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APPLICATION OF ROBOTIC PROCESS AUTOMATION (RPA) IN SELECT BANKS IN INDIA- A CASE STUDY

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ABSTRACT

With the Advent of Technology, especially with the entry of Artificial Intelligence, there have been tremendous changes in the banking sector. One such technological tool is Robotic Process Automation. This automates the repetitive, rule-based business process done by the employees. Now the point is whether it replaces the employees, just as computers have done. The study was done to know how much the banking sector has impacted by RPA. For this, a Case study approach was used to know how RPA has made an impact by taking select Public and Private Sector Banks. The Banks selected are in the Public Sector - Canara Bank, State Bank of India, and in the Private Sector- HDFC Bank, ICICI Bank. The Study indicate that with the adoption of RPA, there is a decrease in processing errors, improving efficiency and thereby increasing performance at work.

Keywords: Artificial Intelligence, RPA,

1.INTRODUCTION

Robotic process automation ("RPA") refers to a set of modular software programs (or "bots") to complete structured, repeatable, and logic-based tasks by mimicking the actions taken by human personnel. In reality, it is a software solution that enables the automation of rule-based business processes and tasks by using software bots (Kregel et al., 2021; Lacity et al., 2015; Kokina & Blanchette, 2019). These bots work by imitating an employee's actions within one or several systems. They mimic what humans would do when entering or manipulating data using a computer (Januszewski et al., 2021). RPA is software that performs routine process tasks based on simple rules. Its umbrella of capabilities includes entering data, making simple calculations, reading and extracting data from Enterprise Resource Planning (ERP) systems, completing forms, responding to emails (Hartley & Sawaya, 2019), The use of robotic process automation (RPA) in organisations has rapidly increased in recent years and is projected to grow in the foreseeable future by 20–30 % per year, or USD 3.97 billion in 2025. RPA growth has also been predicted to happen at a rate of 32.8 % from 2021 to 2028.

RPA can significantly change the way work is done, which can be disruptive for employees, their way of working, processes to be adhered to and may involve significant change management efforts

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Benefits	Applications in Accounting and Finance	Risks
Increased efficiency and Productivity Cost Effectiveness Improved accuracy: Enhanced customer service: Improved compliance: Greater scalability Enhanced data security:	**Order to Cash/AR** • Credit analysis • Sales order processing • Customer MDM • Order entry • Reports by segments **Procure to Pay / AP** • 3-way match • PO issuance • Invoice receipt • Vendor master • Payment process • Duplicate payment Tracking **Record to Report/R2R** • Monthly close • Treasury and tax • Financial statements • General ledger • Journal entry processing • Inter-company accounting • Account reconciliations	Dependency on technology Data security Compliance risks Change management Cost

(Source- Bhaskar.P- Journal ICAI-2023

Applicability of RPA

The Robotic Process Automation has abundant applications all over the domains, including healthcare and pharmaceuticals, financial services, outsourcing, retail, telecom, energy, and utilities, real estate and FMCG (Fast Moving Consumer Goods) and many more. With the implementation of RPA, the sale of passenger vehicles rose by over 7%. Seven cars were being bought every minute. Prior to RPA implementation, the entire purchase and loan approval process was done manually. It took two days before a customer was approved and all the paperwork was done. It was a time- and energy-intensive process for sales associates. Yet, RPA took the entire process and shortened it from a couple of hours to minutes. RPA bots can take care of all that behind-the-scenes work and sales associates can be where they're needed most – on the front line making sales. Implementing RPA processes improves productivity and efficiency by automating manual tasks for every aspect of your business. According to Deloitte's third annual RPA survey, "RPA continues to meet and exceed expectations across multiple dimensions, including improved compliance (92%), improved quality/accuracy (90%), improved productivity (86%), cost reduction (59%)." In relation to cost, Capgemini suggests that an RPA software license may cost between 1/3 and 1/5 of the price of a full-time employee. Lacity and Willcocks argue that a robot can perform structured tasks equivalent to two or five humans. RPA is a robust platform that is designed to meet the IT requirements of the company in terms of security, scalability, auditability and change management.

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Applicability of RPA in Banks

The banking sector now has years of data related to customer feedback, products and bank activities, which can be further analysed with the help of Business Intelligence (BI) tools and help in strategic decision-making. RPA can allow banks to monitor customer behaviour, workforce efficiency and time taken to complete various banking operations from anywhere. Banks have put AI as a key element of daily operations and believe AI can be key to enhancing customer experience.(Kumar, 2022). The banking industry is under pressure to provide 24/7 services, its profit margins are going down, and customer satisfaction is suffering. RPA is today's version of tech outsourcing. RPA is quick and cost-effective with tangible return on investment (ROI) for banks. The more automation and reliability banking can bring into the customer experience, especially on mobile devices, will define the industry's success for many years to come [3].

2. Need for the study

As technology has encompassed all areas of banking, Artificial Intelligence is the buzzword that is doing the rounds in the present times. With the application of Artificial Intelligence and RPA in particular in the banking sector, there was a need to know how RPA has impacted the Indian banking sector. A Case Study has been done on the public and private sector banks and how RPA has benefited by improving processing time, increasing efficiency, and reducing processing errors.

3. LITERATURE REVIEW

Costa etal. (2022) . The authors investigate the most general implementation approaches of successful adoption cases, observed benefits, and challenges commonly faced by organisations. A Systematic literature review has been conducted, out of 486 research papers, 47 papers were finalised for the study, highlighting the benefits and challenges, and finally, a new method was adopted on how RPA will be familiar for companies and organisations.

Riberio et al. (2021) aim to present a study of the RPA tools associated with AI that can contribute to the improvement of the organisational process associated with Industry 4.0. The main contribution of this paper is essentially in providing a review of AI and RPA contributions to Industry 4.0, as well as in the analysis and comparison of several proprietary and open-source tools regarding their functionalities

Salila et al. (2024). The authors used a bibliometric approach and followed the PRISMA guidelines. This study underscores the growing importance of RPA in banking and offers a blueprint for future research directions, emphasising the need for interdisciplinary collaboration and further exploration of managerial and technological aspects.

Patri Prateek (2020). The research paper explains the key challenges banks face in the implementation of RPA and proposes suggestions for banks to avoid these challenges in RPA implementation. RPA works by running a set of process and it gives a lot of benefits to a bank along with improvement in quality, scalability, and resiliency in cost-effective means. For the implementation of RPA, the training of employees is needed. The security of the money deposited by the client should be kept in mind while adopting RPA

Kumar (2022). The study focuses on factors influencing customer experience in retail banking services delivered by RPA. Specifically, the study theorises the role of various factors influencing the adoption of RPA in the retail banking industry. Results highlight that factors such as security, privacy, reliability and usefulness are significant in advancing RPA in the retail banking industry. Implications for research and practice are also discussed.

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4. Methodology

The study is qualitative in nature, and a case study approach has been adopted. For the Study public and private sector banks have been taken. In the public sector, Canara Bank and State Bank of India and in the private sector, HDFC Bank and ICICI Bank have been taken. The Study highlights how RPA has benefited the banks in reducing errors, improving efficiency and Processing time.

5. Results and Discussions

For the Study select banks in the public and private has taken focussing on how RPA has benefited and the challenges posed for them regarding this tool.

Public Sector Banks

Canara Bank

As a part of its digital transformation strategy, it invested heavily in RPA to enhance speed, efficiency and accuracy. It has initiated large-scale projects spanning more than 5 years for the supply, implementation and maintenance of RPA solutions, including UiPath licences. The bank has used RPA to automate repetitive tasks, KYC Checks, and data entry. By this, the bank has reduced operational costs by 70 % and enhanced overall customer experience through faster processing times.

State Bank of India

It has adopted RPA to automate repetitive back-office tasks, enhancing operational efficiency and improving customer experience. Bank uses RPA to streamline processes such as data entry, reconciliation and report generation, which has reduced manual errors. RPA has been used in KYC and the loan processing process, for which it has employed " Pre-approved Business Loan" and Retail Loan Management Solution.

SBI has utilised UiPath for Automated Regression Testing, which is 20 to 30 % faster than traditional testing methods. SBI card uses RPA for customer services and operations, reportedly saving 700 hours of manual effort per day.

Private Sector Banks

HDFC Bank

HDFC bank being India's largest private sector bank, faced high errors, processing inconsistencies delay in loan processing, and automation issues. To process a single loan application, the employees were taking 40 minutes, and they had to process around 5 lakh applications in a year. The bank turned into automation, whereby it used Automation Edge RPA to process 15+ business processes in the retail sector and corporate banking. With this time reduced from 40 minutes to 20 minutes This has reduced time for loan requests by 50% where by they can handle more customers. The tangible benefits of RPA are an improvement of productivity among data staff by 40% and decision-making staff by 12%. and also achieved 100% transparency in data and business processing. They have also won the Mint-EY emerging technology award for the successful implementation of RPA applications in various banking segments. Having won the Min-EY emerging technology award in the RPA category

ICICI Bank

Being India's First Private Bank, has adopted RPA by using nearly 1000 software bots to automate more than 200 processes and perform more than 2 lakhs daily transactions, by which there is an increase of efficiency and reduced response time upto 60%.

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ICICI Bank, way back in 2016, had introduced software robotics to handle repetitive, high-volume transactions. With the help of bots, based on open space technology, it has enhance 100 % accuracy and response time. In 2019, it deployed Industrial Robotic Arms at its currency chests to automate cash sorting and handling 6million notes daily.

CONCLUSIONS

RPA will allow banks to dramatically reduce processing time and enhance customer service with higher accuracy. Banks will be able to handle large volumes, repetitive and tedious jobs with the same resources. They can also learn how to improve performance and accuracy with little or no human input. In addition, multi-lingual language processing and voice recognition capabilities allow robots to interact and conduct seemingly intelligent conversations with customers. (**Kumar, 2022)**. RPA can be used for data collection and analysis but customers are concerned about their personnel data security and privacy. However, customers are looking forward towards new technologies such as chatbots and facial recognition, but banks should place strong protection for the security and privacy of their data. (**Kumar,2022)** RPA can improve credibility by unifying the investment advice of banks. It can minimise or eliminate errors and provide a customised solution to customers. Also, a bot can operate 24/7 and hence improve reliability. (**Kumar, 2022).** RPA is a technology that brings about significant changes and provides several operational benefits in diverse sectors. As the market progresses in its development, the use of RPA will assume a substantial function in the automation of labour-intensive tasks, enhancing operational effectiveness and facilitating organisational change. (**Abildtrup, 2023).**

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