Robotic Process Automation with Artificial Intelligence in Human Resource Process

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ABSTRACT

HRO function involves various process activities such as talent acquirement, talent regime, development of talent, employee experience at workplace, compensation and benefits support, and reporting HR. Each of these process are composed of variety of activities that not only requires great effort but also critical for employee satisfaction. HR function is usually faces the problem of handling an enormous volume of transactions. It needs to achieve the time-critical needs of business while neither compromising on quality and compliance requirements and even employee satisfaction. Hence RPA along with machine learning can make HR process easier and soothing for organization.

Keywords— IPA (intelligent process automation) , CRPA (cognitive robotic process automation)

1. INTRODUCTION

This research paper study focuses on how RPA along with machine learning can help in reducing the effort involved in dealing with the quantum of data. Robotic process automation confer developed software robots taking the place of humans whenever complex processes or routine tasks can be automated. Robotic process automation software and services are efficient to run applications the way a human operator would. Based on protocols, the workflow prevails automatically intricate tasks.

2. LITERATURE REVIEW

2.1 Background on Robotic Process Automation (RPA)

Literature Review Background on Robotic Process Automation (RPA) that being said, how can artificial intelligence can empower Robotic process automation? As we enter the digital transformation era, our industries are reporting that their task forces are prevailing about 80% of their IT processes manually, degrading their performance and motivation. At the same point, it is estimated that at most 50% of these tasks can be automated.

Organizations may just think about automating their IT processes, RPA also focuses to rebuild the way they do operate business, gaining their customer satisfaction and mightiness employees work value. RPA uses programs and methodologies that are competent of taking benefit of current technologies which includes artificial intelligence (AI), voice recognition, machine learning (ML), and natural language processing to take automation to all new different level.

That makes it compulsory for organizations who market their business along with digital transformation. RPA technology would usually costs about 1/3 of an offshore employee or 1/5 of an onshore employee, working all the time without any interruption, with no human or manual errors if programmed correctly.

2.2 Advantages that RPA brings includes:

- Continuous service: When it comes to running a real 24/7 service, undoubted robots emerge obvious as they don't take breaks.
- Resilient: The program specified for one software robot can be extended to any number of other robots and vice versa, robots can be withdrew from a process to work on another one. Veracity: Once stipulated tasks, robots are designed to sincerely comply with the instructions without failing.
- Inspection trail: The robotics program includes generating output data. Likewise the goal of this data is to ensure compliance this data aims to ensure concordance and leads to have improved process.
- Cost and Time: A robot costs at least 20% of a human does. While it takes a great time to execute conventional projects with humans, it only requires few weeks with robots. To ensure this, we must remember that RPA expands humans work effort and its value. The tasks targeted to robots are those not requiring emotional intelligence, or complex decision strategies. In this way, the human workforce is emphasized.

Fig. 1 : Prototype Design

2.3 RPA works particularly well to activities in HRO such as:

Reading, and sync of data between various web applications, ERP and backend systems. Validation and verification of extracted data. Reading data, attachments from email. Sending emails, mass mailers. Scheduling of meetings. Data logging for audit purposes.

The Solution RPA provides is, automation decreases the manual aspects of the process, while boosting up the speed of processes and minimizing the probability of errors and bugs to almost null. listed are some instances of processes that can be benefitted from automation. Shift allowance calculation, Background verification for new employees, Evulsion of offer letters for new employees, Programming client training for new employee.

- Shift Allowance calculation: Shift allowance given to employees for working in processes for international clients at different time zones. The allowance was scheduled by taking the swipe-in and swipe-out timings from various servers. This process which was done manually, was time consuming and the realm of error was high owing to the large set of data. RPA bot can automatically read, verify and validate data from various backend systems and mathematically calculate the allowance using machine learning which can lead to in due season clearance of allowances.

- Background enquiry for new hire: This process involves inspection of details such as name, address and date of birth for interviewed candidate against multiple databases, with each of them holding multiple records. The programming volume and time increases every year with the amount of candidates being interviewed along with the level of accuracy required for such critical process.

- Using RPA a bot can receive the expected details from various input sources, directly validate the data from the servers and create detailed reports at the end of process without any human or manual intervention. All the reports are combined and filtered into a master report and then it's directly uploaded onto the server in a systematic manner. The huge processing load can be reduced by dividing the jobs among various multiple bots to deliver the required result in short and timely manner.

- Evulsion of offer letters for new employees: This process involves a series of steps which needs to be followed in adherence to regulation without compromising on accuracy. The process can be automated and hence reducing the processing time comprehensively.

- Programming client training for new employee: Training process must need to be locked in into the employees calendar along with the owner and details where the training would be held.A large amount of effort is required, thus increasing the possibility of errors and compliance issues.

2.4 Artificial intelligence boosts RPA

Many business cases for RPA are being developed within innovatory organizations from various different industries. Use cases include accounting, customer onboarding, billing supervision, data verification and validation, customer service, inventory list updating, identifying risks, and document validation. RPA promises to be able to run 24x7 with no stops, no breaks, no sleeping time, no vacations, and no sick leave, without forgetting, misunderstanding, or underestimating errors and without encountering any problems. However, this is a theoretical assumption.

In reality, it's difficult to put RPA into practice and achieve this level of service. There are a lot of errors and exceptions along with unexpected events. This is where machine learning become very crucial. RPA platforms authorized with AI technologies tend to automate the emotional based process. To achieve this goal, they must constitute machine learning, speech recognition and natural language processing.

Then, these RPA automated processes can probably unify a human behavior in their workflow. They tend to learn from human actions and be sure that they'll imitate the required action autonomously. The major purpose is to grasp, digest, and work as specified so that the human intervention is very minimal. This annexation ML and RPA is also known as Intelligent Process Automation (IPA) or Cognitive Robotic Process Automation (CRPA). Artificial intelligence when combined with RPA involves aggregating complex data from multiple different sources like text, voice recognition and then exploit these data just like traditional data.

2.5 What does AI do in comparison to RPA?

- RPA: Imitates human activity through user interface (UI) in a non-disruptive way and can manage semi-structured and structured data. The elaboration of possible actions is determined by predefined protocols so that the behavior of the robot is deterministic.
- RPA + AI: Imitates human activity through pattern detection, speech recognition, machine vision, abilities and can handle unstructured, structured, as well as semi-structured data.

3. CONCLUSION

RPA along with AI is not like cloning humans. It's just an advanced set of software that follows protocols to perform business actions. I'll like to conclude by considering that while organization are rebuilding themselves in an effort to enclose digital transformation, RPA and more likely CRPA, will let them reassign employees in a more interesting and in more valuable mission.

4. REFERENCES

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