Future of the Robotic Process Automation

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Abstract: Robotic Process Automation is the technology that allows anyone today to configure computer software, or a "robot" to emulate and integrate the actions of a human interacting within digital systems to execute a business process. RPA robots utilize the user interface to capture data and manipulate applications just like humans do. They interpret, trigger responses and communicate with other systems in order to perform on a vast variety of repetitive tasks. My presentation gathers and analyze the future of RPA and summarize expectation behind this technology.

Keywords: RPA, software robot, automation, roadmap, process management

1 Background of the topic

According to J.W. Middelburg one of the biggest worldwide influencers in RPA topic, the automation is a system that functions without direct human interactions. Based on his international research many automated systems have this in common: taking out the most unreliable factor (human error) thus improving precision, quality, and accuracy. The first thesis of how to automate processes using software came in 1935, when the scientist Alan Turing described how a systematical algorithm could work processes more effectively and help to speed up and achieved best quality of companies' processes. His ideas on algorithms and automation had a lasting impact [1].

First development began at MIT in 1964 when the first laboratories researching artificial intelligence (AI) has been opened by scientists and following, in 1965 the first Robotics Institute was opened [2]. As far as Middelburg professional opinion is concerned Service Automation has been defined as the next wave of development in automation. Middleburg described service automation as a part of information technology that is used to automate services and deliver optimal user experience. Willcocks & Lacity from MIT defined RPA as service automation, but other terms also apply to service automation. For example, a scripting tool, artificial intelligence, cognitive computing, BPM, etc.

Robotic Process Automation is defined by the IEEE Standards Association as:

"A preconfigured software instance that uses business rules and predefined activity choreography to complete the autonomous execution of a combination of processes, activities, transactions, and tasks in one or more unrelated software systems to deliver a result or service with human exception management" [3]

The term of Robotic Process Automation (RPA) has been used first at the beginning of 21st century and was created by marketing director Patric Geary from Blue Prism, one of the RPA companies on global worked. RPA is a newly developed technology and there is no proper research from the early stages of use. RPA market increased popularity between 2014 and 2015 when relevant companies started to announce considerable savings due to automation. The market for RPA back-office automation was becoming more significant by early 2016, but it was still relatively small-scale during this time. The topicality of the topic is also given by the fact that the different generations present in the labor market show similarities in some things. For example, they are open to IT solutions and creative ideas. [4]

2 Robotic Process Automation in nutshell

After short introduction of Robotic Process Automation (RPA) there should be a conclusion that it is mostly a methodology where a software is using complete specific process that was previously done by a human. Lot of RPA scientits and influencers can confirm that Robotic automation software will not replace systems. Due to this aspect, it works with the system and manages a particular task maybe paralelly in the same way as it has been asked to complete [5]. RPA interacts with a computer system the same way a human would, but much faster and at a lower cost, it is the ROI of RPA implementation. Instead of using a salary-paid employee (FTE or PTE) to do a repetitive task on the computer, RPA can be used to do the processes that includes the typing and clicking the same way as a human [6]. RPA does not require changing old ERP systems with their all components. RPA can be integrated with any software used by humans and it can be implemented in a short period of time for the purpose of carrying out operational procedures [7]. According to a BIG4 company' survey the decision makers answers indicated that cost reduction was the main priority when implementing RPA. However, there should be a noticeable shift in the aspiration for robotics. During studies they have been asked about their automation strategy in our latest research, and the top three priorities for executives were to increase productivity, improve customer experience and deliver automation at significant scale. As far as I am concerned and this is the output of study that value of RPA in terms of productivity rather than labour displacement shows a maturing of many

organisations' automation strategies. However, productivity is only one measure of the value of work done by digital workers, but let's check real figures [8].
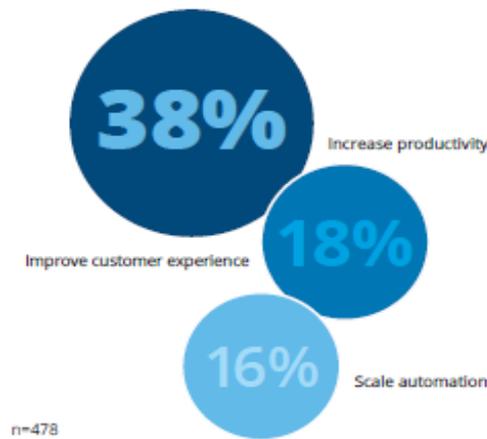

Figure 1 Top three priorities for organizations' automation strategies

3 Future prospects and challenges of RPA

Based on Forrester reasearch the robotic process automation (RPA) market is heated — but to be sustained, RPA must offer more than plugging gaps in legacy systems. Based on forecast spending on RPA solutions based on the projected reduction in cubicle jobs due to artificial intelligence (AI) and related technology. Forrester found that the RPA market, while only $250 million in 2016, will grow to $2.9 billion in 2021 [9]. Adding AI to RPA will free it from an exclusive focus on rote tasks. AI will account for an increasing portion of the digital workforce, and in the end, RPA will be a small fraction of the overall AI "cubicle" market spend. Of course it's a very impressive number and the competition has already started among RPA market members. It should cause a confusion by customers. As all of IT projects RPA implementations also include risk and clients are in an uncertain situation. Based on previous research, there are key barriers to implement RPA solutions on global market. If we check next Figure there are three main limitation behind such projects. The most obvious and challenging barrier is cited as process fragmentation, typically caused by multiple process and system variations and resulting in increased complexity and reduced leverage from individual automations. Most obviously, this is identified during discovery activities and results in automation opportunity pipelines including a very high number of very low value opportunities. A mean opportunity value of $50,000 per task automation is quite common, setting a low bar for implementation costs.

During RPA interviews the consultants and the experts frequently surprised at how many organisations have yet to define a vision and ambition for automation. Without this, it is not clear how automation teams will secure the funding to build the skills, capability and capacity required to automate at scale. At its simplest, being able to articulate how many bots will be implemented over the next year, and where and why these will be deployed, is surely essential to securing investment from senior management. This is the lack of clear vision what is also important category in everywhere.

IT teams are only just beginning to fully appreciate how different the deployment of automation technologies is to traditional IT systems, how profound the changes they will introduce are, and the potential impact on the role of IT teams. As medium omplexity robot implementation schedules ranging from 4 weeks up to 24 weeks. Needless to say, at the upper end of that range automation becomes non-viable economically. As IT teams learn and adapt to the changes required to implement automation technologies successfully, as the pace of robot deployment accelerates rapidly.
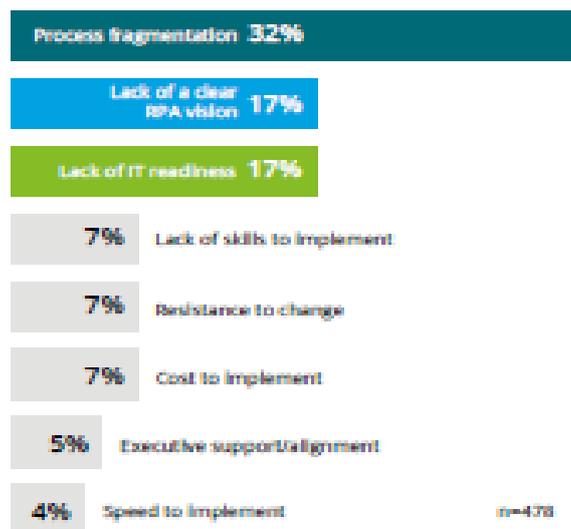
Barrier	Percentage
Process fragmentation	32%
Lack of a clear RPA vision	17%
Lack of IT readiness	17%
Lack of skills to implement	7%
Resistance to change	7%
Cost to implement	7%
Executive support/alignment	5%
Speed to implement	4% (n=478)

Figure 2 Biggest barriers to scaling RPA, percentage of respondents

Conclusions

According to gathered seconder information, we are at the beginning of RPA hype, which means there is a huge possibility for process automation companies and the end users also. In order to increase the number of successful implementations, companies need a good infrastructure to set their team up for success, well-trained project team members, who are not afraid of raising and resolving issues in a really short period of time by gathering really deep business

understanding, and an exhaustive plan on the solution, so your team won't need to improvise right from the start of the development.

When we discuss further improvement of this area, we need to find the point and main KPI of a RPA project. Last but not least with RPA there are four key messages for those companies who are willingness to invest into a robotic software. Firstly, they must to start with a foundation where they can build globally at an Enterprise level. Secondly, to ensure all of the stakeholder's involvement very early in the process, and ensure security, audit, governance, control, and IT oversight are covered processes also. Based on surveys it will not slow down the ultimate adoption of the applications. It will not cost money but it means that if all the stakeholders are involved early on and the roadmap to success is drawn up based on these stakeholders' involvement, then the organization is going to be able to build a much more solid foundation and a solid business offering underpinned by resilient IT. Thirdly, do not be tempted by quick wins, or service level or departmental solutions. This is something that needs to start as an Enterprise rollout. Even if it does not, in the end, become an Enterprise rollout, you have to begin with that concept. Fourthly, if you do these three things, you can build around the RPA, for example at the front end for unstructured data, and later for insight through business analytics. [10].

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