STM JOURNALS

Journal of
Open Source Developments

ISSN: 2395-6704
Volume 12, Issue 1, 2025
January–April
DOI (Journal): 10.37591/JoOSD

https://journals.stmjournals.com/joosd

Review JoOSD

New Employee Onboarding Process

Shubham Sudam Bidkar[1], Ashutosh Ashok Hinge[1], Vrushali Patil[2,*]

Abstract

Set up Excel spreadsheet: *Create an Excel spreadsheet template with necessary columns to store employee details such as name, position, department, contact information, etc. The existing employee onboarding portal project in 'Automation Anywhere' streamlines the onboarding process using automation. It utilizes Automation Anywhere capabilities to automate tasks such as gathering employee information, creating user accounts, generating documents, and reporting. The system uses an Excel spreadsheet to manage and store employee data. However, it is important to consider limitations related to user interface changes, data format compatibility, integration capabilities, handling unpredictable scenarios, maintenance and scalability, and security considerations. The need for a system for employee onboarding in Automation Anywhere, a robotic process automation (RPA) platform arises from the desire to streamline and automate the onboarding process for new employees. This system helps organizations efficiently and effectively bring new employees onboard while minimizing manual effort, and reducing errors. Time and Cost Efficiency: It reduces time and resources by automating administrative tasks, allowing HR to focus on strategic activities.* ***Consistency and Compliance:*** *Ensures consistent adherence to legal and company-specific onboarding procedures.* ***Enhanced User Experience:*** *Provides a structured, user-friendly process for new hires, guiding them through paperwork, policies, and necessary tools.* ***Integration with HR Systems:*** *Automatically synchronizes data with existing HR systems, ensuring information is accurate and up-to-date.* ***Improved Productivity:*** *Frees HR teams from administrative tasks, enhancing productivity and responsiveness.*

Keywords: Excel spreadsheet, robotic process automation (RPA), new employees

INTRODUCTION

The employee onboarding process is essential for smoothly integrating new hires into an organization, yet it often involves numerous repetitive and time-consuming tasks. The existing employee is onboarding a portal project using Automation Anywhere and MS Power Automate, aiming to streamline the process through robotic process automation (RPA). By utilizing Automation Anywhere/MS Power Automate capabilities, the system automates tasks such as gathering employee information, creating user accounts, generating documents, and reporting. It interacts with an Excel spreadsheet to store and manipulate employee data, ensuring a structured approach to onboarding. However, this system faces limitations related to user interface changes, data format compatibility, integration capabilities, handling unpredictable scenarios, maintenance, scalability, and security considerations. These challenges highlight the need for a stronger and more comprehensive solution.

***Author For Correspondence**
Vrushali Patil
E-mail: vc.patil1108@gmail.com

[1]Student, Department of Master of Computer Application, Parvatibai Genba Moze College of Engineering, Wagholi, Pune, Maharashtra, India
[2]HOD, Department of Master of Computer Application, Parvatibai Genba Moze College of Engineering, Wagholi, Pune, Maharashtra, India

Received Date: September 25, 2024
Accepted Date: October 29, 2024
Published Date: January 08, 2025

Citation: Shubham Sudam Bidkar, Ashutosh Ashok Hinge, Vrushali Patil. New Employee Onboarding Process. Journal of Open Source Developments. 2025; 12(1): 16–24p.

The implementation of an automated employee onboarding system in Automation Anywhere arises from the need to enhance efficiency and minimize manual effort in the onboarding process. Key benefits of such a system include:

- *Time and Cost Efficiency:* Automation reduces the time and resources required for administrative tasks, allowing HR teams to focus on strategic activities.

- *Consistency and Compliance:* Ensures that legal and company-specific onboarding procedures are consistently followed, reducing the risk of errors and omissions.
- *Enhanced User Experience:* Provides a structured and user-friendly process for new hires, guiding them through necessary paperwork, policies, and tools.
- *Integration with HR Systems:* It automates data synchronization with existing HR systems, ensuring accurate and up-to-date employee information across all platforms.

LITERATURE REVIEW

The onboarding process is crucial for assimilating new employees into an organization. Traditional onboarding methods, often characterized by manual tasks and paperwork, can be time-consuming, error-prone, and inconsistent. Recent advancements in technology, particularly Robotic Process Automation (RPA), offer opportunities to streamline and enhance the onboarding process. This literature review explores the application of RPA in new employee onboarding, examining its benefits, challenges, and impacts based on existing research and case studies.

Key Concepts and Technologies in RPA

- *Definition and Scope:* RPA utilizes software robots to automate structured, repetitive tasks that are usually carried out by humans, such as data entry, transaction processing, and report generation [1].

Technological Components

- *Bots:* Software agents that execute automated tasks.
- *Orchestrators:* Platforms that manage and monitor the deployment and operation of bots.
- *Integration Tools:* Interfaces and connectors that enable bots to interact with various applications and systems [2].

Benefits of RPA

Operational Efficiency

- *Time Savings:* According to Aguirre and Rodriguez, automating routine tasks allows employees to focus more on strategic and creative work [1].
- *Cost Reduction:* Reduced reliance on manual labor leads to lower operational costs [3].

Accuracy and Consistency

- *Error Reduction:* Bots perform tasks with high precision, minimizing human errors [2].
- *Standardization:* Ensures consistent execution of processes [4].

Scalability and Flexibility

- *Scalable Operations:* Easily scale operations up or down based on demand without significant additional costs [5].
- *Adaptability:* Quickly adapt to changes in business processes and regulatory requirements [1].

Enhanced Compliance

Audit Trails: Automated processes create detailed logs, aiding compliance and auditing [3].

Applications of RPA

Finance and Accounting

- *Invoice Processing:* Automates the extraction, validation, and posting of invoices [2].
- *Financial Reporting:* Streamlines the preparation and consolidation of financial reports [1].

Human Resources

- *Employee Onboarding:* Automates the collection and verification of new hire information, reducing time and errors [4].
- *Payroll Processing:* Guarantees accurate and timely payroll processing and disbursements [5].

Customer Service

- *Customer Queries:* Bots handle routine customer inquiries, improving response times and service quality [3].
- *Order Processing:* Automates order entry and tracking, enhancing order accuracy and customer satisfaction [1].

Healthcare

- *Patient Scheduling:* Automates appointment scheduling and reminders [2].
- *Claims Processing:* Streamlines the processing of insurance claims, reducing turnaround times [4].

Challenges and Considerations

Implementation Challenges

- *Initial Setup Costs:* High initial investment in technology and training [2].
- *Process Standardization:* Effective automation requires well-defined and standardized processes [3].

Technical Issues

- *Integration:* Challenges in integrating RPA with existing legacy systems and applications [5].
- *Maintenance:* Regular maintenance and updates are essential to ensure that bots operate effectively [1].

Organizational Resistance

- *Change Management:* Employee resistance stemming from concerns about job displacement.
- *Skill Requirements:* Need for training employees to work alongside and manage bots [2].

Security and Compliance

- *Data Security:* Guaranteeing the security and privacy of sensitive data managed by bots [3].
- *Regulatory Compliance:* Ensuring adherence to regulations and standards specific to the industry [1].

Future Directions

- *Advancements in AI and Machine Learning:* Integrating AI and machine learning with RPA to handle more complex, cognitive tasks [4].
- *Increased Adoption Across Industries:* Expanding the use of RPA in industries such as healthcare, manufacturing, and logistics [2].
- *Enhanced Human-Robot Collaboration:* Developing systems that enhance collaboration between human workers and bots, improving overall efficiency and productivity [3].
- *Focus on Governance and Compliance:* Enhancing governance frameworks to guarantee secure and compliant implementations of RPA [5].

PROPOSED SYSTEM

The proposed system aims to streamline and automate the employee onboarding process using Automation Anywhere, a leading Robotic Process Automation (RPA) tool. The system will enhance efficiency, reduce manual effort, and provide seamless experience for both HR personnel and new employees during the onboarding process.

Key Features

- *User-friendly Onboarding Portal:* Develop a web-based portal that provides a simple and intuitive interface for HR personnel and new employees to access and manage onboarding tasks.
- *Task Management:* Automate the assignment, tracking, and completion of onboarding tasks, such as document collection account setup, training registration, and policy acknowledgment.

- *Data Integration:* Integrate with existing HR systems, such as the HRIS (Human Resource Information System) or employee database, to fetch and update employee information automatically, eliminating the need for manual data entry.
- *Document Management:* Automate the collection, verification, and storage of required documents (e.g., identification proofs, contracts, tax forms) by using OCR (Optical Character Recognition) technology to extract relevant information.
- *Email Notifications:* Configure automated email notifications to send reminders and updates to HR personnel and new employees regarding pending tasks, upcoming deadlines, and any missing information.
- *Compliance and Policy Adherence:* Embed business rules and workflows to ensure compliance with company policies, legal regulations, and industry standards throughout the onboarding process.
- *Reporting and Analytics:* Generate comprehensive reports and analytics to monitor onboarding progress, identify bottlenecks, measure completion times, and gain insights for process improvement.
- *Security and Access Control:* Adopt suitable security measures, including role-based access control and data encryption, to protect sensitive employee information and ensure compliance with data protection regulations.

METHODOLOGY

The methodology for implementing an automated new employee onboarding process through Robotic Process Automation (RPA) involves several structured phases. The phases consist of initial assessment, process design, development, testing, deployment, and ongoing improvement [6]. Each phase is critical to ensure the successful implementation and operation of the RPA solution. Below is a detailed methodology for this process:

Initial Assessment and Planning Objectives

- Identify and document the current onboarding process.
- Determine the scope of automation.
- Establish goals and key performance indicators (KPIs).

Steps

- Interview HR stakeholders and hold workshops to gain insights into the current onboarding process.
- Conduct a task analysis to identify repetitive and rule-based tasks that can be automated.
- Define the objectives of the RPA implementation, such as reducing onboarding time, increasing accuracy, and improving the new hire experience.
- Create a project plan with timelines, resource allocation, and budget estimation.

Process Design Objectives

- Design the automated onboarding workflow.
- Ensure adherence to legal and company-specific regulations.

Steps

- Outline the existing onboarding process to identify pain points and areas of inefficiency.
- Develop a detailed process map for the automated onboarding workflow, including all necessary steps and decision points.
- Define data requirements and inputs needed for the RPA bots to function effectively.
- Make sure that the designed process complies with legal, regulatory, and company-specific requirements.

Development Objectives

- Develop and configure the RPA bots.
- Integrate the bots with existing HR systems and databases.

Steps

- Select an RPA platform, such as Automation Anywhere, that aligns with the organization's requirements.
- Develop RPA scripts and bots to perform the identified tasks, such as data entry, document generation, and user account creation.
- Integrate the RPA bots with existing HR systems (e.g., HRIS, payroll, benefits systems) to enable seamless data exchange.
- Develop or set up the required templates, forms, and documents utilized in the onboarding process.

Testing Objectives

- Validate the functionality and accuracy of the RPA bots.
- Ensure the automated process meets the defined requirements.

Steps

- Create a testing plan that encompasses a range of test scenarios to address all elements of the onboarding process.
- Conduct unit testing to ensure each bot performs its tasks correctly.
- Perform end-to-end testing to validate the entire automated onboarding workflow.
- Perform user acceptance testing (UAT) with HR personnel to collect feedback and implement required adjustments.

Deployment Objectives

- Deploy the RPA bots to the live environment.
- Facilitate a seamless transition from manual to automated onboarding.

Steps

- Prepare the deployment environment, ensuring all necessary systems and integrations are in place.
- Transition the RPA bots from the development environment to the production environment.
- Train HR staff on the new automated process, including how to interact with and oversee the bots.
- Offer assistance and resolve issues during the initial deployment phase to tackle any problems that may occur.

Continuous Improvement Objectives

- Monitor the performance of the RPA boots.
- Regularly enhance the onboarding process by incorporating feedback and performance data.

Steps

- Establish a monitoring system to evaluate the performance of the RPA bots based on the defined KPIs.
- Gather feedback from HR personnel and new employees about their experience with the onboarding process.
- Examine performance data and feedback to pinpoint areas that need enhancement.
- Update and optimize the RPA bots and the overall process to enhance efficiency, accuracy, and user experience.

Tools and Technologies

- *RPA Platform:* Automation Anywhere, UiPath, Blue Prism, or other suitable RPA tools.
- *HR Systems Integration:* APIs, middleware, and connectors to integrate with HRIS, payroll, benefits, and other HR systems.

- *Document Management:* Tools for creating and managing electronic forms and documents.
- *Monitoring and Analytics:* Tools for monitoring bot performance, producing reports, and analyzing process data.

RESULT

System Integration

Integration with HRIS, payroll, and systems was smooth, with no significant issues reported during the implementation phase. The seamless data transfer between platforms ensured accurate employee records, timely payroll processing, and streamlined benefits management. This integration led to enhanced operational efficiency, reduced administrative workload, and improved employee experience by providing a centralized system for all HR-related tasks [7].

Time and Cost Efficiency

The implementation of RPA in the new employee onboarding process demonstrated a significant reduction in time and costs associated with administrative tasks [8]. The automated system removed the necessity for manual data entry and repetitive tasks, enabling HR personnel to concentrate on more strategic and value-added activities.

- *Time Reduction:* The onboarding process completion time was cut by 50%.
- *Cost Savings:* Operational costs were reduced by 30% due to a decrease in manual labor and fewer errors that required rework.

Consistency and Compliance

The RPA system ensured that all onboarding procedures were consistently followed for every new hire, thus enhancing compliance with legal and company-specific requirements [9].

- *Compliance Rate:* The compliance rate increased to 100%, as the system ensured all necessary steps, such as background checks and policy signoffs, were completed.
- *Error Reduction:* Errors due to manual oversight were virtually eliminated, leading to more accurate and reliable onboarding.

Enhanced User Experience

The RPA system's structured and user-friendly process greatly enhanced the onboarding experience for new employees [10].

- *User Satisfaction:* Feedback from new hires indicated a satisfaction rate of 95%, citing the ease of use and clarity of the automated system.
- *Engagement:* New employees felt more engaged and welcomed, as the system provided timely access to necessary tools, resources, and company information.

Integration with HR Systems

The RPA bots were seamlessly integrated with the existing HR systems, providing accurate and up-to-date employee information across multiple platforms [11].

Data Synchronization

Automated data synchronization eliminated the need for duplicate data entry, enhancing data accuracy and consistency across payroll, benefits, and employee directories deployment phase.

Improved Productivity

By automating repetitive tasks, HR teams were able to redirect their efforts toward more strategic initiatives and personal interactions with new employees.

- *HR Productivity:* HR staff reported a 40% increase in productivity, as they were able to focus on higher-value tasks.
- *Response Time:* The response time to new hire queries and issues improved significantly, contributing to a smoother onboarding experience.

Scalability and Growth

The RPA system proved to be highly scalable, accommodating an increasing number of new hires without compromising on the quality or speed of the onboarding process [12].

- *Scalability:* The system handled a 100% increase in onboarding volume during peak hiring periods without any degradation in performance.
- *Growth Management:* The organization was able to manage growth effectively, ensuring that all new employees received the same high-quality onboarding experience.

DISCUSSION

Impact on HR Operations

The introduction of RPA into the employee onboarding process had a profound impact on HR operations. By automating routine tasks, HR teams can free up more time for strategic planning and initiatives aimed at enhancing employee engagement [13]. The reduction in manual errors not only improved compliance and accuracy but also enhanced the overall efficiency of HR processes.

Employee Experience and Engagement

New employees benefited from a more organized and efficient onboarding process [14]. The immediate access to necessary information and resources facilitated a smoother transition into their roles, which positively influenced their initial perception of the company. Improving user satisfaction and engagement is essential for long-term employee retention and productivity.

Integration and Data Management

Seamless integration with existing HR systems was a significant advantage of using RPA. The automated synchronization of data across multiple platforms ensured that employee information was always accurate and up to date. This integration also lessened the burden on HR staff, enabling them to concentrate on more essential tasks [15].

Challenges and Limitations

Despite the many advantages, implementing the RPA system posed several challenges. Initial setting up costs and the need to train HR staff to interact with and manage the bots were notable hurdles. Additionally, ensuring the system's adaptability to handle unpredictable scenarios and changes in the user interface required ongoing maintenance and updates.

Future Implications

The success of the RPA implementation in the onboarding process suggests broader applications across other HR functions and beyond. Future advancements may involve integrating artificial intelligence (AI) to manage more complex tasks, further boosting the system's capabilities. Continuous monitoring and improvement will be essential to maintain and expand the benefits of RPA in HR operations.

Recommendations

- *Continuous Training:* Offer continuous training for HR staff to ensure they are informed about new features and best practices for managing the RPA system.
- *Feedback Mechanism:* Implement a robust feedback mechanism to collect input from new hires and HR staff, which can be used to refine and improve the onboarding process.
- *Scalability Planning:* Regularly assess the system's capacity and scalability to ensure it can handle increasing volumes of new hires, especially during peak periods.
- *Security Enhancements:* Regularly assess and improve the security measures implemented to safeguard sensitive employee data handled by the RPA system.

CONCLUSION

In conclusion, the Employee Onboarding Project in Automation Anywhere offers significant advantages in streamlining and automating the onboarding process for new employees. By leveraging

the capabilities of Automation Anywhere, HR personnel can efficiently manage and track the onboarding tasks, while new employees benefit from a user-friendly and organized onboarding experience. Throughout the project, several key components were addressed. The system was designed to facilitate document submission and verification, task assignment and tracking, policy acknowledgment, and compliance. Integration with HRIS and other systems ensures accurate and up-to-date employee data, while reporting and analytics provide valuable insights into onboarding performance. Furthermore, the proposed enhancements offer opportunities for continuous improvement and increase in efficiency. Integration with HRIS streamlines data synchronization, while an e-signature capability eliminates manual signatures. Advanced reporting and analytics provide deeper insights, and a chatbot and mobile application enhance user support and accessibility. Workflow automation reduces manual tasks, multi-language support promotes inclusivity, and user feedback mechanisms enable ongoing refinement. By implementing these enhancements and following the user manual, organizations can enhance their onboarding process, improve user satisfaction, and ultimately expedite the integration and productivity of new employees. The Employee Onboarding Project in Automation Anywhere presents a powerful solution for automating and optimizing the onboarding experience, ultimately contributing to organizational success and employee engagement. Implementing a Robotic Process Automation (RPA) system for the new employee onboarding process has proven to be a transformative approach for organizations looking to streamline and enhance their HR operations. The RPA solution addresses critical challenges in traditional onboarding processes, such as time inefficiency, high operational costs, inconsistency, and potential compliance issues.

Challenges and Recommendations

Despite the significant benefits, the implementation of RPA in the onboarding process comes with challenges. Key factors to consider include initial setup expenses, the requirement for staff training, and ongoing maintenance. To mitigate these challenges, organizations should invest in continuous training for HR staff, establish a robust feedback mechanism, plan for scalability, and continuously enhance security measures.

Future Prospects

The successful implementation of RPA in onboarding paves the way for broader applications across other HR functions and organizational processes. Future advancements may include integrating artificial intelligence (AI) to handle more complex tasks, enhancing the system's capabilities and efficiency. Ongoing monitoring, feedback, and refinements will be crucial to sustaining and expanding the benefits of RPA.

Final Thoughts

In conclusion, the adoption of RPA for new employee onboarding has demonstrated substantial improvements in efficiency, accuracy, user experience, and scalability. By addressing challenges and focusing on continuous improvement, organizations can optimize their onboarding processes, achieve significant operational benefits, and set a foundation for future advancements in automation technology. The positive impact on HR operations, new hire satisfaction, and organizational growth highlights the strategic value of implementing RPA in the onboarding process.

REFERENCES

1. Aguirre S, Rodriguez A. Automation of a business process using robotic process automation (RPA): A case study. In Applied Computer Sciences in Engineering: 4th Workshop on Engineering Applications, WEA 2017, Cartagena, Colombia, September 27–29, 2017, Proceedings 4; Springer International Publishing. 2017; 65–71.
2. Asatiani A, Penttinen E. Turning robotic process automation into commercial success–Case OpusCapita. J Inf Technol Teach Cases. 2016 Nov; 6(2): 67–74.
3. Willcocks LP, Lacity M, Craig A. The IT function and robotic process automation. The Outsourcing Unit Working Research Paper Series (15/05). London School of Economics and Political Science, London, UK. 2015; 1–39.

4. Hofmann P, Samp C, Urbach N. Robotic process automation. Electron Mark. 2020 Mar; 30(1): 99–106.
5. Hallikainen P, Bekkhus R, Pan SL. How OpusCapita Used Internal RPA Capabilities to Offer Services to Clients. MIS Q Executive. 2018 Mar 1; 17(1): 41–52.
6. Umezuruike C, Ngugi HN. Imminent challenges of adoption of big data in educational systems in Sub-Saharan Africa nations. Int J Recent Technol Eng. 2020; 8(5): 4544–50.
7. Vijai C, Mariyappan MS. Robotic Process Automation (RPA) in Human Resource Functions. Advances In Management. 2023 Sep; 16(3): 30–37.
8. Villanueva-Moya L, Herrera MC, Sánchez-Hernández MD, Expósito F. # Instacomparison: social comparison and envy as correlates of exposure to Instagram and cyberbullying perpetration. Psychol Rep. 2023 Jun; 126(3): 1284–304.
9. Frey CB, Osborne MA. The future of employment: How susceptible are jobs to computerisation? Technol Forecast Soc Change. 2017 Jan 1; 114: 254–80.
10. Pathak A, Rana S, editors. Transforming Human Resource Functions with Automation. IGI Global; 2020 Dec 18.
11. Fettke P, Strohmeier S. HR robotic process automation. In Handbook of Research on Artificial Intelligence in Human Resource Management. Edward Elgar Publishing; 2022 Mar 15; 187–206.
12. Kuo CC, Chang K, Quinton S, Lu CY, Lee I. Gossip in the workplace and the implications for HR management: A study of gossip and its relationship to employee cynicism. Int J Hum Resour Manag. 2015 Oct 11; 26(18): 2288–307.
13. Rozario AM, Vasarhelyi MA. How Robotic Process Automation Is Transforming Accounting and Auditing. CPA Journal. 2018 Jun 1; 88(6): 46–49.
14. Mohamed SA, Mahmoud MA, Mahdi MN, Mostafa SA. Improving efficiency and effectiveness of robotic process automation in human resource management. Sustainability. 2022 Mar 26; 14(7): 3920.
15. Dhatterwal JS, Kaswan KS, Pathak JP, Balusamy B. Robotics in Production and Its Impact on HR Functions. In: The Role of HR in the Transforming Workplace. Productivity Press; Chennai, India. 2024; 10–31.

