Onboarding Process Automation

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Abstract
Automating this process, related not only to new and existing employees, but also to HR, employee department managers, and IT staff, can make the process and all related tasks more efficient to save time and avoid human errors. New hires will know the steps of the process and will be more likely to begin the actual work for which they were hired. Employees from the HR department will be able to focus on more important tasks, for example, on the adaptation of newly arrived employees or on interviewing with the departing employee. Automating the process of onboarding can also be a step towards automating other repetitive actions in the HR or IT department.

Keywords: onboarding process, automation, human resources, employee retention, robotic process automation (RPA), personalized onboarding program

Introduction

This study analyzed the process of onboarding employees in modern organizations and the possibilities for automating the technological aspects of this process, to concentrate on the processes of emotional inclusion and familiarization with the company culture among new employees. Onboarding is a key strategic element for the company. Once the right candidate for the organization and the position has been selected, the next phase is for this new employee to meet the company, face to face, with its culture and people. Whether the employee becomes a part of the company, whether he commits to it, and whether it keeps him may depend on the holding of this meeting. If the initial adaptation process is successful, so will the employee's future in the company.

The onboarding process is evolving and changing and is no longer just about introducing new people to the organization and acclimating them. Modern onboarding is a complex set of tasks involving many people and department managers, team leaders, people from the IT team, and people from the HR team. It requires socialization, acceptance of the company culture, customization of the plan and the process itself, and receiving constant feedback from the new employee. This complex organization implies opportunities for human error, non-compliance with schedules, inefficiency, and non-productivity, which can lead to both failed and delayed onboarding of the new employee, as well as dissatisfaction and non-acceptance on the part of the new employee.

If automation technologies are integrated into this process, it would lead to its acceleration, freeing many of the participants in traditional onboarding from their tasks and saving their time, and the result – optimization, and efficiency of the process, increasing productivity and improving organizational management.

The author believes that automating aspects of this initial adaptation process will lead to an acceleration of the onboarding process, a reduction in costs and a faster integration of the new employee into the company. The onboarding process of new employees must be subject to constant monitoring and change, to be adjusted according to the specific needs of the specific employee, to be successful, and for that new employee to stay with the company.

Regardless of the industry in which companies operate, they face the same problem - staff shortages and difficulties in retaining employees in the long term. BusinessEurope October 2023 survey of European companies (BusinessEurope, 2023) states that employers face a shortage of

people, especially in technical (especially math and IT-related) and engineering positions, and that this shortage will continue in the coming years.

Regardless of the factors behind this condition, any way to onboard and retain employees faster leads to higher competitiveness and efficiency. Companies should not only have an onboarding process in place but also a comprehensive onboarding strategy to show their employees that they are valued and retain them in the long term. And lead to strong motivation, strong commitment, and attachment to the company. New employees must feel welcome on the first day of their new job, then understand and become part of the company culture, where everyone feels part of a common team.

In this publication, the author will analyze the stages of the onboarding process to automate them and turn the onboarding process of new employees into a retention tool. The individualization of this process can turn it into a beginning and a personal plan for the future of the new employee in the company. Artificial intelligence, machine learning (Armyanova, & Aleksandrova, 2023), and the use of chatbots can also be included in this personalization.

1. Literature review

A review of the literature on the adaptation of new employees should help us identify the stages of this process to target opportunities for automation and for faster adaptation and high productivity of these employees. We will also analyze the essence of Robotic Process Automation (RPA) as a concept that can be used to automate tasks that are part of the onboarding process.

The traditional onboarding process is defined in the literature as: "Onboarding refers to the process that helps new employees learn the knowledge, skills, and behaviors they need to succeed in their new organizations." (Bauer, & Erdogan, 2011). "Onboarding is a system of processes for integrating new employees into an organization and making them productive as quickly as possible." (Bauer, 2015). Chillakuri states that "Onboarding is a process of introducing new hires into the new job, acquainting them with the organization's goals, values, rules, responsibilities, procedures, and socializing the new employee into organizational culture" (Chillakuri, 2020). According to the Society for Human Resource Management (SHRM), "Onboarding is the process by which new hires are integrated into the organization. It includes activities that allow new employees to complete an initial new-hire orientation process, as well as learn about the organization and its structure, culture, vision, mission, and values. For some organizations, the onboarding process consists of one or two days; for other organizations, this process may involve a series of activities spanning one or many months."

The duration of the onboarding process varies from company to company, but it is generally accepted that it can last up to 90 days (Watson, 2016).

A tool that can automate part of the routine activities in the business process of adopting new employees in organizations is Robotic Process Automation (RPA). There are several definitions, for example, Gartner defines robotic process automation (RPA) as "the software to automate tasks within business and IT processes via software scripts that emulate human interaction with the application user interface. RPA enables a manual task to be recorded or programmed into a software script, which users can develop by programming, or by using the RPA platform's low-code and no-code graphical user interfaces. This script can then be deployed and executed into different runtimes. The runtime executable of the deployed script is referred to as a bot or robot." (Gartner)

Jiménez et. al (2020) consider RPA as: "Robotic process automation (RPA) is a software solution for the creation of programs that mimic the behaviour of human workers when performing repetitive and structured tasks with information systems." (Jiménez-Ramírez, et al., 2020).

Many authors propose a radical change of the onboarding process and its transition to a completely digital version - digitalin onboarding or virtual onboarding. Sani et al., write: „The goal

of digital onboarding is to create a virtual experience for employees to quickly become absorbed into the organization to contribute to the overall business objectives. "(Sani, et al., 2022)

Based on these concepts, we will propose automating only certain tasks of the Onboarding process to preserve the human element in it, communication, socialization, and natural teamwork.

We will also use the terms process, automation, and RPA, agreeing with Gami et al., who defines them as: „ Process as a series of steps required to perform a task. Automation is a task that does not require human intervention. Robotic process automation allows the creation of software using which we can integrate actions which humans perform while working with digital systems. These actions include calculations, maintenance of records, entering data, logging in and logging out, collection of data from file or browser etc. "(Gami, 2019)

2. Methodology

In this article, we aim to explore and identify the stages and specific tasks within the onboarding process that are best suited for automation and identify those that should remain in their traditional format. By analyzing and understanding the tasks at each stage, we will be able to appreciate the benefits of integrating automation technologies into the onboarding process.

In different organizations, the onboarding process can include different tasks, but in general, it is a set of formal and informal procedures that must be completed before the new employee becomes part of the team. It must understand its own tasks as well as their relationship to other tasks. To understand the functioning of the organization, and its corporate culture, to socialize with other employees. This is an induction of the new employee into the organization.

The onboarding process can take many forms, and no one-size-fits-all framework can be imposed, but the typical process can be outlined and tailored to include the specifics of the organization and the specific tasks for the employee prior to their onboarding. Creating the onboarding process for new employees and their training program is usually the responsibility of the HR department. The line manager implements this process as he prepares the training.

The main stages of the onboarding process can be outlined in the following 4 (see Fig 1):
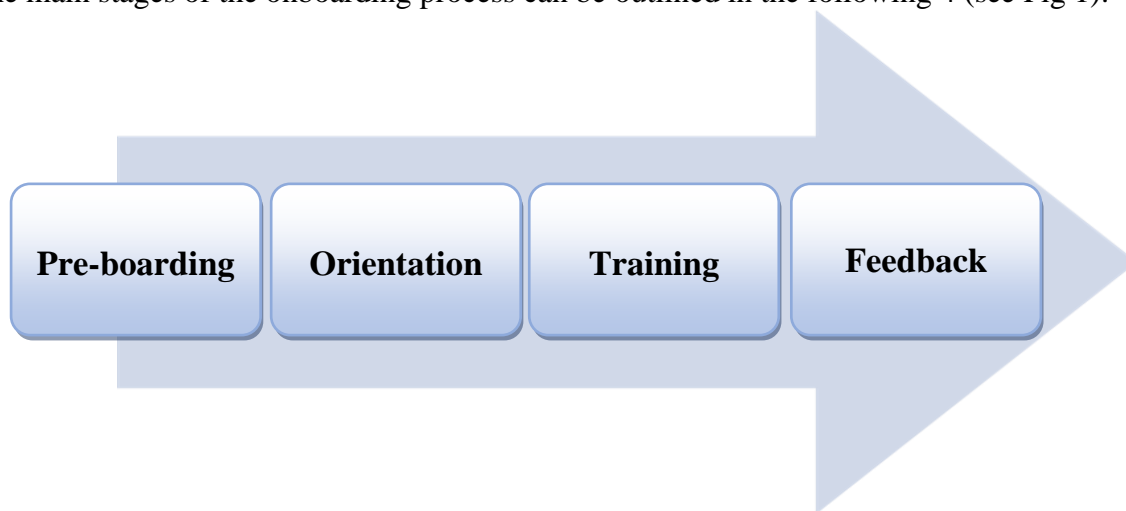

Figure 1. Stages of the onboarding process of new employees

The **Pre-boarding stage** usually occurs between the time the new employee is hired and their first day at the company. It may include the following sub-steps:

1. **Collecting documents -** He is sent the necessary forms to fill out. The necessary identification and employment documents are submitted - identity card, driver's license, employment record, bank account...

2. **Welcome message** – is sent to the new employee to congratulate them, express our excitement and desire to work together, and inform them that we will see each other in a few weeks.

3. **Information package** – determining a colleague from the team who will help the newly arrived employee, an individual plan for the next steps in the adaptation process - with whom he will meet, and what will happen during the first working days of the new position. A career development plan for the new employee can also be included in this information package.

4. **Workplace Settings -** Setting up the workplace includes the enrolment of equipment - computer, telephone, etc., depending on the nature of the work, creation of all accounts, mailboxes, giving privileges on resources, adding in groups and corporate chats, issuance of an access card to the designated areas from the company's office. In detail, this substage includes the following tasks:

    Allocation of hardware and equipment – computers, telephones, and other equipment based on department requirements.

    Provision of access credentials – creation and distribution of usernames, passwords, and access cards.

    Software installation and configuration – IT staff manually install and configure the required software on individual workstations.

    Communication setup – manual configuration of email accounts and communication tools, contact lists according to the employee's role and department.

The orientation stage starts from the first working day of the newly hired employee and may include:

1. **Meeting with colleagues** from the team – mutual acquaintance between the employee and the team takes place during this sub-step. In case the process is remote, the meeting is held in a video conference format.

2. **Meeting with the designated mentor colleague**.

3. **Orientation in the company**, other departments, places to eat, sports, rest, etc. To discuss additional health insurance packages and insurance.

4. **Familiarity with company rules and policies** – Getting to know the employee handbook, signing the rules, and talking to HR representatives in response to specific questions.

The training stage includes job-specific training of the newly hired employee and familiarization with the specific responsibilities and tasks of the job position. It may include:

1. **Familiarity with the position**, work processes, and training resources.

2. **Initial training**.

3. **In-depth training** – it can be present or in the form of blended learning, as well as include self-learning. It can include hands-on training in real scenarios, training in working with software tools, with collaboration tools**.**

This stage should also include occupational safety training, cyber security training, and information on the necessary steps to fix problems.

The Feedback stage allows the new employee to see his weak points, express his difficulties and desires, and assess the quality of his work and his role in the team. It may include:

1. **Meeting with the direct manager** – Frequent meetings with the manager are possible, during which the employee receives feedback on his work and can talk about his difficulties and wishes.

2. **Feedback from several colleagues** – they are at the same level in the hierarchy as the newly hired employee. The employee socializes and begins to participate in formal and informal events in the company team.

3. **Introduction to work on a specific project**.

In this final phase of the process, a transition from the position of a new employee to the position of a full member of the team takes place. The new employee becomes a permanent employee.

Many of the tasks and procedures at the individual stages can be automated – at the first stage, these are sending a welcome message, choosing equipment, creating accounts, mailboxes, resource permissions, and adding to groups and chats. For the rest, strict checklists can be created for the new employee and the company to follow.

Automating tasks and procedures in the Onboarding process can be done with various automation tools. Examples of such tools are UiPath, Power Automate, Automation Anywhere, and Blue Prism. They are included in the group of Leaders in the Gartner quadrant, the latest of which is from the month of August 2023. (Jepma, 2023).

In addition to these specialized process automation tools, scripting languages can also be used to automate certain steps and tasks.

Substages and tasks suitable for automation are presented in Table 1:

Table 1. Automation-friendly substages and tasks

Stage	Automation potential tasks
Pre-boarding	▪ Instead of manually collecting documents, a secure platform integrated with HR databases could be made. Entering personal information, and documents can be done and checked through it. ▪ Welcome message can be sent through an automated system that sends personalized welcome messages to new arrivals. ▪ Workplace setup can also be automated – from allocating the necessary hardware and equipment, to providing credentials to access company systems and premises, to installing and configuring the necessary applications and tools depending on the employee's role and department. ▪ Email and corporate accounts, communication channels, and contact lists can be automatically created and set up according to the employee's role and department.
Orientation	▪ In the same online platform, every employee can have a profile and search and connect with people from his team or people from the organization who would help him. Virtual meetings and presentations of the team as well as the newly hired employees can also be organized. ▪ A digital employee handbook may also be available through the online portal, so newly hired employees will have access to the company's updated policies and procedures. ▪ Signing of company rules and policies can be done through an electronic signature system and thus the process will be traceable.
Training	▪ Acquaintance with the position, work processes, and in-depth training can take place in a mixed environment, in which the on-site training is supplemented by visual aids - video tutorials, interactive simulators, scenario-based situations from real work. Contact with a mentor/mentor or teammate, whether virtual or face-to-face, can also help during the

Stage	Automation potential tasks
	learning process.
	▪ Getting instant responses during this stage – from forums, chatbots, and online mentoring can give new hires added confidence and a sense of support.
	▪ The training can be carried out with the help of online lessons to familiarize new employees with the functionalities and the way of working with the software tools that they will use in their work.
	▪ The secure work environment can be created through training (rather continuous training) in cyber security, which again can be done with automated training modules. The same applies to learning how to work with the collaboration tools that are used in the company.
Feedback	▪ Involvement in specific projects can be done using project management tools so that they can be automatically assigned tasks and gradually included in the work process.

The implementation of the onboarding process requires a secure electronic platform that unites all communication channels in the company and through which automation, tracking of steps and progress, as well as feedback can be implemented. In addition to centralized access, it should also offer management of the tasks/steps of the onboarding process, indicators of how far the process has reached, the ability to automatically generate tasks, access to the company's knowledge base, as well as to training materials during the training process of the newly hired employee. Whether it's an online platform or an intranet, it will be the starting point for new employees, and it's where they should find all the information they need. Integrating this online platform or intranet corporate portal with an e-learning platform will create a learning environment for both newcomers and incumbents, enabling them to learn at their own pace, with their progress tracked by them and by their direct supervisors.

The methodology for automating tasks from the onboarding process can be as follows:
1. To define and document all steps and tasks during each stage and sub-stage of the Onboarding process in the specific company. To describe and map the information flow during this process.
2. To assess automation readiness. To identify repetitive, rules-based tasks prone to human error that can be automated. To consider the impact of the automation of these tasks on the psychological aspects of the new employees and the possibilities of a personalized onboarding process.
3. To research automation technologies to select the appropriate tools and software solutions.
4. To evaluate compatibility with existing systems and integration of the Onboarding platform and automated tasks with them.
5. To develop work processes for automation of the identified tasks. Realization of process customization opportunities and opportunities to implement changes according to the requirements of new employees and their managers.
6. Training of the departments involved in the Onboarding process – HR, IT, and others on the use and management of the automated tasks. Testing of automated processes.
7. Pilot implementation and gathering feedback from engaged employees. Improving automated tasks.
8. Implementation across the organization.

9. Monitoring, maintenance, and improvement - tracking the automated tasks, solving problems that have arisen, and updating the automation technologies used.

10. Data collection and analysis - from employees and process employees, as well as from the monitoring of automated tasks, to collect data for analysis and to evaluate the outcome of the automation of the onboarding process. Depending on the data collected, one can move on to expand or narrow the tasks covered by automation, as well as analyse the impact of automating tasks from this process on employee retention and productivity.

This methodology aims to examine the integration of automation technologies into the onboarding process of new employees, hypothesizing that the result would be more satisfied new hires and longer retention with the company. Tasks that are related to interpersonal contact and socialization, with meetings with the direct manager, with the colleagues of the team, with the mentor, with the responsible for the employee from the HR team must not be automated or virtualized for the socialization, adaptation, and integration to occur in team seamlessly. We believe that fully automating the onboarding process will not achieve the desired goals of higher productivity, efficiency, and retention in the company of the newly hired employee.

Conclusion

The stages and sub-stages mentioned so far can be modified and specified to indicate the ones suitable for automation and to make the onboarding process more efficient. An important addition is the standardization of the process within the company.

Incorporating automation into the individual stages of the onboarding process will create a more engaging and efficient onboarding process, leading to a smoother and faster integration of new employees into the company's operational workflows, an understanding of corporate culture and rules, to connectivity and commitment to your team.

At the end of the onboarding process, the company should have a focused, self-motivated employee enrolled and socialized into the company's team. This process should be as short as possible.

Integrating automation into the onboarding process is part of an overall strategic shift in the employee onboarding process. This process becomes part of the company's policy of attracting talent, their rapid adaptation, and retention. If the culture of the company is aimed at listening to the individual needs of the employees and personalizing the work processes in which they participate, then it will make the employees part of the organization itself.

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