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Review Article

Streamlining HR Processes: An In-depth Analysis of Robotic Process Automation (RPA) Integration

Pranay Kumar Laxmipuram

Independent Researcher, AZ, USA.

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Abstract *- In the era of technological advancement, there is a need to leverage Digital Transformation (DT) in the field of Human Resource Management. Integration of Robotic Process Automation (RPA) with Human Resource Management (HRM) Systems showcases a multifaceted array of advantages. Firstly, the findings reveal substantial time and cost savings, heightened accuracy in data management, streamlined workflows, and an improvement in overall operational efficiency. Secondly, it also reveals the transformative impact of HRM practices, elucidating the path towards a more agile, tech-driven, and sustainable future for the domain. This study helps to determine the impact of RPA implementation on overall HR effectiveness and the key challenges in the adoption of RPA in HRM practices. The article also talks about the different functional areas where RPA can help automate the business processes and workflow within HRM, including Recruiting, Onboarding, Payroll, Benefits, and Time and absence. The article also outlines how RPA can be leveraged to automate the data upload process typically performed on a frequent basis.*

Keywords *- Robotic Process Automation, Human Resource Management, Business Process Automation, Digital Transformation, Implementation Strategy.*

1. Introduction

Digital Transformation (DT) is the process of adopting Digital Technologies into an organizational business model. DT can be achieved using the automation of business processes. Robotic Process Automation (RPA) is the right tool to help automate these business processes. RPA can be defined as a software technology that helps automate repetitive tasks in an organization leveraging software robots [1]. Robotic Process Automation (RPA) uses programmed software to automate repetitive tasks. RPA implementation and adoption rates have increased significantly. The Adoption rate increased from 26% in 2022 to 31% in 2023 [3]. It is estimated that RPA is predicted to show an economic impact of $6.7 trillion by 2025 [5]. RPA helps improve operational efficiency, reduce costs, and eventually improve financial results.

RPA can be used in different functions of an organization and can help automate several functional workstreams, including the Human Resource Management workstream [2]. Human Resource Management HRM is a system that manages the lifecycle of employees from Hire to Termination. HRM has several business processes and workflows that perform various tasks like Hiring, Onboarding, Performance Management, and processing payroll for employees in the organization. While there is a constant sentiment that the inclusion of RPA in HR can impact the workforce, many Organizations are implementing automated processing into HR workstreams. RPA can also be combined with Artificial Intelligence to achieve the best outcomes in terms of automating the end-to-end processes. RPA is typically built on its own platform and is then integrated with other applications like HRM to carry out the automation. Note that, unlike AI, RPA needs changes to match the change in business processes and workflows of the integrated application. The paper calls out the need for automation of repetitive tasks in HRM systems leveraging RPA and AI. This paper is conceptual and does not have enough data to discuss the accurate impact of using RPA in HRM systems.

2. RPA Implementation Strategy

To implement RPA in an organization, a predefined implementation strategy needs to be followed for a successful implementation. An optimized implementation strategy is very similar to Software Development Life Cycle (SDLC) but with few enhancements [7].

2.1. Define a use Case

The first step in the implementation of RPA is to define a use case where there is a need for automation. Identify the pain points in the current process and define a workflow that will help automate it by leveraging the RPA software.

2.2. Design the Automation

After the use case is identified, design the automation and make sure it is feasible to solve the issue identified using RPA. Once the feasibility is met, design the workflow that will help with automation. At this stage of the implementation, it always

helps to do a proof of concept to make sure the design works with the selected use case.

2.3. Develop and Configure the Automation

Once the use case is defined and the design is complete, the next key step in the implementation of RPA is to develop and configure the systems using platforms that help build and configure the automation. Once the RPA is developed and configured, integrate it with the application where the automation needs to be done.

2.4. Test the Automation

Once the automation is designed and developed, it needs to be thoroughly tested to make sure that the desired functionality is automated. Test for different scenarios to make sure all the test cases are properly executed.

2.5. Deploy and Execute

At this stage, the RPA is ready to be deployed to the live instance to execute the automation. Run the automation to perform the automatic execution of the repetitive processes. Once the automation is in the live instance, the robots are available 24/7 to perform automation of various business processes.

2.6. Verify and Confirm

The last stage of implementation is to make sure that the automation using RPA is being executed in the live instance with the desired outcome. During the early adoption of RPA, it is always recommended to monitor the automation as frequently as possible.

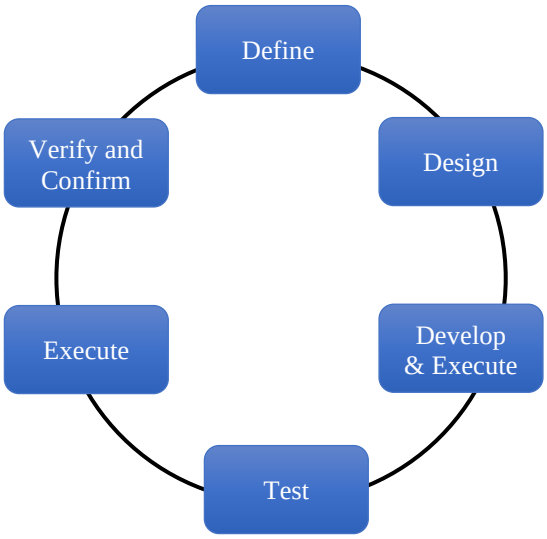

Fig. 1 RPA Implementation Strategy

3. RPA Implementation Benefits

Organizations can leverage RPA to automate repeated manual workflows. Implementing RPA to automate this process has many added advantages and benefits. [8]

3.1. Cost Effective

Automation using robotics can reduce the operational cost by a significant percentage. Implementation of RPA can reduce the operation cost by 25 – 80%. RPA reduces the resources needed for additional headcount to get work done manually. [9]

3.2. Accuracy and Efficiency

RPAs are built by leveraging software robots, which removes the chance of human errors, thus increasing the accuracy of performing these tasks. Automation using robotics reduces the need for human employees, thereby using the human need in more complicated scenarios and improving the efficiency of the organizational workforce.

3.3. Improved Employee and Customer Satisfaction

With no human errors and increased availability and processing time, RPA improves customer and employee satisfaction. Robotics can take on additional workloads, producing a better work-life balance for employees in an organization.

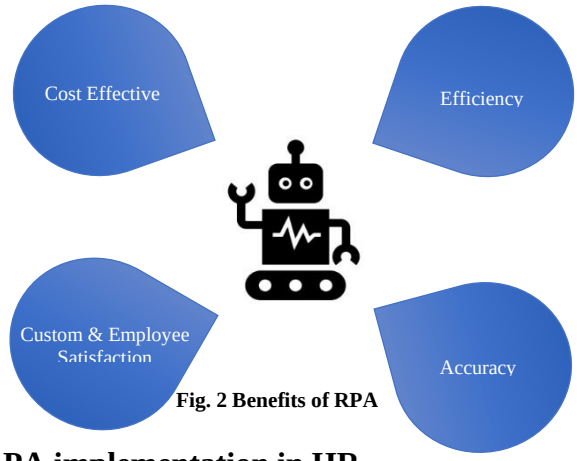

Fig. 2 Benefits of RPA

4. RPA implementation in HR

RPAs can be implemented in different workstreams of an organization like HRM, Finance, Sales and IT. One of the most common use cases of RPA is to leverage the automation of repetitive processes in the field of Human Resource Management. RPA can help with the automation of business processes and employee data management. RPA can connect to HRM and automate the workflow as well as integrate with downstream to transfer and receive data to and from HRM.

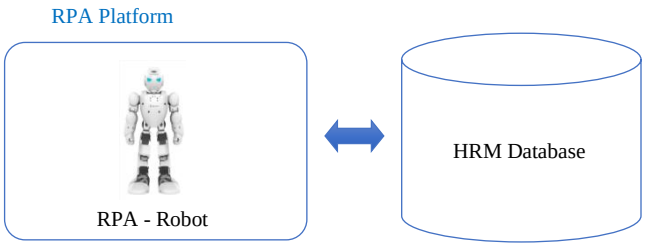

Fig. 3 RPA in HR

5. HR Functional Areas – RPA Use Cases

With the right implementation strategy and, RPA can help with automation on several HRM workflows.

5.1. RPA in Recruiting

RPAs can help automate a lot of manual effort, time-consuming and repetitive work that requires a lot of human effort. Some of the most common recruiting functionalities that RPA can help automate are – Job Posting, Sourcing Candidates, and initiating background checks once a candidate accepts the offer [10]. RPA can also help recruiters with automating email communications.

5.2. RPA in Onboarding

RPAs can help with the automation of different onboarding steps that will be triggered once an offer is accepted. RPA can help automate the huge document gathering process during the onboarding process along with other tasks like new hire orientation that contains a series of tasks for the employee.

5.3. RPA in Employee Data Management

RPAs can help automate data management within HRM. Robots can manage scheduled tasks for employees. One best example is the automating any distribution of documents for signing [11]

5.4. RPA in Payroll

Payroll management in an organization often contains repetitive tasks that are executed on a scheduled basis. RPA can automate these rules-based repetitive task to process the payroll without any issues and free of human errors.

5.5. RPA in Integrations with HRM System

Every HR System contains several integrations that feed the data to downstream systems. RPA can help with the automation of these data feeds. RPA can help with both bringing the data into the HRM system or reading the data from the HRM system and loading it to a third-party application.

5.6. RPA in Time and Attendance

HRM typically connects to multiple systems to gather time and attendance information. RPA can help automate the connections and data feeds to fetch and store this information in the HRM database.

6. RPA - Challenges

While RPA implementation has many advantages, like efficiency, accuracy, and cost-effectiveness, certain challenges would come with the implementation of RPA. RPA has gained momentum in recent years across various industries; therefore, there are not enough subject matter experts in the RPA domain, making it a bit challenging to implement. Adoption of RPA by organizations often comes with an employee sentiment that it leads to a reduction in the workforce, thereby reducing the adoption rate within these employees. RPA robots are built on the top of a platform. Integrating it with other applications like HR always poses certain security issues [12].

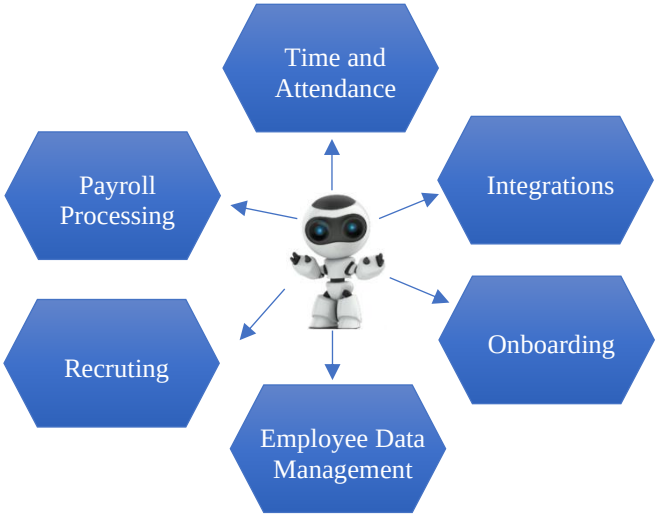

Fig. 4 – RPA in HR – Use Cases

7. Conclusion

With Digital Transformation, a lot of organizations are now using RPA to automate several business processes that are very repetitive and take a lot of human effort. Using the right RPA implementation strategy, a lot of processes in HR can be automated in different functional areas of HRM. Effective implementation of RPA in HRM can help save costs, achieve operational excellence, and provide accuracy and efficiency. RPA also has certain challenges, and every organization should take necessary steps to overcome those before implementing to achieve a higher success rate of implementing these robots.

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