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Analysis of Robotic Process Automation Tools

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Abstract— The speed at which various operations are carried out, and therefore efficiency, becomes a significant aspect in this period and time when consistency is demanded from all sectors of the nation. Robotic Process Automation (RPA) is employed to meet these systems' accelerating requirements. Robotic process automation will hasten business administrative tasks, distant IT management jobs, and resource preservation in a range of industries. The purpose of this study is to analyze three of the top RPA platforms: UiPath Studio, Automation Anywhere, and Blue Prism. Many software platforms have been developed to deploy RPA. Our studies will be useful to commercial industries, not just Blue Prism. Our analysis will help the business sectors choose the platform that will work best for front- and back-office workers working together. The speed at which various operations are carried out, and hence efficiency, becomes a significant aspect in this period and time when promptness is demanded from all sectors of the nation. Robotic Process Automation (RPA) is employed to meet these systems' accelerating requirements. Robotic process automation may speed up administrative activities in business, remote management jobs in the IT industry, and resource conservation across a variety of industries. Several software platforms have been created to deploy RPA, and the goal of this study is to analyse three of the top RPA platforms: UiPath Studio, Automation Anywhere, and Blue Prism. Our study will assist the business sectors in identifying the platform that is best suitable for usage by front-office and back-office staff alike.

Keywords— Robotic Process Automation, UiPath, Blue Prism, Automation Anywhere, Structured Analysis

I. INTRODUCTION

Process automation is a method for automatically controlling manual or logical operations. Industry automation systems may now be used in every sector thanks to recent technological advancements. Hard automation and Soft automation are the two main divisions of process automation. Soft Automation (flexible automation) is a developed form of Hard Automation (fixed automation), as it permits the programming of various tasks in accordance with the requirements of the products. A machine or robot built to carry out a defined yet repeated duty is referred to as hard automation (fixed automation). Soft automation includes robotic process automation. Soft automation includes robotic process automation (RPA).[1,2] To lessen the stress of repetitive jobs, robotic process automation is software that may be configured to automate a range of manual operations carried out by human workers. A workflow with several phases and functions—such as receiving data, writing data, doing mathematical operations, updating and modifying data, etc.—is taught to the software bot. Many technologies, including UiPath Studio, Automation Anywhere, Blue Prism, Workfusion, Redwood, and Kryon, are now being utilized for RPA. [3]

A. What Is Robotic Process Automation?

Robotic process automation results in significant labour and time savings. It saves money in addition to time. Robotic process automation is characterised by intelligence, scalability, and independence from platforms.

Any RPA system has to be able to communicate with other systems via API integration or screen scraping, make judgements, and offer a programming interface for bots.

RPA Tools do not require any programming expertise to utilise. Small, medium, and large-scale businesses can employ RPA tools, but these companies should be able to heavily rely on the programme. [4-6]

B. What is RPA Software?

In order to carry out "if, then, else" statements on structured data, robotic process automation (RPA) systems commonly combine user interface (UI) interactions with application programming interface (API) connections to client servers, mainframes, or HTML code. An RPA tool is put into action by authoring a script in the RPA tool language, which the software "robot" will then follow; runtime is managed through the use of a control dashboard.

Robotics refers to a software-based solution that is designed to carry out repetitive activities, processes, or procedures that are typically carried out by people. As it was just recently introduced, this idea has gained acceptance and is often employed. The purpose of this research is to provide an introduction to the fundamentals of RPA, as well as to some of the technology components that support transactions, data alteration, response-triggering, and communication with other electronic systems.

According to the definitions provided, there are no real physical robots (i.e., hardware) and the goal of RPA is to simply develop an intelligent computer programme that can "learn" how to accomplish a straightforward task that will be carried out repeatedly. RPA is being used in normal business operations by many big organizations, including Amazon, Airtel, Ernst & Young, and American Express.[7 - 9]

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II. ROBOTS

A robot is a machine that is electromechanically constructed, completely automatable, and capable of doing a variety of challenging tasks on its own. A robot must travel into the real world to complete a mission. These robots' perception and behavior are connected in extremely complex ways. Robotics must heavily rely on AI if there is to be an intelligent relationship between AI and robots (Brady, 1985). Electrical, computer, and manufacturing systems engineering are only a few of the multidisciplinary scientific and engineering fields that go under the umbrella term "Robotics". A robot is a machine that is electromechanically constructed, completely automatable, and capable of doing a variety of challenging tasks on its own.

In order for a robot to successfully perform its goal, it needs to venture out into the real world. The perception and behaviours of these robots are intricately related to one another in a variety of ways. According to Brady (1985), in order for there to be an intelligent link between AI and robots, robotics must heavily rely on artificial intelligence (AI). The umbrella word "Robotics" encompasses a wide variety of subfields within the scientific and technical communities, including but not limited to electrical, computer, and manufacturing systems engineering. [10,11]

By this decade, 10% of significant businesses operating in sectors that strongly rely on supply chains will have a qualified worker acting as their chief robotics officer on a day-to-day basis. by Ankush and Douglas in 2017. Robot demand from consumers has increased dramatically. Artificial intelligence technologies are frequently used in industrial settings, especially those that are compatible with robotics. The robots perform better in a variety of applications, including assembly, auditing, driving, warehouse logistics, caretaking, package delivery, home cleaning, and surgery, by utilizing wireless connectivity, big data, cloud services, numerical deep learning, accessibility, and other resource sharing (Kehoe, B. et al., 2015). Assembly, auditing, transportation, warehouse logistics, caring for others, and surgery are a few of these uses. Swarm robotics is a cutting-edge method of managing a number of very basic robots. It draws inspiration from the cooperative behavior of social insects. [12,13]

According to Palgrave and colleagues (2000), the term "evolving robotics" refers to an innovative technique for the automatic generation of self-sufficient robots. This viewpoint, which was influenced by Charles Darwin's theory of natural selection and the phrase "selected reproduction of the fittest," envisions robots as autonomous artificial animals that learn their distinctive skills via continual contact with their environment without the assistance of humans. This viewpoint was shaped by Darwin's theory of natural selection. The development of co-adaptation and compatibility between service robot systems and supportive environments, in both a physical and an informational sense, is the primary emphasis of the field of ambient robotics. Using 3D visualisations, facility planners are able to generate alternative designs, programme robot courses, plan system layouts, collect data for discrete event simulations, and develop cell control programming.

The use of robotics in mundane tasks will become commonplace very soon.

C. Process

The word "Process" is frequently used and even directly influences how individuals go about living their everyday lives. It acts as the activity to complete a job and is a vital component of any system or organisation. One person or item, or a mixture of both, can do the task. No matter if the platform is closed or open, the process requires input from a variety of tools or users and is carried out in accordance with predetermined rules in order to create the required result. The procedure does nothing other than convert input to output. Yet, each technique or system has a unique set of time requirements, costs, labour requirements, and other quality criteria. Several process systems, including as admission, biological, manufacturing, and chemical systems, are well known to people. Analyze how a computer processing system renders.

A. tomation

"Automation" refers to the process of automating a tool, a technique, or a system. On the other hand, automation is already being put to use in ways that are advantageous to society. The computing power of any system can be utilised in robotics. Automation is a challenging process that requires the integration of people and systems. Integration is important. In the design of systems, human elements, particularly cognitive ones, are frequently neglected or handled incorrectly (Sheridan, 2002). A system for the creation, editing, running, checking, and repairing of application programmes for industrial automation mechanisms that involve logic, motion, and/or process control components. This system can be used to create, modify, run, check, and fix these application programmes. The curb energy system is utilised to monitor the amount of energy that is used in residential settings. [14]

A few of the more contemporary examples of smart home appliances include the Ecobee3 Intelligent Wi-Fi, Alexa, and Lutron Dimmer Light Switches. The embedded hardware and software in these intelligent gadgets allows them to carry out tasks on their own. According to Madakam (2015), the most impressive attribute of these high-tech devices is how they improve the quality of human life, the efficiency of processes, and the management of specific issues in circumstances in which the presence of humans is entirely impractical.

Automating routine jobs not only saves people the effort of doing them themselves but also frees them from the tedium of doing the same thing over and over again. These improvements have been made possible by advances in technology. The following is a list of the most advanced automation technologies now available for driverless or autonomous cars, including artificial intelligence and machine learning. Cognitive computing is used in autos that are connected to the internet of things as well as cooperative robots. The industrial sector has already begun using automation, or more specifically, the already available

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"Industry 4.0" technology. The robots are responsible for the majority of the work that is done on the assembly lines.

Fig 1-What are the benefits of the RPA [23]

III. Robotic Process Automation Operations

Robotic process automation activities do not have any recognized models of standardized operation that have been established. An illustration of RPA activities is provided by M/s. Info-Cap Networks LLC (Info-Cap), which is located in San Francisco, as well as by Mr. Kristina Romero and his technical staff. This technology paradigm, which automates manual work that is more labor-intensive, time-consuming, and visibly error-prone, will replace the entire company's system operations (Kristina Romero, 2017). This will result in the company's system operations being obsolete. The capacity of "Digital Labour" to reduce costs, errors, and dangers is the primary benefit of "Digital Labour" in this view [15-17]. The operational advantages offered by the RPA can be extremely beneficial to a wide variety of transdisciplinary businesses.

Credible Corporate Transformation: The implementation of corporate procedures will undergo significant adjustment as a direct result of the implementation of the new RPA technology. Because of the use of robotic process automation, companies may now significantly improve the effectiveness with which they utilise their labour by complementing a more productive staff with digital labour that is reliable, efficient, and competitively priced. This is made possible by the utilisation of RPA. Because of this, businesses now have the opportunity to cut expenses, as well as errors and risks.

Migrations of content: There is a massive amount of material being produced by all enterprises. If data collection, analysis, and report preparation become more complicated in everyday operations, there is a possibility that labour will be required. Businesses and organisations can only benefit from robotic process automation because it makes transferring content or making links to legacy systems more quickly and simply. This will speed up the consolidation of applications and the integration of older applications. Robotic process automation can only assist.

Web Crawling and Open Source Intelligence Robotic Process Automation (RPA) automates the process of collecting content in any format and from any source using a range of different types of equipment. Formats in the form of text, images, audio, and videos can all be produced. There are three possible formats for the presentation of the data: structured, semi-structured, and unstructured. This robotic process automation solution is able to acquire data from the deep web since it makes use of deep learning techniques.

According to the blog of the IT Department Enabler, robots are "software programmed to mimic the human conversations as well as implement a repetitive process, governing tasks like obtaining and contrasting data from various systems, reading from and composing to datasets, or retrieving and reconfiguring information into dashboards and reports." Robots are a key enabler for the IT Department. They keep a close eye on the hardware, the software, and the networking in order to spot any abnormalities and ensure that everything runs smoothly.

Fig 2-RPA Operations- Kristina Romero [11]

A. Overview of RPA Software

Robotic process automation (RPA) systems frequently mix user interface (UI) interactions with API connections to either power client servers, mainframes, or HTML code in order to execute "if, then, else" statements on structured data. [18-20].

B. Types of Robotic Process Automation

- Automation processes carried out by these tools will need to be attended by a human.
- Unattended automation: These devices have intelligence and the ability to make decisions.
- The features of both attended and unattended automation tools will be merged in hybrid RPA tools.

C. Industries utilising RPS

The banking, insurance, retail, manufacturing, healthcare, and telecommunication sectors are the principal users of robotic process automation.

- Healthcare: It will assist with scheduling, patient data entry, processing insurance claims, billing, and other tasks.
- Retail: It assists the retail sector with updating orders, notifying customers, shipping goods, tracking shipments, etc.
- Telecommunications: It will assist the telecommunications sector in monitoring, managing fraud data, and updating customer data.
- Banking: RPA is used by the banking sector to increase job efficiency, data accuracy, and data security.
- Insurance: To manage work processes, enter customer data, and create apps, insurance companies employ RPA.

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- Manufacturing: RPA tools support supply chain operations in the manufacturing sector. It aids in the administration, reporting, data migration, customer services & support, billing of materials, etc.

D. RPA-Operating Model Design

In their seminal piece from 2017, Rodger Howell and Tom Torlone emphasized the development of robotic process automation technology. They correctly noted that pilot programmers are where robotic process automation is actually coming from. To improve operational efficiency and cut costs, enterprises must create their own RPA models. These authors intend to convey that different businesses and industries have different RPA operational models. They believe that the operating models for robotic process automation are not "one-size-fits-all." But the core of an efficient RPA operating model revolves around three crucial roles.

E. Process Architects

There are many different kinds of processes, such as round robin, priority, First Come First Served (FCFS), and Last in First Out (LIFO). Process engineers are in charge of defining each process in both centralised and decentralised process systems. They must first understand how the present system works, find any holes in its design, and handle jobs while keeping in mind time limits, cost savings, and how well the system works. In some ways, the business experts are also in charge of automating processes. Process engineers come up with the methods, steps, and standards for the robotic process automation system. [21-23]

F. Technologists

There are more businesses on the market right now. These are the programmers who write the code based on the software requirement specs and feedback from the functionalists, designers, and executors (SRS). All of this coded software can help take care of routine jobs automatically and without human help, but only to a certain extent. RPA tools require less complicated technical knowledge than traditional application development.Staff for Ongoing Help and Maintenance.

They do the new tasks that have been automated and change the code as needed. To do this, a software provider or supplier will usually sign an annual maintenance deal. If the system software or apps have bugs or don't work right, they are easy to fix. They offer expert help 24 hours a day, every day of the year. This kind of technical help cuts down on the time and money needed to hire technical staff on the inside. There wouldn't be any costs for training. Continuous support plans are made by the companies to meet the needs of their business clients, not the needs of the general public. Whether a customer wants help with a specific problem or weekly reviews and advice, there is a package that will meet their needs and give them full peace of mind.

IV. Advance technology used in RPA

Business Process Outsourcing (BPO) companies have used RPA for a long time, and more and more end-user businesses are now using the technology on their own to build "virtual workforces" of robot workers. The word "robotic process automation" means that technology is used to do routine work that a person would normally do. The technology mimics an end user by doing things like going through an app or filling out forms like a user would, based on a set of rules (Barnett, 2015).

RPA is a type of cutting-edge artificial intelligence, along with virtual agents, machine learning, computer vision, and the classification of natural language. The insurance business can use artificial intelligence in a number of ways, such as by using image categorization for claims and text analytics for customer service. Because of these new technologies, more insurance processes will be automated and made better.

Blue Prism's programme for robotic process automation gives you some of the best choices, such as:

I. les-based processing with digitally organised data for catching fraud and activating credit cards

II. plex or mission-critical processing tasks, like cashing out a pension or balancing the books, involve repeated transactional tasks, like swapping SIM cards or processing invoices.

III. transaction volumes, like taking orders for new phones or bills, and problems with process adherence or quality, like policy renewals or policy migrations.

IV. ctuations in demand or backlogs, like those caused by the launch of new goods, or "Swivel Chair" procedures, like hiring new employees for human resources or launching a new online service without any integration

M/s. UiPath is at the forefront of the worldwide digital business revolution because of its ability to facilitate the rapid deployment of software robots that greatly improve corporate efficiency, compliance, and customer service across both back-office and front-office processes. According to UiPath, robotic process automation (RPA) systems are able to perform a wide variety of operations, including login into programmes, moving files and directories, copying and pasting data, filling out forms, extracting structured and semi-structured data from documents, scraping browsers, and more. As of March 6, 2018, UiPath was valued at $1.1 billion after receiving an investment of $153 million from Accel, CapitalG, and Kleiner Perkins Caulfield & Byers. Accel led the funding for the investment.

An additional prime illustration of RPA's usefulness in commercial settings is provided by the platform known as Automation Anywhere. This cognitive robotic process automation tool was developed with the goal of automating every business process that may be found in a contemporary company.With the help of the Automation Anywhere Bot Store, which is offered by the Automation Anywhere Company, businesses are now able to construct their digital workforce at a rate that is significantly faster than in the past. This results in an increase in the productivity of human workers and makes it possible for them to focus on more projects that are beneficial to people. For more than 10

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years, the most successful companies in the healthcare, financial services, technology, manufacturing, and insurance industries have depended on the M/s. Automation Anywhere organisation to deliver the highest quality robotic process automation and cognitive technology available anywhere in the globe.

Another UK-based specialist automation and cloud consulting company, M/s. Endpoint Automated Services (EAS), is expanding its breadth of automation expertise to the realm of robotic process automation, according to the M/s. Endpoint Automated Services Company. Robot automation can take on a variety of forms, some examples of which include automating a commercial process from start to finish as well as data entry into a financial accounting system. Robotic process automation has enabled the automation of tasks that were previously thought to be impossible to automate, such as those involving the use of the Microsoft Office software suite. RPA has emerged as the dominant codeless automation tool. The robots can be taught to scrape the screen, and once again, they are instructed to locate anchors on the screen rather than utilising a pixel-based coded screen scrape, which is more limited. The information that we have comes from M/s. Endpoint Automated Services Company.

K. RPA Application in Airtel

One of the most effective applications of robotic process automation is in the field of business process outsourcing. The software takes the place of a large number of technical staff employees and performs the same kind of routine work while offering round-the-clock technical help. It's possible that the clientele is dispersed across the entire country. This application is the best one for lowering the amount of labour that is necessary for processes that are performed frequently and continuously. On the other hand, some of the available personnel has been set aside for future responsibilities. For instance, the majority of the fundamental and everyday technical help tasks that the Indian telecom operator Airtel is responsible for are carried out by means of software. The same can be said about the ease with which chores can be completed in various local languages.

To receive support from Airtel operators for whatever reason, customers can contact the toll-free number provided at no cost to them. As a result of this, the programme supports a variety of languages as well as payments, caller tunes, ringtones, internet data usage, sim loss, and new tariff plans, among other things. In order to make use of any of these options, all you have to do is press one of the numbers 1–8 on the number pad, and depending on the characteristics of the option, this will cause it to be enabled. Additionally, voice input is supported. [25-27]

L. Methodology

The automation of robotic processes is currently considered to be one of the most cutting-edge technologies in the fields of computer science and information technology. Automation of robotic processes is a relatively recent development as a field of study. There is a lack of consensus among experts on its precise significance, and there is no consensus regarding its operational definitions, connotations, tried-and-true models, or derived theories. It carries with it an air of daring and excitement. As a result, the data that was utilised in the creation of this research study came from a wide variety of secondary sources that are available online. These secondary sources include research journals, company white papers, expert blogs, topical videos, and so on. Between the months of April and June of 2018, the information was gathered. In order to locate the study publications, the terms "Robots," "Robotic Process Automation," "Artificial Intelligence," and "AI" were utilised. The search engines Google and Google scholar are utilised in order to locate the articles contained within the databases. Auxiliary data was collected, compiled, analysed, and narrated in a thematic fashion so that a greater understanding of the phenomenon of robotic process automation could be achieved. The descriptive research subfield of exploratory study is the appropriate one to assign to this investigation.

M. System Overview

UiPath

In 2005, an outsourcing company was the pioneer in adopting the use of UiPath. They recognised the need for RPA (Robotic Process Automation) in response to the growing demand in the market, and as a result, they began developing a platform that meets industry standards for the management and training of software robots. Their source code is used on millions of computers all over the world, and it is incorporated into a wide range of products and businesses. Some of the activities that these goods and businesses perform include document management, call centres, healthcare, finance, data migration, process automation, and API enablement.

UiPath Orchestrator is the component that makes it possible to orchestrate robots. The UiPath Studio module is a piece of software that functions as a tool that allows for the development and maintenance of connections between robots, in addition to the convenience of package transfer and the management of queues. In addition to that, it makes it possible to build, model, and carry out workflows.

These features can be found in greater detail in a number of Artificial Intelligence techniques or algorithms, the most notable of which are recognition, optimisation, classification, and information extraction. These features are currently accessible through the UiPath tool through its UI Automation module, and they are disclosed on the tool's official page [28]. When it comes to the algorithms used by AI, the information that is examined makes use of character and picture recognition, optimisation, and classification.

Features:

- t provides security by managing credentials, offering encryption, and establishing access controls based on the user's function in the organisation.
- t has a faster capacity for automating processes. In addition, the speed of automation using Citrix is increased by a factor of eight to ten.

- t provides a free platform, and it is possible to manage any process, regardless of how complicated it may be, in any number.

Pros:

- he user does not require any prior understanding of programming to use it.
- ser-friendliness made possible by the drag-and-drop functionality.
- t provides a variety of helpful features at no additional cost.

Cons:

- here are just limited coding capabilities available.

Automation Anywhere

Tethys Solutions, LLC changed its name to Automation Anywhere, Inc. in 2010. The company's products are made to enable the execution of automated business and IT operations across numerous workstations, taking into account differences in system configurations, application load times, and Internet speeds. Users can create automation processes with centralised security, user management, collaboration, deployment, and backup using the Server edition, which is offered. Another tool designed for RPA processes is called Automation Anywhere, which has the unique ability to inform users about the applicability of AI methods and algorithms.

RPA is used in conjunction with a process referred to as "Digital Workers," which is the most automatic or intelligent method. A cognitive automation module as well as tools for applying data analysis to RPA operations are both included in the RPA toolkit. Because it is a multipurpose piece of software, it provides a collection of information that enables the configuration, utilisation, and deployment of RPA processes. The Bot tool of the Automation Anywhere tool uses a variety of artificial intelligence strategies and algorithms, such as fuzzy logic, artificial neural networks, and natural language processing, in order to extract information from documents and, as a result, improve the efficiency of document validation. This is accomplished by using the tool's internal execution of these strategies and algorithms. In this regard, it would appear that the IQ Bot platform, which is the driving force behind the Automation Anywhere intelligent word processing application, is in the process of making some AI strategies or algorithms available to users.

Contains the following features: offers security on par with that of a bank; provides security by means of credentials, encryption, and authentication.

- nalytics and reports generated in real time.
- nables compatibility with multiple operating systems.
- ser-friendliness is a strong point.
- ons: There is room for improvement in IQBot.

Blue Prism

Blue Prism was founded in 2001 by a group of people that specialise in the automation of business processes with the intention of developing software that would improve the productiveness and efficiency of companies. They focused their efforts on the white-collar back office, where they observed a significant demand for automation that was not being satisfied.

Among its features are the following:

- t enables the deployment model for various environments.
- t offers security for both network credentials and software credentials.

V. SULTS AND DISCUSSION

1.0 COMPARATIVE ANALYSIS:

We have included in the table below the factors that we believe to be the most relevant when comparing the best three RPA platforms to one another. The primary criterion determines whether or not the front and back offices can be computerized and automated. The capacity of an automation tool or platform to automate the very early phases of an industry is one of the most important factors determining its first level of success. After that, the Script Based Designer and the Visual Process Designer are shown to the user, and it is at this point that we establish whether or not a certain tool possesses a graphical user interface. The openness of a platform reveals whether or not the information necessary to use the tool, learn how to use it, and practise using various apps is made available to anybody and everyone. Macro recorders make it possible to apply designs and codes more quickly, which leads to faster development.

The manage by Coding criterion is essential because it demonstrates how well a user can manage how the software operates and the bots that it makes use of. The ability to execute automated test cases on remote machines is a critical factor in determining the level of protection offered by the solution. If there is a tool that can fulfil the requirements listed above without putting users' safety at risk, then significant headway will be made in this area. In terms of the fifth and final parameter, the future scope of a tool is what decides how valuable it will be once other technologies have advanced to an adequate level. UiPath is unequivocally the best option in this regard since, in contrast to the other two options, the endlessly flexible coding algorithms it employs make it possible to cover an infinite range of applications in the future.

A purely objective analysis may not be sufficient to convince the key stakeholders in various industries. This necessitates a thorough examination and comparison of the technical features of the tools. The performance evaluation of the several tools has been collated and organised in a table, categorised according to numerous technological aspects. The data presented in this report is derived on an analysis of reviews on RPA technologies undertaken by various enterprises, as well as our own firsthand experience with the implementation of UiPath. It is important to note that UiPath was the sole product available for examination throughout the period of our inquiry. [30]

The script-based design of Automation Anywhere enables the execution of core functionality and bot development with enhanced accuracy. However, because to its reliance on

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scripts, the number of users may be comparatively lower. UiPath and Blue Prism demonstrate exceptional proficiency in various domains, such as control room operations, system administration, reporting, and resilience. [31-32] These domains encompass the operational prerequisites and components of the aforementioned tools. The level of analytical proficiency exhibited by the RPA technology is denoted by the RPA Analytics rating. One notable feature of Automations Anywhere is its exquisite architectural design. Analysis refers to the mentioned Table1 and Table-2.

TABLE 1 COMPARATIVE STUDY ON TECHNICAL ASPECTS [17]

Technology Category	UiPath	Blue Prism	Automation Anywhere
Bot Development and Core Functions	3.28	2.56	3.74
Control Room, System Management, Reporting and Resilience	3.84	3.84	2.84
RPA Analytics	3.68	2.00	3.68
Architecture	4.00	3.68	4.34
Deployment, Governance and Security	3.68	4.00	3.68
Total RPA Technology Score	3.67	3.20	3.64

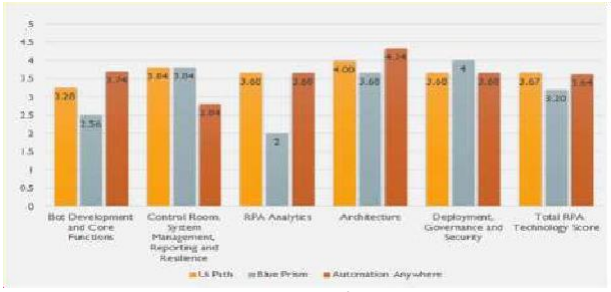

Fig 3: Graphical Representation of Technical Aspects [19]

A literature review is deemed suitable due to the nascent and insufficiently explored nature of the subject matter, namely Robotic Process Automation (RPA). This approach facilitates the identification of existing knowledge gaps within the field, provides recommendations for further research endeavours, and establishes a foundation for the exploration of novel research domains. Furthermore, this study employs the concept-centric approach advocated by Webster and Watson, as it is based on the examination and analysis of key concepts pertaining to RPA. To conduct an extensive literature review, we initially conducted a comprehensive search for scholarly papers in prominent databases including Elsevier, ASC, ACM, Scholarly Articles, and Research Gate. The search was limited to the period between June and October. The papers were collected by utilising the titles, keywords, and abstracts.

The findings were subsequently subjected to filtration based on the parameters stated below:

Articles that satisfy the above requirements should be published in the English language, have a direct relevance to Robotic Process Automation (RPA), and be readily accessible in an electronic format via internet platforms.

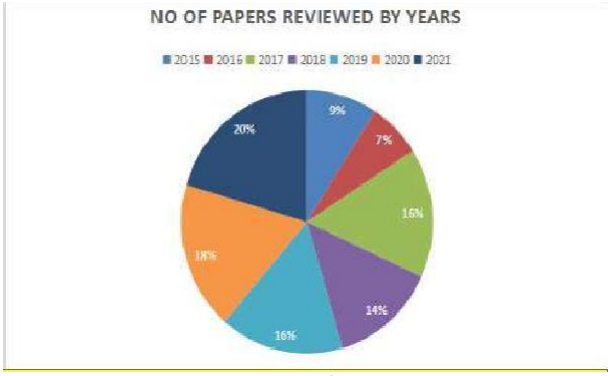

Fig. 4. Pie chart presentation of Research Paper studied

TABLE 2 ANALYSIS OF PARAMETERS ON UiPATH, BLUEPRISM AND AUTOMATION ANYWHERE

Parameters	UiPath	Blue Prism	Automation Anywhere
Front Office/ Attended Automation	Yes	No	Yes
Back Office/ Unattended Automation	Yes	Yes	Yes
Script Based Designer	No	No	Yes
Visual Process Designer	Yes	Yes	Yes but, is more script based.
Openness of the platform	Yes, has free forums and tutorials.	Yes but, all the forums are commercial.	Yes but, all the forums are commercial.
Macro Recorder for Process Mapping	Yes	No, due to their rather Outdated technology.	Yes
Control through Coding	No	Yes	Yes
Execution of Automated Test Cases on Remote Machines	No	No	Yes
Future Scope	Indefinite	Comparatively less	Comparatively less

VI. CLUSION

Due As a result of the quick improvements, many different industries are looking for ways to accommodate multiple occupations and processes in the shortest amount of time with the least amount of labour. Because it is necessary to be able to automate this process in order to know which tool to use for the benefit of various industries based on the kind of services they provide, automating the process has become a top priority.

In this work, a full study of all of the tools, including their advantages and disadvantages, as well as the optimal applications for each tool, has been offered. This article claims that UiPath is the greatest automation tool available today, and it presents a test implementation based on the analytic preview and the numerous possibilities for processes that may be enhanced for higher accuracy. In addition, this post contends that UiPath is the best automation tool available today. However, there is a possibility that the total number of users will decrease.

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