Automation of Data Process using RPA process

Mr. Vinod Rajput[1], Dr. Subhodini Gupta[2] and Ms. Kajal Jaisinghani[3]
[1]Research Scholar, SAM Global University, Bhopal, MS
[2]Research Guide, SAM Global University, Bhopal, MS
[3]Research Scholar, University of Mumbai, MS

Abstract

Robotic Process Automation (RPA) is a new wave of the future technologies. Robotic Process Automation is one of the most advanced technologies in the area of computers science, electronic and communications, mechanical engineering, and information technology. It is a combination of both hardware and software, networking and automation for doing things very simple. In this light, the research manuscript investigated the secondary data - which is available on google, academic and research databases. The investigation went for totally 6 months, i.e., 1-1-2018 to 30-6-2018. Robotic Process Automation can bring immediate value to the core business processes including employee payroll, employee status changes, new hire recruitment, and onboarding, accounts receivable and payable, invoice processing, inventory management, report creation, software installations, data migration, and vendor onboarding etc. to name a few applications.

Keywords: - Automation, Robotic Automatic Process, RPA, Blue Prism, Business Process Outsourcing.

Introduction

Robotic process automation (RPA) is an emerging form of business process automation technology based on the notion of software robots or artificial intelligence (AI) workers. RPA has become the new language of business. This up to date technology is more powerful among the 21st- century technologies. The way Companies do their business, the way people do official work as well as the public daily life is going to be drastically assisted by new hardware, software technologies along with smart devices. The lifestyles of human being are changing across due to global collaborations, multinational businesses, new IT/ITes advancements with RPA technology. Along with the existing new technologies functional in human life Viz. Internet of Things, Big Data Analytics, Deep Learning, Artificial Intelligence, Machine Learning, and other allied technologies, Robotic process automation (RPA) is becoming one of the noteworthy disrupting technology. According to literature, to address the lack of human resources, Human-Robot Interaction (HRI) and robot companionship show positive results on the human psychological state. The research on Robotic Process Automation is seriously conducted by fortune 500 companies together with new start-ups. The next section explains the meaning of Robots, Automation, and the importance of Robotic Automation; followed by details of RPA.

ROBOTIC PROCESS AUTOMATION

Robotic Process Automation is the next wave of innovation, which will change outsourcing. We already are seeing the beginnings of a race to become the top automation-enabled service provider in theindustry. In time, we are likely to see an arms-race for innovation in automation tools leading to new offerings and delivery models. Sarah Burnett, Vice President of Research at the Everest Group. The term “Robotic Process Automation” connotes visions of physical robots wandering around offices performing humantasks, the term really means automation of service tasks that werepreviously performed by humans. For business processes, the term RPA most commonly refers to configuring software to do the work previously done by people, such as transferring data from multiple input sources like email and spreadsheets to systems of record like Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) systems. TheRobotic automation is the application of specific technology and methodologies to use a computeror “virtualized FTE or robot” rather than a person to manipulate existing

Corresponding Author: Mr. Vinod Rajput, vinodrajput1976@gmail.com

application software Enterprise Resource Planning's, claims applications, databases, learning management systems inthe same way that a person today processes a transaction or completes a process. The year 2016 saw dramatic increases in the take-up of robotic process automation in back offices and shared service operations, and amongst BPO service providers themselves. Robotic Process Automation (RPA) moves from pilot projects to broader adoption. Interactive Voice Response (IVR) development toolkit from Pronexus itself provides basic information to the customers while connecting them to the real call center executive as per his/her requirements. M/s. Blue Prism® company, founded by David Moss and Alastair Bathgate in U.K - invented the term "Robotic Process Automation". The Blue Prism offers an intelligent, connected and easy-to-use digital workforce with new v6 features and integrations. RPA is the deployment of software to perform actions previously done by humans.

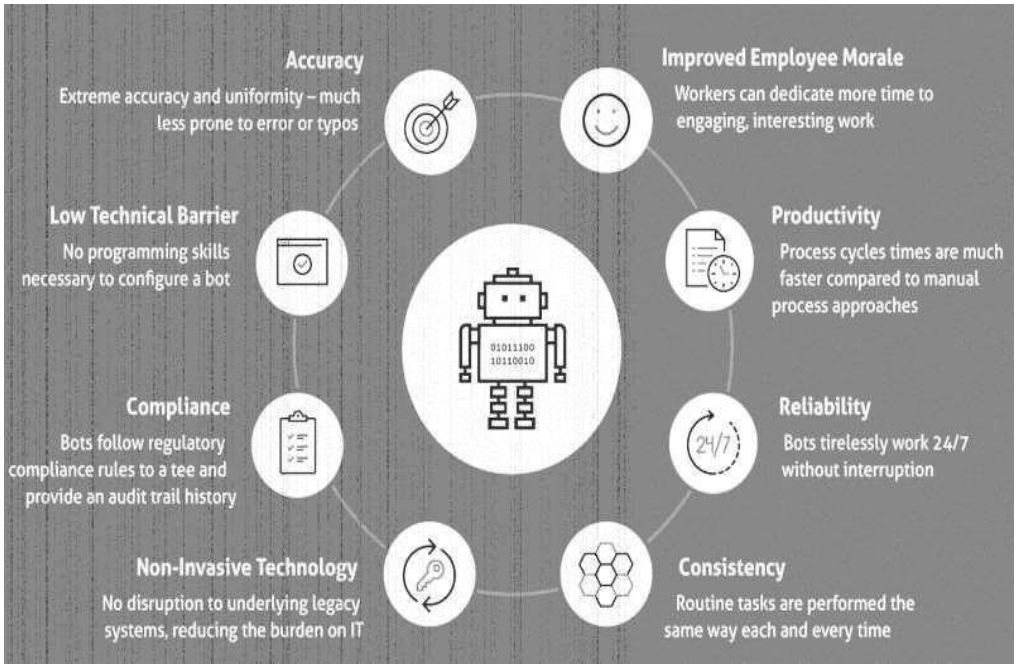

Figure 1. Robotic Process Automation, by Brandon Buccowich.

Robotic Process Automation Operations

There are no standard operational models developed still now for the Robotic Process Automation operations. But this technological model will replace the entire business system operations by automating manual work, more into human intensive, less time consuming, specifically error prone content enabled business. In this sense, the main advantage is the "Digital Labour" to reduce costs, minimize errors, and eliminate the risks. The RPA has many operational advantages across multidisciplinary and varied organizations.

Credible Business Transformation: With new RPA technology, the business operations are going to be changed drastically. The companies can now dramatically improve the efficiency with which they use their labor, augmenting a more sustainable workforce with reliable, efficient andlow-cost digital labor using Robotic Process Automation. This allows companies to reduce costs, minimize errors, and eliminate risk.

Content Migrations: A huge amount of content is generating in all the organizations. Manpower may be required to collect, analyze, and generate a report as insights are becoming complex in routine operations. Robotic Process Automation (RPA) can only help the organizations and business companies to accelerate application consolidation and legacy application integration by migrating content or connecting to legacy systems more rapidly, with less effort.

Web Crawling / OSINT: Robotic Process Automation automates the capture of content in anyformat from any source through various devices.

Specific features of RPA

1. Easy configuration Organizations are not required to hire professionals with excellent programming skills as working with the interface of RPA is very basic. One can easily drag, drop and link the icons which represent the steps of a process. The code is generated automatically once the icons are placed and linked with each other.
2. Non-invasive software RPA technology does not require a new and expensive platform to be implemented into the system. It runs in tandem with the existing systems. It only requires a separate set of login id and passwords for those who will be working on the RPA software. RPA software uses a different presentation layer to access the system, and hence it does not make any changes in the programming logic of the system.
3. Enterprise safe RPA can be integrated into the system because it meets the requirements of the enterprise IT regarding security, scalability, change management. The IT supported infrastructure centrally monitors the RPA bots that have been deployed to maintain the integrity and framework of the enterprises' business model.

Functioning of RPA

The RPA technology is called Lightweight IT. This can be explained with the help of an Open System Interconnection Reference Model (OSI). The International Organization of Standardization introduced this model which provides a base to communicate and exchange the information between the systems. All the layers of the system have an exclusive function and value addition before the information is passed on to the proceeding layer.

Limitations of RPA

There are significant benefits that can be seen once an organization implements RPA, but like every technology has their shortcomings, RPA too is not the only solution to the business models that help the organizations to improve their productivity and customer satisfaction.

CONCLUSION

With the rapidly changing customer requirements and the ever-increasing industrial developments, the organizations are considering different approaches in which they can accomplish the maximum number of processes and while consuming a minimum amount of time. This leads the organizations to the technology of RPA. RPA is considered a software tool that imitates the human action which performs tasks that are repetitive in nature and does not add much value to the organization. The tasks can be as simple as copying and pasting data from one place to another, recovering information from the system or merging various sets of data. The primary advantages of RPA are; reduction in expenses, increasing throughput time, increasing efficiency and increasing productivity.

REFERENCES

Banks, M. R., Willoughby, L. M., & Banks, W. A. (2008). Animal-assisted therapy and loneliness in nursing homes: use of robotic versus living dogs. Journal of the American Medical Directors Association, 9 (3), 173–177.

Barnett, G. (2015). Robotic process automation: adding to the process transformation toolkit.

Blue Prism Software Robots: Introducing the Virtual Workforce. Accessed dated on 12/6/2018 from thehttps://www.blueprism.com/about-us.

Brady, M. (1985). Artificial intelligence and robotics. Artificial intelligence, 26(1), 79-121.

Brandon Buccowich (2016). What is Robotic Process Automation. Accessed dated on 20/6/2018, https://www.laserfiche.com/ecmblog/what-is-robotic-process-automation-rpa/.

Clint Boulton (2018). What is RPA? A revolution in business process automation, https://www.cio.com/ article/3236451/business-process-management/what-is-rpa-robotic- process-automation-explained.html.

Douglas Laney, Ankush Jain (20 June 2017). 100 Data and Analytics Predictions Through 2021.Accessed dated on

13/6/2018 from the Universal Resource Locator file: https://www.gartner.com/doc/3746424/-data-analytics-predictions-.

Gershgorn, Dave (12 November 2017). "Inside the mechanical brain of the world's first robot citizen". QZ. Retrieved 13 November 2017.

Gunasekaran, A. (1999). Agile manufacturing: a framework for research and development. Internationaljournal of production economics, 62(1), 87-105.

Hal Hodson (2015). AI interns: Software already taking jobs from humans. Accessed dated on 12/6/2018 fromthe https://www.newscientist.com/article/mg22630151.700-ai-interns-software- already-taking-jobs- from-humans/#.VY2CxPlViko.

Harness the Power of Automation: Discover how Endpoint Automation can automate your IT processes and save you money, accessed dated on 12/6/2018 from the URL http://www.endpointautomation.co.uk/.

Jump up "Meet Sophia, the female humanoid robot and newest SXSW celebrity". PCWorld. Retrieved2018- 01-04.

K.V.N. Rajesh, K.V.N. Ramesh and Hanumantha Rao (2018). Robotic Process Automation: A Death knellto dead-end jobs? CSI Communications-Knowledge Digest for IT Community, Volume No.42, Issue No.3, 10-14.

1. Kehoe, B., Patil, S., Abbeel, P., & Goldberg, K. (2015). A survey of research on cloud robotics andautomation. IEEE Transactions on automation science and engineering, 12(2), 398-409.
2. Kerremans M. (2018). Gartner market guide for process mining. Report G00353970. Gartner.Kristina Romero (December 15, 2017). Content Enabled Robotic Process Automation and Analytics. Accessed from https://infocapnet.com/robotic-process-automation/ on 23/7/2018. Lacity, M., Willcocks, L. P., & Craig, A. (2015). Robotic process automation at Telefonica O2.
3. Lacity, M. C., & Willcocks, L. P. (2016). A new approach to automating services. MIT Sloan ManagementReview, 58(1), 41.
4. Linner, T., Pan, W., Georgoulas, C., Georgescu, B., Güttler, J., & Bock, T. (2014). Co-adaptation of robotsystems, processes and in-house environments for professional care assistance in an ageing society.
5. Procedia Engineering, 85, 328-338.
6. Madakam, S. (2015). Internet of things: smart things. International Journal of Future Computerand Communication, 4(4), 250.
7. M.C. Lacity and L.P. Willcocks, “Advanced Outsourcing Practice: Rethinking ITO, BPO, and CloudServices” (London: Palgrave, 2012).
8. Palgrave Macmillan, Cham. Nolfi, S., & Floreano, D. (2000). Evolutionary robotics: The biology,intelligence, and technology of self-organizing machines. MIT press.
9. Rodger Howell and Tom Torlone (2017). Robotic Process Automation (RPA) Operating Model Design.
10. Accessed dated on 13/7/2018 from https://www.linkedin.com/pulse/robotic- process-automation-rpa- operating-model-design-rodger-howell/.
11. Sadre, A., Baechtel, D. F., & Graber, M. S. (1996). U.S. Patent No. 5,485,620. Washington, DC: U.S. Patentand Trademark Office.
12. Şahin, E. (2004, July). Swarm robotics: From sources of inspiration to domains of application.
13. In International workshop on swarm robotics (pp. 10-20). Springer, Berlin, Heidelberg.
14. Sheridan, T. B. (2002). Humans and automation: System design and research issues. Human Factors andErgonomics Society.
15. Sutherland, C. (2013). Framing a Constitution for Robotistan. Hfs Research, ottobre.