

Study and Review Business Process Automation using Robotic Process Automation (RPA)

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ABSTRACT

Business Process Automation (BPA) has become a crucial component of modern business operations. It enables organizations to automate routine tasks, reduce errors, and improve efficiency, among other benefits. Robotic Process Automation (RPA) is a key technology for achieving BPA. RPA software robots can automate repetitive tasks, allowing employees to focus on more strategic work. This study aims to provide a comprehensive review of the use of RPA in BPA. The study begins with an overview of BPA and RPA and their benefits. It then examines case studies of organizations that have successfully implemented RPA to automate their business processes. The review also discusses the challenges and limitations of RPA, including the need for careful planning, process standardization, and ongoing maintenance. Additionally, the review analyzes the impact of RPA on employees and the workplace, including the potential for job displacement and the need for reskilling. The study concludes that RPA can be a valuable tool for organizations seeking to automate their business processes. However, successful implementation requires careful planning, process standardization, and ongoing maintenance. Additionally, organizations must consider the impact of RPA on their employees and develop strategies to address potential job displacement and reskilling needs. Overall, RPA can significantly improve efficiency and reduce costs for organizations that implement it properly.

Index Terms :- RPA, SRS, CRM, Covid-19, FDI, BPA.

1. INTRODUCTION

The key question for many BIASE writers and readers is what people can do and what should be automated? What are people supposed to do? It's not a new issue. "There is a continuous rethink in information knowledge, mechanism education and artificial intelligence. One progress is robotic process automation (RPA), which is a key word for paraphernalia that function exactly like a human is using other computer systems' user interface. This is different from the traditional 'inside-out' tactic to IT improvement. Unlike old-style workflow knowledge, the information system remains unbothered.

Gartner says: "We're using [if, then] structured data statements, usually using a amalgamation of user interface or by linking to APIs to drive client servers, mainframes or HTML code. The method is mapped to the software robot by mapping an RPA tool language, with runtime assigned to execute the script through a dashboard" (Egger, ter Hofstede, Kratsch, Leemans, Röglinger & Wynn, 2020). RPA services are also planned to minimize the routine and fundamental tasks of employees (Leno, Augusto, Dumas, La Rosa, Maggi & Polyvinyl, 2020). Demand from commercial salespeople for RPA tools has increased. Moreover, over the last two years, several new sellers entered the market.

It is not a wonder, since many corporations are now observing for ways of cutting expenses and combining heritage applications. RPA is now seen as a means of quick returns on investments (RoI). RPA apps are sponsored by RPA specialist providers counting Automation Edge, Automation Anywhere, Blue Prism and Kryon Systems (Egger, ter Hofstede, Kratsch, Leemans, Röglinger & Wynn, 2020; Leno, Augusto, Dumas, La Rosa, Maggi & Polyvanyy, 2020). Many other vendors are included or provide several RPA functions in their

applications (not just RPA). Pegasystems and Cognizant, for example, also include RPA, as well as conventional BPM, CRM, and BI. The editorial aims to concentrate on these trends in the BISE community and discuss the challenges of RPA research.

2. LITERATURE REVIEW

In the living through the biggest real-world experiment of the moment. As the COVID-19 crisis goes on, homes have become a dispersed forum from which they continue to perform their jobs while maintaining the necessary social distancing. Economic stability and efficiency declined dramatically during the COVID-19 emergency. For the first time in their lives, many individuals are operating from home, employed by companies that have not adapted their functions, procedures, or instruments to accommodate that mode of activity. Right now, what we are seeing is a crazy scramble in which everybody does whatever is needed to save the economy from running off the rails. Noted that many companies are struggling as easily, efficiently, or effectively to handle even the most mundane procedures as they did before the pandemic struck. For starters, because the workers involved were unexpectedly forced to operate from home, they had to put up with painful delays and mess ups on many fronts of their lives, which are financial, medical, legal and technical.

Technology trend is facing a huge domination and is highly influenced by the threat of RPA technology replacing human workers and leaving them unemployed. The development of the RPA workforce would face a huge demand in providing workers with soft skills and engineering backgrounds. Not only automation is given to the processes that require human effort but also automation is provided to the processes that need human judgement. Further knowledge is imparted regarding the evolution of RPA. Humans were, humans are and humans will always be the whole soul element in analysing and discovering more about data that is compiled by computer (Divyanshu Rai, 2019).

Another main use of RPA during the pandemic would be to ensure that any workforce shortages that could arise from individual employees taking sick leave, being quarantined at home, or being permanently shut out of their normal offices can be handled by both company and IT processes. RPA systems allow workers to access sensitive information remotely, both easily and securely, besides automating repetitive processes which would involve the physical presence of the employee elsewhere in the office. "Social robots may be deployed to solve this problem to provide ongoing social connections and adherence to care regimes without fear of transmitting disease." (Guang Zhong Yang, 2020). Remote visitors can get used to robotic avatars and controls. Finally, many conferences can be reached through low latency virtual reality that is high definite and fully mobile and in the context of the meeting are the virtual robotic avatars of the attendees. Both modalities reduce the infection rates of disease and carbon footprint simultaneously."

3. CHALLENGE AND SOLUTION OF ROBOTIC PROCESS AUTOMATION TO AUTOMATE BUSINESS PROCESS

3.1 Irrational boycott by employees

The advantage of robotic process automation is it can improve the productivity and efficiency organization while reducing the number of employees. RPA can integrate multiple repetitive commands and the RPA Robots can simulate and perform almost any action an employee can perform from a computer in a daily corporate office, such as sending and receiving emails and attachments, logging in to a Web page or enterprise application, moving files and folders. Some employees' jobs will be replaced by the RPA and they will either be promoted to be the supervisor of the RPA system, or they will be fired for losing their role. With the decrease of demographic dividend, labour costs have increased. Companies have to introduce the RPA system to improve efficiency and save labour costs. (Kirchmer & Franz, 2019).

Some employees are not willing to cooperate because they are dismissed for fear of losing their value in the company. Their non-cooperation has caused the development of the RPA system to go smoothly. In fact, this is caused by wrong perceptions and ideas. RPA is a tool to make the operation process smooth and efficient; it still needs an operator to operate the system. Most companies arrange other employees to perform positions that require more human operations and the employees will be trained to perform higher-value jobs. Actually, the employees are also profitable in the development of RPA.

3.2 Design application range

Through research on many companies that use RPA in their production processes, it is found that most companies cannot maximize the benefits of RPA. Although RPA can perform many different tasks, an

organization must plan and design the areas in which RPA will be used before installing RPA. Organizations need to ensure that the organization's internal digital environment is sufficient the RPA software to be used, otherwise RPA will need to be reprogrammed. (Asquith & Horsman, 2019). This has become the reason for the failure of some RPA applications.

The threshold for the application of RPA is not high, but if the scope of application is not well designed, the company will have excessive expectations of the benefits of RPA and assign inappropriate tasks to RPA for completion. The essence of RPA is to act as an assistant to human employees to make work more efficient and simpler. If RPA is given expectations beyond its abilities by the organization and hopes to completely replace human employees and use it as an excuse to launch layoffs. It will often lead to serious RPA positioning errors and ultimately lead to the failure of applying RPA.

3.3 Cyber security and vulnerability

The task of RPA usually involves access to various data, which can include personal data, phone numbers, bank accounts and other sensitive information. This makes it a valuable target and is more likely to be targeted by malicious users and hackers to steal confidential data. In the financial system field, it is theoretically feasible to use AI learning to crack the system to steal data. This is especially important in the financial sector.

Malicious users will try to hack into the server and retain the malicious program for a long time in order to attack the information and data processed by RPA. This exposes the data processed by RPA to the risks of security vulnerabilities, denial of service, leakage of sensitive data and abuse of special permissions for access. (Gotthardt, 2019). These risk factors can be exploited by hackers to steal the data.

However, the technology is still in a period of development, and there is no essential difference between the RPA system and other systems. The defence method can still be universal. For example, strict control of the port accessing the main server and strict monitoring of data.

3.4 Need time to test and troubleshoot

RPA is a technology invented by humans to help work smoothly and reduce the probability of facing obstacles during the work process. RPA robots do not have the ability to make subjective judgments. According to a study that was carried out recently, the application of RPA is unable to solve the problems that are out of programmer's expectations. Hence, RPA is incapable to face new situations. (Syed & Suriadi, 2020). For instance, the RPA system applied in the sector of accounting, the programmer perhaps neglected "special dividends" during the process of designing the beta version of RPA. In short, RPA requires time to test and troubleshoot the potential drawback that may be faced by users to maximize organizational performance. Organizational performance can be measured by the rate of return on investment, the rate of goal achievement, and the growth of overall competitive position. (Abualrejal, Udin & Yusoff, 2018). In theory, when work is done more efficiently and with a lower error rate, it will improve organizational performance.

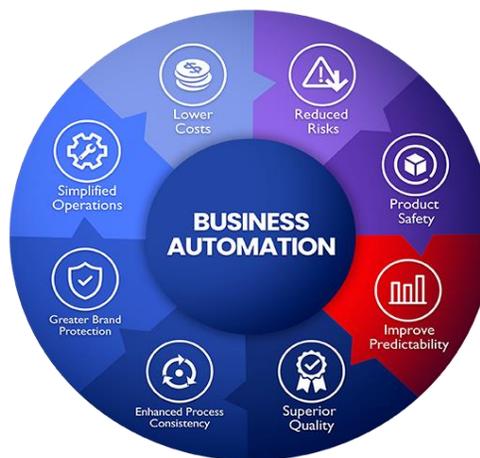


Figure 1: Benefit of Business Automation

3.5 Company technical requirements

Such as other IT systems, RPA systems require a group of professional programmers and technicians to develop and maintain the system. Obviously, to apply the RPA system properly, a certain level of technicality is

mandatory for the company. For example, there must be technologists and on-going support and maintenance staff in the team. Technological capabilities have a great influence on companies. Companies compete on resources and capabilities. According to Makhoulfi & Abualrejal (2014), competitive advantages can differentiate companies from competitors.

Strong technical capabilities allow companies to practice theoretical knowledge and the application of new technologies. Technologists create the code to render business logic a robotic workflow. By following the Software Requirement Specification (SRS), they take the input from the customer's requirement to develop the code. Meanwhile, on-going support and maintenance staff is assigned to make updates to the code. If there are any faults and malfunctions in the system software and applications, they can easily debug the errors. (Madakam & Holmukhe, 2019). Hence, they are very important for the company to run the RPA program smoothly. In case the company does not achieve the requirement; they need to outsource RPA to the specific company. It cannot be avoided. The cost required for outsourcing RPA is cheaper than training a particular team. However, it will lead to some potential risk to the company, which is the risk of leakage of confidential documents. To conclude, the technical requirements are essential for the company and they need to trade off the potential risk.

4. BENEFITS OF ROBOTIC PROCESS AUTOMATION TO AUTOMATE BUSINESS PROCESS.

Many IT systems are used to manage the enterprise efficiently. The system is located in various departments of the company, comes from many manufacturers and has different interfaces. Because of the structure and tasks performed, often one software does not have the possibility to exchange data with another (Houy, 2019). It is possible to find a bridge between various software for example in the form of an exported file and then imported with the appropriate data. But this is not a significant improvement; it does not solve all the potential problems. Human work is sometimes limited to transferring selected data between systems, often on a regular basis. An important element that determines the success of Robotic Process Automation implementation are highly educated staff or employees in companies with theoretical knowledge and experience, among others in business process modelling and RPA software support (Rajat, 2020).

Robotic Process Automation is safe for companies to use. RPA is a transparency enhancement designed to fulfil the requirements of enterprise security, scalability, and audit ability. It can be used in the banking sector, hospitals, education sector, small business organizations where repetitive tasks are involved (Ansari, 2019). It is important here to learn about the specifics of business processes in the enterprise, develop specific process patterns and transfer them to the appropriate software. To make the robotization process sensible, the process must be used frequently. Robotic processes inevitably bring benefits, including in increased efficiency compared to human work (Dechamma, 2020). In the account section, review section, admission department, RPA can be used in an education organisation and thus decreases the number of people needed to do the job. RPA also can be used to process data in any organisation and to simplify other paperwork formalities in order to save paper.

Furthermore, using RPA can help in the order management in the business company. The key benefits of using it in the order processing are improving order efficiency, decreased order fulfilment time and savings in order rework expenses. In the articles of Rajat, 2020, mentioned by using RPA can save more time in order processing. They can schedule the procedure at any time once you identify the method and set out the instructions the robot software can execute. Also, it is possible to deploy any number of robots to work on the project. In addition to this in the event of an influx of other significant operations, you can still reassign tasks to a robot (Rajat, 2020). Some indirect benefits have also been related to the use of RPA, such as improved customer loyalty, better regulatory enforcement, increased consistency, faster marketing of goods and services (Saarikoski, 2020).



Figure 2 : Robotic Process Automation (RPA)

Robotic Process Automation (RPA) is a framework that permits organizations to robotize cycles and assignments that are regularly done by workers (Agostinelli, Marrella, and Mecella, 2020). This framework can work across various applications, stages, and divisions. RPA coordinates well with the current IT framework and doesn't need any extra establishments (Ayub and Wagner, .2020). Organizations don't need to contribute intensely to robotize basic cycles. RPA helps associations from different endeavours absolute a wide combination of endeavours. Exactly when I work with associations helping them with their modernized change and to improve execution, I see numerous unfathomable RPA models.

Call Centre Operation

A large number of customer inquiries with an emphasis on-call can be met through RPA innovation; simple customer queries and plans can be given to specialists through a dashboard. At a time when the problem is heightened by human customerservice experts, RPA will help to unite all client data on a stand-alone computer, so that specialists provide all the data they need from various systems to provide model assistance.

Data Migration/Entry and Forms Processing

Representatives are frequently needed to pull applicable data from heritage frameworks to have the information accessible for fresher frameworks. RPA can uphold this manual cycle and complete it without presenting human mistakes. At the point when paper structures should be moved to computerized, an RPA arrangement can peruse the structures and afterward get the information into the framework opening up people to do different things.

Besides such frameworks that stay up with the latest empower improved investigation and dynamic. We are living in a day when in any event, promoting has 5000 applications to browse. RPA can help coordinate applications and take into account more comprehensive examinations.

RPA in Telecom

There are a few advantages of Robotic Process Automation which encourages the business to battle with their difficulties and make their errand simple. RPA encourages them to offer the best types of assistance to their clients. Most of those best examples of robotic process automation use are used in the telecommunications field. Telecom providers need to monitor the profiles of customers who register f or post-paid accounts. It needs manual documentation preparation. Operators need to manually produce reports on communication problems depending on the seriousness and send them to executives. RPA is the easiest way to simplify the generation of data. PA bots will accept emails from users and other stakeholders and forward those automatically to the people concerned based on a few criteria Outstanding amongst other mechanical cycle computerization models in telecom is client number porting, a cycle that can be mechanized with no issue.

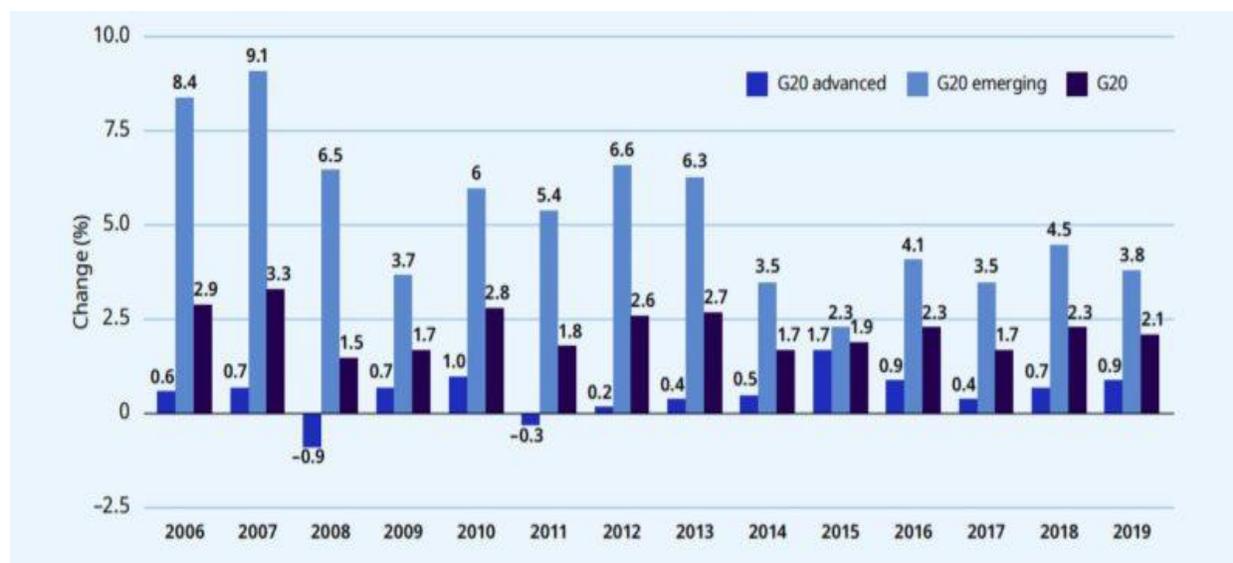


Chart 1 : Annual average real wage growth in the G20 countries, 2006–19 (percentage). Source: Global Wage Report 2020

5. CONCLUSION

In this paper, both scholarly works and the market explanations available in the RPA ground are systematically analysed. As regards academic research, this study was carried out in accordance with commonly accepted methods of research that gave the results high scientific rigour. That is why 54 scientific papers from various sites on the internet were reviewed. Results have shown that the attention of the scientific municipal in this area is high and RPA publications are growing. The growing number of methodical documents published annually since 2012 demonstrates this. Scientific production almost doubled for 2018, in particular in the last year. Most documents consume a relatively science interest, however, as numerous of them lone clarify the theoretic basis for RPA and others identify manufacturing observations or RPA meetings in particular scenarios. Based on the results achieved following primary research have been checked, it can be noted that the most frequently employed

An analysis was carried out in the manufacturing sector. In order to do this, RPA has first defined the key market solutions. Secondly, the main functionalities for RPA platforms were detected by means of scientific data. The 48 detected functionalities included: analysis, design, construction, implementation, surveillance, monitoring and performance assessment and the following 6 phases of the life cycle. Thirdly, one of the 15 solutions has been tested to classify which of the 48 features. However, the findings from this industrial review show that a number of stages of the lifecycle of RPAs, such as regulation, monitoring and performance, with average tool support exceeding 80%, were clearly resolved within the industry. In particular, the average funding for research on the existing platforms is less than 15%. Some of NICE, AssistEdge and Kofax, which are wide on the market, only cover certain roles in part. This is the biggest gap in the industry analysis. In view of these observations, it is seen that, with just a few of the solutions available on the market and only partially covering the phases of research, RPA's majority of software products cover fully implementing, tracking, monitoring as well as evaluating and performing phases.

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