completion and model flow chart.

Stage 3: Development phase

In this phase the model flow chart will be reviewed and based on the requirements they develop software automation.

Stage 4: UAT

It is also called testing phase. Software will be tested by using various parameters; if problems persists error rectification is made.

Stage 5: Deployment phase

The product will be deployed to the clients and tested in working environment. Users now can use the software and report if any changes need to be done.

Stage 5: Execute bots

Users can access the bots for their use and achieve better results.

Implementing Robotic Process Automation in HR practices increases its function and efficiency. Some of the areas it can be implemented are:

- Employee on-boarding.
- Attendance bots.
- Tasks tracking.
- Meeting schedulers   .
- Leave trackers.
- Employee off-boarding.
- Trainings for fresher's.
- Expense manager.
- Salary processing.
- Tax reporting
- Staff management.

5.2 RPA Implementations in Different Sectors

RPA applied with systematic planning it improves inefficiency of business process in substantially every sector. Now let us see how RPA helps in different sectors.

1. **Banking and financial services:**
   - Credit underwriting
   - Fraud discovery
2. **Insurance:**
   - Claim processing
3. **Telecom:**
   - Bill generation
   - SLA monitoring
4. **BPO**
   - Management reporting
   - Data management
5. **Retail trade**
   - Fare audit
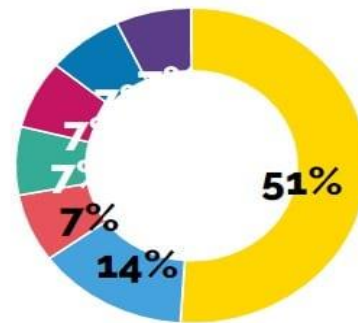   - Passenger revenue accounting
6. **Public sector**
   - Tax collection
7. **Manufacturing**
   - Bill of material generation, data management
8. **Utilities**
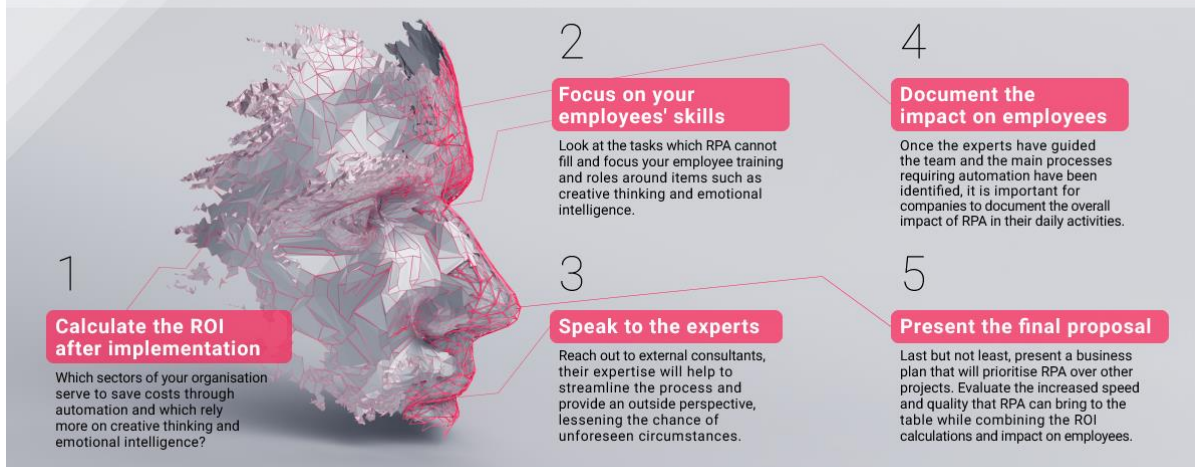   - Report automation
   - System reconciliation

HR departments often lack staff and loads of work stacks up on them, implementation of RPA provides them to explore their true capability and creativity that helps develop not only their working environment but also development of one's self.

Present situation

According to data, global spending on automation systems and artificial intelligence applied to business processes is expected to grow strongly through 2023, maintaining the growth rate experienced over the past few years, and the global market size is expected to grow to $10.4 billion by 2023 as well.

These estimates, published in January 2020, suggest that by the end of this year, $9.6 billion will have been invested in intelligent process automation. That is, in all those computer tools designed for autonomous decision making, simulating human behavior and associated business processes. This includes automatic self-learning systems, data mining, pattern recognition tools and natural language processing. Specifically, 4 billion will be allocated to RPA, growing by more than 50% in just three years.

This is changing. Startups are launching no code solutions while RPA companies try to simplify programming. To understand no code RPA better, we created a comprehensive guide on no code RPA and reviewed top no code RPA solution providers. Democratizing RPA can be as powerful as the launch of excel which empowered and changed the finance community forever. Given RPA's broad field of application, no code RPA has the potential to revolutionize white collar work.

Results of implementation

Financial benefits

- By 2024, organizations will lower operational costs by 30% by combining hyper automation technologies with redesigned operational processes.
- Organizations that have piloted RPA expect, on average, a 9-month payback period while, in reality, the payback achieved by those that have implemented and scaled RPA has been 12 months. (Deloitte Global RPA Survey)
- There is an expectation that robots could deliver a significant portion of current transactional activities. On average, the expectation is that 20% of FTE capacity could be provided by robots. (Deloitte Global RPA Survey)
- This expectation matches the reality for those that have already implemented RPA. In fact, those that have scaled RPA appear to have had such a positive experience that their expectations are even more ambitious: they believe that 52% of FTE capacity could be provided by robots. This can enable the human workforce to be redeployed to more value adding activities. (Deloitte Global RPA Survey)
- RPA can reduce labour intensive tasks by 80%. (Automation Anywhere)
- Top performers earned nearly 4X on their RPA investments, while other enterprises earned nearly double. (Everest Group)

- RPA can provide cost savings ranging from 20%–60% of baseline FTE costs for financial services. (EY)

Other benefits

- 85% of respondents report that RPA met or exceeded their expectations for non-financial benefits such as accuracy, timeliness, flexibility. (Deloitte Global RPA Survey)
- More than 50% of C-level executives using intelligent automation have identified key operational processes that can be augmented or automated using AI capabilities. (IBM)
- 38% of managers report compliance improvements are the leading benefit of RPA and it is followed by improved productivity/performance (27%) (NICE)

RPA Challenges

- Only 3% of organizations have scaled their digital workforce. (Deloitte Global RPA Survey)
- The time and cost to deliver RPA tend to be underestimated by organizations. 63% said their expectations of time to implement were not met and 37% said their expectations of cost to implement were not met. (Deloitte Global RPA Survey)
- Only 17% of respondents faced some employee resistance when it comes to piloting RPA. This dropped to only 3% with respondents who were implementing or scaling RPA. (Deloitte Global RPA Survey)
- For the majority of organizations (63%), implementation will involve working alongside a dedicated third-party partner due to a lack of specialist skills. (Deloitte Global RPA Survey)
- Most executives believe that their organization does not have the necessary data science, machine learning and other AI/cognitive skills for process automation. Percentages of executives who think their lack specific skill set for each automation capability are:

  - o 90% for basic process automation
  - o 89% for advanced process automation
  - o 75% for intelligent process automation (IBM)

- Only 20% of executives surveyed have yet to establish plans to retrain or reskill their workforce. (IBM)

Digitalization of RPA:

Robotic Process Automation, or RPA, differs from other classical automation solutions in that its ultimate goal is to replicate human behavior when interacting with computer interfaces. This form of digitalization allows organizations to automate functions with a much greater reduction in time, workload and costs, eliminating errors while increasing the efficiency, performance and precision of processes, as it focuses mainly on the automation of highly repetitive routine tasks.

Ongoing research developments show that RPA robots are already capable of imitating many human actions and this process spectrum may increase even further in the future.

Robots are already capable of automatically logging into apps, moving files and folders, copying and pasting files, filling in data or forms, extracting structured information from documents, etc. The application universe of RPA is therefore gigantic and can play a crucial role in freeing human employees from a multitude of tedious or repetitive tasks, allowing them to process them much more quickly.

FINDING AND RECOMMENDATIONS

1. With the help of RPA Implementation economy progression will be significantly improved and new jobs are in the line for many people who will now have a chance to show their talent and expertise to the world.
2. Many institutions have also included RPA as a specialization in their curriculums by that increasing awareness of the transition: Robotic revolution.
3. India has gone under many major shifts of development and it is now undergoing robotic revolution in a faster way in which we can see an increase of 20% by 2025.
4. In implementing RPA, a gap still persists in adoption of robotics. One of the main concerns are the anti human work force technology. Various parameters also effect the implementation of RPA in India such as cost for implementing, employee skills for operating, adapting to new changes, providing it into the market.

CONCLUSION

Robotics are taking over the world. Robotics is the leading technology in the present market as of today. Technology will and always is the medium for change. Competition has been rapidly increased among industries and businesses to make their first move on implementing Robotic Process Automation into the economy. Robotic revolution has made clear that the more advanced technology the industries or companies are using they are more likely to withstand in the never ending race. Human work is replaced by robots, that don't mean everything is cut out, more skilful and qualified workers will be in great demand in RPA implementation. Upcoming jobs and tasks will be digitalized by giving 0% chance of error. HR is and will be the backbone of any industry or any businesses. HR plays a prominent role in reframing the career paths in developing and training RPA employees. Technology is changing the industrial landscape and RPA is gaining traction in organizations with the focus on improving service delivery, reducing error rates and having cost effective processes that can ramped up quickly

RPA offers great scope for automation in HR in the areas of Talent Acquisition, Talent Development & Performance Management, Compensation & Benefits, HR Operations and Employee Relations. The specific processes where HR automation offers great scope includes publishing of open, preliminary candidate screening, interview scheduling, candidate new hire process completion, create new hire data, offer letter mailing, on boarding, performance review forms mailing, performance review scheduling, publishing of performance reports to managers, payroll updating, time and attendance data validation, gross salary and net salary calculation, online pay slip distribution, depositing statutory dues, tracking of employee grievance requests, employee surveys, exit process, and so on

The challenges we will need to face is that how we come up with solutions for facing drastic changes that entering and taking over the economy. We are bound to improve our live and everything around us. Huge organizational changes in HR will take place in few years. HR in Robotics or general will be front and centralized.

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- IEEExplore

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