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APPLICATION OF ROBOT PROCESS AUTOMATION IN BUSINESS PROCESS MANAGEMENT

The article discusses a system of robotic process automation, which is currently one of the key innovations in the field of digitalization of business processes. The essence and key features of the technology under consideration are revealed, which can significantly speed up the process of performing the main tasks and improve the efficiency of the organization's business process management system.

Keywords: *Robot Process Automation, Business Process Management, artificial Intelligence, management*

The conditions of globalization, the constantly changing external environment, the introduction of new technologies and the improvement of existing ones require managers to comply with the prevailing working conditions. Today, many technological innovations, concepts, systems and techniques make it possible to simplify and increase the efficiency of current managers. Considering the process approach separately, we can note a major technological aspect, one of the features of which is Robotic Process Automation.

Robotic Process Automation (RPA) is a type of business process automation technology based on the use of artificial intelligence in conjunction with software robots. A software robot reproduces human actions by interacting with the system interface.

RPA software automates manual, repetitive, task-based processes by simulating how people click and type in typical business applications. This frees up employees to work on tasks that are more important. RPA can also automate access to legacy systems that lack modern APIs (application programming interface).

Early implementations of RPA were somewhat brittle and inflexible, limiting the number of robots deployed in many companies. Consequently, the term «hyperautomation» was coined as a way to characterize a set of technologies for automating bots at scale. Hyper-automation combines various technologies to create more automated workflows in applications such as process mining, machine learning, and low/no code development environments [3].

More specifically, RPA is a set of automation technologies aimed at helping employees complete repetitive and time-consuming business tasks across industries (RPA in real estate, telecommunications, insurance, etc.) and business functions (RPA in HR, marketing and much more).

The main goal of RPA is to turn human-driven business tasks, usually performed by hand, into software tasks performed by machines. This means that RPA primarily follows a task-driven approach.

This automation allows companies to delegate some of the most tedious and repetitive tasks to software robots, reducing the effort involved in routine operations and thus reducing costs. It also means that employees can engage in much more motivating activities that require typical human qualities and skills, such as problem solving, creativity, public relations, and so on.

Based on the purpose and characteristics of RPA, the following advantages can be noted [4]:

– save humanity from routine and boring tasks;

– allow businesses to free up human resources by reducing operating costs with a direct positive impact on payback;

– the robot works 24/7, does not get tired, does not go on vacation;

– the robot's behavior is predictable, predictable result;

– robots do not have errors due to the «human factor»;

– the robot, as a rule, works faster and performs the assigned tasks with almost no errors.

This type of business process automation is often used for the following tasks:

– working with tables in Excel, copying and converting data;

– checking information for correctness;

– filling in the screen forms of the client bank;

– generation of reports;

– data transfer from one system to another.

RPA is an element of BPM, however, this software has certain differences from the main model of the process approach. BPM is a discipline of enterprise process management, while RPA is a set of technologies focused on process automation [1].

BPM is a holistic management method aimed at optimizing business processes as a whole and achieving higher efficiency by identifying and eliminating corporate weaknesses. BPM usually includes a long and multifaceted analysis and optimization of the above processes, consisting of five main steps:

– *Design*. Business process design focuses on identifying existing processes that really need refinement or automation.

– *Modeling*. In this part, you customize the upgrade plan for selected processes, visualizing potential improvements and considering how these hypothetical upgraded processes will fit in future scenarios.

– *Execution*. This is either where you test the redesigned «winning» processes, manually, automatically using BPM software, or a combination of the two.

– *Monitoring*. An important step to gather information about the performance of processes and assess whether previous problems have been resolved.

– *Optimization*. The final stage where you fine-tune the processes according to the information obtained in the previous stage.

The different nature of BPM and RPA should not get in the way of finding common ground, as their maximum potential can be achieved by combining them in the right way. In this regard, Deloitte's 2020 Automation with Intelligence report showed that RPA is still the most popular automation technology, but most organizations have integrated their technology portfolio with additional tools to support their automation efforts, and one of the main ones is BPM.

RPA is a must-have tool for improving legacy business processes and can be considered an integral part of BPM. This is not just automating a few clerical tasks, which is certainly the main function of RPA, but also other «side» features that can be useful from a business process management point of view.

RPA technology has proven itself in many areas of business, including content management. RPA is becoming a driving force in this direction, simplifying content quality control and optimizing the process of its delivery to a specific consumer [2]. Among the main tasks of RPA in this direction are the following:

– *Ensuring content quality*. As you know, content acts as a link between brands and buyers – if the content is trustworthy, this usually extends to the brand. Nothing devalues content more than poor quality, which can be due to grammatical errors or incoherent context.

– *Content marketing*. The list of tasks involved in effective content marketing is quite long, and most of them can be easily automated. As a rule, automation tools are built into CRM systems, but they can be implemented using RPA, which saves you from overpaying the CRM provider for additional functionality. Among the routine procedures, one can single out the marketing distribution of promotional materials by e-mail, which requires the continuous construction of a list of addresses and the transfer of content to social networks.

– *Content curation*. To do this, the method of cultivating content is applied by collecting, organizing and presenting fragments that are prepared to attract customers.

– *Monitoring content and tracking consumer reactions*. One of the most important tasks of RPA is to collect and evaluate audience reactions to content, which is explained by the desire of marketers to evaluate its effectiveness and, accordingly, improve or get rid of it.

Every business is ultimately the sum of tasks, events, and decisions that make up entire business processes. In the world of workflow automation, BPM is a holistic approach to streamlining and automating business processes from start to finish. On the other hand, RPA is a technology that deals with small, repetitive tasks performed by bots that simply form part of a business process. BPM is a complete solution for automating entire business processes, and RPA is a complement to a robust BPM approach. RPA certainly cannot replace BPM, even if they sometimes reap the same benefits as reducing human error and increasing efficiency by automating bulky, low-value, but repetitive tasks.

RPA solutions allow non-technical users to create «bots» to automate rule-driven business processes. These bots can mimic human actions such as logging into IT systems and copying and pasting data between systems. RPA also requires minimal integration with any existing IT stack. Organizations running large-scale transactional processes can potentially increase productivity and save time and money with RPA.

For 2022, the state of RPA technology is at the stage of gradual implementation and refinement. Belarusian IT-company «International Business Alliance» has developed a domestic system for robotization of business processes of organizations – «Chancellor RPA». As expected, by 2024, up to 80 % of Belarusian companies that now use foreign platforms will switch to local software [5].

The Chancellor RPA platform is focused primarily on the markets of Belarus and Russia. The main consumers are banks, telecom operators, retailers and large manufacturers. Artificial intelligence allows them to learn and improve algorithms. Based on the available data, in terms of its capabilities, the new RPA platform is not inferior to global solutions. At the same time, the cost of introducing domestic software is significantly lower in comparison with foreign analogues.

Consider the experience of implementing RPA in the Russian Federation and the Republic of Belarus for 2021 in the table (see Table).

Number of implemented RPA projects in the Russian Federation and the Republic of Belarus

The most popular RPA systems in the Russian Federation	Number of implemented projects	The most popular RPA systems in the Republic of Belarus	Number of implemented projects
BluePrism	29	Smart Expert (1C:ERP)	10
UiPath	21	BluePrism	7
Lexema-RPA	15	UiPath	3
Robin	12	Robin	3
Sever.ai	9		

Based on the data in the table, it can be note that the use and range of RPA systems in the Russian Federation is much more developed, in contrast to domestic software.

In conclusion, I would like to note that the digitalization process is proceeding at a relatively fast pace. Because of this, modern managers have to adapt to modern trends and pick up new emerging technologies in time, one of which is the RPA system. This technology allows not only reducing both time and financial costs for performing similar tasks, but also significantly simplifying the work of a modern manager.

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