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Banking and Financial Services

White Paper

Robotic Process Automation: Possibilities for the Financial Services Industry

About the Author

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Abstract

A typical financial services firm has multiple systems held together by interfaces that enable the flow of transaction related data. These interfaces need to be monitored regularly to ensure seamless execution of transactions and to fix loopholes if any – this translates to significant work for an organization's operations team. Robotics can immensely improve the accuracy and efficiency across such processes. Other areas where robotics can help are regulatory reporting and balance sheet reconciliation, which involve collating data from multiple systems and conducting a host of validation checks to prepare the information for detailed analysis. Robotics can not only help improve the speed of data collection and preparation but can also detect errors well in time, thereby improving the overall effectiveness of data analysis.

This article discusses the power of robotics in the business process services (BPS) sector, especially for financial firms. We propose a framework to segregate tasks into routine versus non-routine, and simple versus complex. This will allow an organization to identify the tasks that qualify for Robotic Process Automation (RPA).

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Introduction

In the recent past, technological evolution across domains, and in the business process services space in particular, has been nothing short of breathtaking. What was once considered complex and subjective has suddenly become 'automatable'. The key to this change has been the emergence of Robotic Process Automation (RPA), which has drastically transformed the notion of what all can be automated.

RPA may create an image of an army of robots doing repetitive tasks, but this is quite far from the reality. For a start, there is no 'physical' robot (hence the word 'process' in the name). Secondly, RPA is not about repetitive tasks alone but also pertains to complex tasks that require considerable amount of discretion and judgment on the part of the doer, which is why they haven't been automated yet.

RPA versus Desktop Automation

Traditionally, automation has been associated with macros and Visual Basic driven programs that were designed to execute repetitive tasks on desktop computers. These programs typically carried out a set of tasks and could not take process-related decisions. It is natural to think about RPA as another form of desktop automation, however, it is much more than that. RPA comes into play when the following two elements are present:

a) **Decision making event:** Which path do we follow for a transaction? For instance, a mismatch between the invoice value from an exchange and the amount accrued for the same could either be pushed through as an accepted anomaly or pulled out for further investigation and correction. Another example could be a mismatch between the market value of investments made by a bank as reflected in its sub ledgers versus the information provided by the treasury based on external reports.

b) **Set of steps to follow to execute a task:** For instance, whether a correction is to be done based on other fields in the transaction or the transaction is routed to a different set of people in case it needs more detailed investigation.

Typical automation comes into play once a decision has been made, but RPA essentially has the ability to take a decision based on rules (brain component) and then carry out the tasks as defined (arm component). This however is a simplistic definition, as even the tasks that can be automated by the arm component are significantly more complex than what systems can do without RPA.

How RPA can Help

The most noteworthy benefit of RPA is that it can potentially eliminate human effort involved in a previously non-automatable activity. While some human intervention will be required to monitor and update the RPA tool, there are sufficient examples and case studies where productivity of over 90 percent has been achieved by deploying RPA in 'thinking' situations.

Let us look at the accounts payable process for example. The accounts payable process performs the task of reconciling vendor statements with the statements of buying organizations. Higher end resources (above the level of transactional data entry resources) typically perform this task as it involves rule-based decision-making. A typical mismatch could be where the vendor shows an invoice as unpaid and internal systems show it as paid. The processor then identifies the root cause of the mismatch and carries out one of the following actions: provide payment details (if already paid), provide reasons for non-payment (if processed), or ask for a duplicate invoice (in case the invoice has not been received).

This is a classic use case for RPA as the task is repetitive and more complex than a routine transaction. When deployed, the RPA tool reads data from the vendor's statement and matches it to internal financial systems. The robot is then able to isolate mismatches, provide comments for each invoice raised by the vendor, and initiate a follow-up action, if required. Interventions like these can drive productivity to over 90 percent with nearly 100 percent accuracy.

Financial services firms also have numerous occasions where huge volumes of data across systems need to be matched. These could be ideal exploration points for applicability of RPA. The possibility of an intervention like this can be evaluated for any reconciliation across sub-systems, for example, matching fees and commission invoices against accruals.

Another example could be the process of creating schedules for filing annual and quarterly reports to regulators. This involves matching information across numerous sub-systems, as well as against the general ledger. In addition, some of this information needs to be validated with external data (like investment market value) as well. Robotics can be extremely useful in this case as it can pull information from identified systems (internal and external) and process it to identify mismatches across datasets. It can further trigger a series of correction steps like reminders or error alerts. Robotics can also be deployed to extract information from external data sources, compare it with internally-sourced information, and then highlight the variances.

The claim validation process in the insurance industry is a critical process and a potential RPA use case. It involves conducting a comprehensive secondary check before making a disbursement and requires the firm to compare data across sub-systems based on a common field like policy number, and match multiple related fields before the payout. In a regular setup, where the comparison and extraction of data is done by personnel, errors are bound to creep in. Implementing RPA in such a process can reduce transaction times by as much as 70 to 80 percent and more importantly, provide 100 percent accuracy. The robot will extract information from the two sub-systems, compare them and either authorize the disbursement or reject it. It will also generate management reports to provide updates and complete transparency to the process owners.

Assessing the Applicability of RPA in the Financial Services Industry

The grid depicted in Figure 1 provides a simple way to identify the tasks that can be candidates for an RPA intervention. Tasks that fall into the bottom right quadrant — repetitive and complex (like the accounts payable process) are the ones that will benefit from RPA.

Another way to identify the tasks that are ideal for RPA is to check if a task is carried out by learning and following a set of rules. The next step is to examine if the people who performs such tasks understand and execute these based on complex rules. Some tasks based on this classification are reconciliation activities, exception management workflows, sending trigger-based mails in an exception management process, and handling anomalies in sub-ledger reconciliation (which involves huge volumes of data pertaining to fees and exchange).

In addition to classifying tasks according to the grid shown in Figure 1, it is necessary to understand the salient features of the financial services sector before embarking on an RPA initiative. These include:

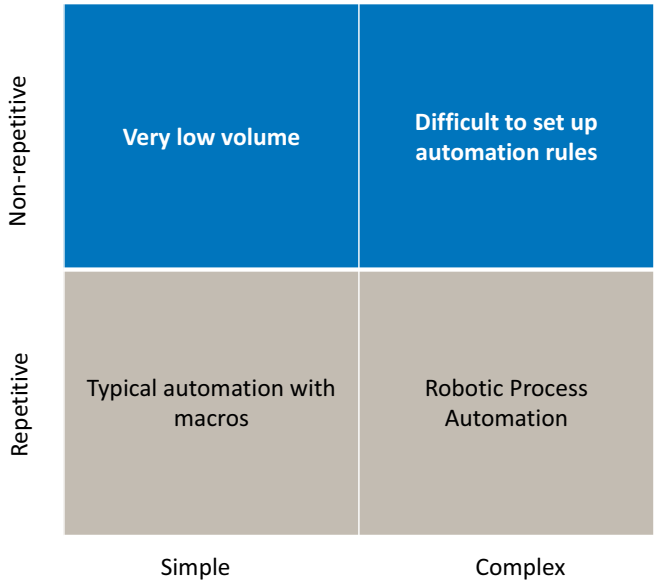

Figure 1: Identifying Tasks for RPA Intervention
(Source: TCS internal)

- **High transaction volumes:** Other than the traditional accounts payable function of manufacturing companies, financial services organizations record exponentially large number of transactions. So, RPA deployment in the financial sector should come with the capability to handle existing and future volumes.
- **Unique IT landscape:** In general, the IT systems in most financial firms have multiple sub-systems feeding into a general ledger and have intricate linkages with each other. In many cases, these are legacy systems in place, which are difficult to alter. It is therefore extremely important for the RPA program to have minimal or negligible impact on the existing technology landscape.
- **Heightened data security needs:** While data security is paramount for all organizations, it is even more critical in the financial services sector because it can directly cause monetary damages to customers and/or other stakeholders. This element restrains financial organizations from adopting technology that is not housed within their premises. Thus, RPA solutions for the financial services industry should be flexible enough to be deployed within an organization's IT environment.
- **Stringent regulatory framework:** The financial services sector is subject to a series of evolving regulatory requirements. This is of prime importance, especially when implementing a new technology, because the cost of error can be catastrophic. Robotic tools should therefore be carefully evaluated, keeping in mind various regulatory requirements and the possibility of non-compliance that may arise from a switch to an RPA setup.
- **Cost of error:** Various aspects such as high transaction volumes, complex legacy IT systems, and security and regulatory requirements have a direct or indirect bearing on the 'cost of error'. This is a vital dimension in the financial services industry because at any given point, a considerably high volume of transactions are in process and the minutest of error can have far-reaching impacts in the movement of funds across stakeholders.

Any implementation of RPA in the financial services sector therefore, will need to be strategized keeping in mind these additional factors. As a guidance, we recommend that tasks related to regulatory compliance and fund movement should not be the first candidates for RPA, as the potential damage in the unlikely event of a failure could be very high. For starters, consider tasks involving high volumes of data and exception management as RPA projects. .

Conclusion

The ability to automate manual tasks for improved process and cost efficiencies is driving robotics to gain prominence across industries, and enterprises can only ignore it at their own peril. That said, there are specific issues and areas in the financial services sector that will need to be carefully examined before deployment of robotic processes, to ensure minimal disruptions to business and full compliance with regulatory standards. The only dictum to remember is that if it can be written down as a set of rules, then there is no need for human intervention other than to write the rules!

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TCS has been ranked #2 in the 2014 FinTech Rankings Top 100 of global technology providers to the financial services industry, by both - FinTech Forward™ (a collaboration of American Banker and BAI) and IDC Financial Insights. TCS has also been recognized as a 'Leader' and a 'Star Performer' in Everest Group's 2014 PEAK Matrix reports for Banking and Capital Markets Application Outsourcing (AO).

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