Robotic Process Automation: Demand in Corporates

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Abstract: As we live in the rapidly progressing digital world, Robotic Process Automation (RPA) is a software which is developed to handle various simple, repetitive tasks that can be easily programmed and can perform tasks across various applications. Robotic Process Automation produces software robots which perform a task of launching and operating various other applications. These software robots follow a certain set of technological modules and control flow which is expected to be followed during the process of performing a task in the IT related field and it will be using various applications in getting the task done. Robotic Process Automation being simple and efficient provides numerous benefits and high productivity. Robotic Process Automation in recent times has become one of the most wanted technologies among the corporate world. The easy accessibility and adaptivity of Robotic Process Automation draws major attention from the companies which use software robots in their projects and tasks. The application of RPA can be found in various major fields as a major or minor usage in performing, handling and managing various tasks accomplished by the companies.In this paper we will be discussing various applications and importance of Robotic Process Automation(RPA) in various fields.

Keywords: Robotic Process Automation (RPA), Technological Modules, Software Robots

I. INTRODUCTION

Robotic Process Automation (RPA) is technology which is used to imitate the actions done by human beings while interacting with digital systems. RPA provides various unique features such as providing data security, enhancement efficiency and effectiveness by keeping the available system and the infrastructure unchanged. Features due to which RPA is used majorly in various organisations in recent times is because it is code free, highly user-friendly, non-troublesome as it avoids risks and complexity in most cases. RPA performs business tasks with low risk and is more effective than the most valuable human resources on assignments replicated over the time.

Robotic Process Automation has got various business advantages such as accelerated transformation, Major cost savings, Greater resilience, Higher accuracy, Improved compliance, More value from personnel, Happier employees[2]. Using RPA tools in business tasks provides an advantage to the team to keep a check on the regular activities and repeat them[8]. RPA is often considered to be virtual or invisible robots which are embedded into the system performing various duties such as making transactions, getting inputs, checking data, correcting the data, addressing queries, making calculations and so on.

Robotic process automation (RPA) can get connected to various applications and can be customised according to the usage of the user. In traditional automation the existing system needs to be customised and for customising the system API's which are generally limited are used, which makes them complex when compared to Robotic process automation[6]. Many considered Robotic process automation to be Robot which does various jobs without human interactions, which would be partially right as Robotic Process Automation does contain few misconceptions where RPA does not resemble the very human in shape, Robotic process automation bots is not capable of completely replacing the humans, Robotic Process Automation robots does not contain certain qualities like that of decision making, reasoning and logical skills due to which it lacks resemblance of a humans[5].

Robotic Process Automation has brought in a large transformation among the world of business by reducing the menial workloads[3]. Applications of Robotic Process Automation are very vast as many multinational companies are widely using robotic process automation in their day-to-day process, companies using Robotic process automation get highly benefited as it provides exact dates, high security and provides output with high productivity rate[7]. Prior to RPA, a lot of time would be taken to complete the onboarding formalities. Post Robotic process automation (RPA), however, the job is completed within a matter of a few minutes or even sometimes seconds.

II. STUDY ON RELATED WORKS

In this section, we will discuss in short about relevant work studies made on Robotic Process Automation (RPA).

In Robotic Process Automation, the Internal Determinant is discussed by the authors P.Marciniak and Robert.S with assumptions as well. In addition to this, they briefly explained about the implementation in RPA using Artificial Intelligence(AI). A study was made on RPA by the authors K.P.N.Reddy, U.Harichandana and S.M.Rajesh. Their study involves various advantages, disadvantages and the existing tasks made by Robotic Process Automation (RPA) and also some new capabilities with Artificial Intelligence (AI) and RPA. The systematic review on RPA is given by the authors Lucija.I, V.B.Vuksic and Dalia.S.V. The authors also theoretically explained RPA and also about Business Process Management (BPM). Also the research methodologies and the result results have been discussed in the paper. The authors P.Hofmann and Nils.U have elaborated the emergence and characterization of RPA. The major advantage of the paper is that the authors have discussed the software robots and projects conceived in Robotic Process Automation. The opportunities in RPA were discussed by the authors T.Sibalija and Stefan.J. They also compared the difference between Traditional Process Automation and Robotic Process Automation. The author P.G.D.Santos has discussed the evolution of RPA where he explained about the underwater robots and biologically inspired robots and various evolution in RPA. Robotic Process Automation and its future has been discussed by the author O.Doguc where the background, skills required and the properties have been explained clearly.

III. MATERIALS AND METHODS

3.1 Applications of Robotic Process Automation:

In Robotic Process Automation (RPA), the robots are designed in a way to process certain tasks regularly, that is to perform continuous tasks and hence it cannot process all processes of appropriate tasks. There are certain criteria for Robotic Process Automation to process and suitable are:

(i) The probability of human error is high - From the collection of data from the past performances it is clear that the chance of errors made by humans is more which makes Robotic Process Automation the best as compared to the humans to complete the tasks.

(ii) High Volume - Robotic Process Automation plays a major role in a large workforce where they work in repetitive ways efficiently for a longer period of time which makes it the best contender for Robotic Process Automation.

(iii) There is less need for cognition - generally Robotic Process Automation plays a major role in performing repetitive processes but it is hard for Robotic Process Automation to perform composite processes.

In addition to this, the study made from the researchers shows that that price for the licence of Robotic Process Automation is one-third the price of the employee working in the company which makes the Robotic Process Automation a best choice for the companies through which the works in the company can be done in a more efficient way compared to the work done by the humans. Some of the important reasons for using Robotic Process Automation includes:

- Handling of large storage files
- Sending emails to large number of people
- Handling transformation of data in various forms
- Has strong security for users to access
- The user interface is made easy using Bot
- Handling Enterprise Resource Planning of the companies.
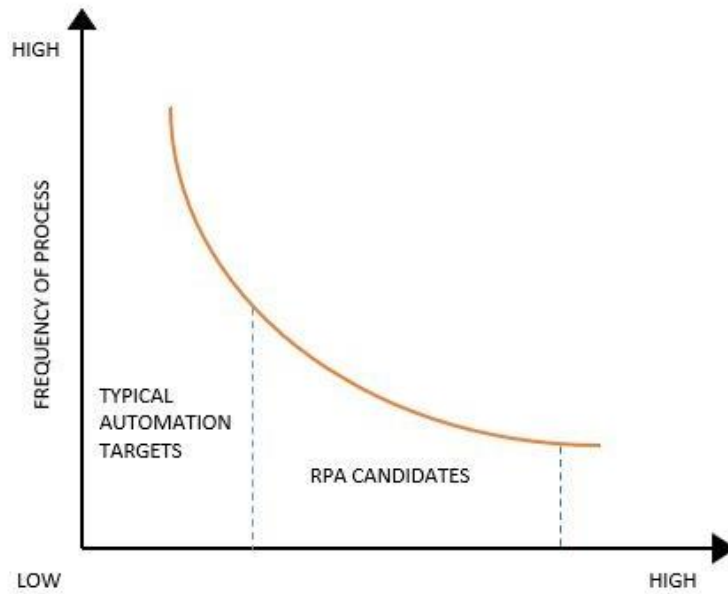
Figure.1 Shows the process complexity versus the frequency

Analysis is made to obtain a certain set of absolute processes which is automated by Robotic Process Automation and its results based on the processes and their level of complexity and frequency which is made clear as it is in Figure.1. High frequency and low complexity tasks are automated with the help of automation methods which are considered to be the traditional method of automation whereas Robotic Process Automation is considered to be more frequent and complex.
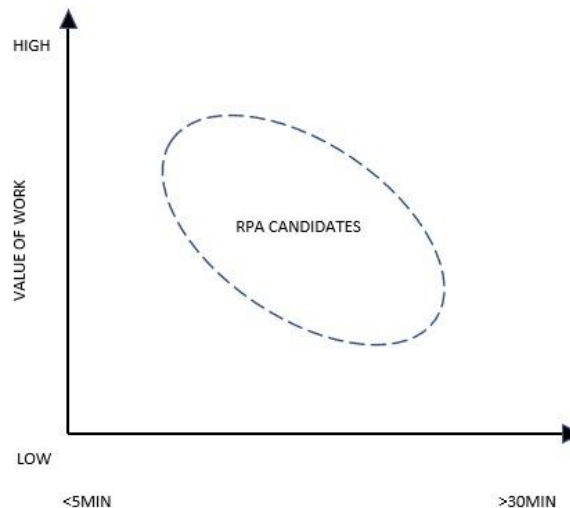

Figure.2 Shows RPA Categorization of candidates based on their value of work and duration.

There are certain processes in which Robotic Process Automation cannot be implemented where there is low frequency and high complexity. From Figure.2, the study makes clear that the tasks which have more than five minutes and less than thirty minutes are the perfect candidate for RPA.

IV. DISCUSSION

This research paper provides analysis on various applications of Robotic Process Automation along with significant features of Robotic Process Automation such as, data security, enhancement efficiency and how Robotic Process Automation plays a vital role in the tasks performed by various organisations. In various industries and organisations, Robotic Process Automation plays a major role in performing different processes in a more effective way than humans. RPA provides a high productivity rate which makes it the best to use in your day-to-day life, thereby reducing the cost that the companies spend on employees. The business advantages of Robotic Process Automation includes greater resilience and higher accuracy and less error in day-to-day works. In addition to this, we have also discussed how Robotic Process Automation helps the society in improving the output of multinational companies. From making day-to-day transactions to addressing queries, RPA plays an important role in various organisations which makes the companies to prefer Robotic Process Automation for performing various processes.

V. CONCLUSION

In this research paper, we have discussed RPA and its importance.The paper summarizers, various applications of RPA in different fields.where,every renowned company makes use of RPA directly or indirectly in performing their day-to-day and repetitive tasks.RPA would soon witness a surge in demand as its unique and efficient features such as ,productivity,accuracy,reliability, easy accessibility and so on.RPA has already brought in various changes in the world of corporate and without any doubt,RPA would further bring in even better productivity and efficiency which would play a vital role in the growth of companies.Though RPA has got a lot of advantages it does contain certain loop holes in them which are expected to be sorted out in the future researches which would bring in a new change among companies of any field makes use of RPA without any hindrance in performing their task in more efficient and productive manner.

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