Contents

RPA implementation:
Key considerations

pwc

www.pwc.in

Enterprises in the services industry are now widely cognisant of the applicability of robotic process automation (RPA) techniques to achieve significant productivity gains while being cost conscious. RPA's ability to reduce processing time and errors, enhance scalability and compliance, and enable staff to focus on value-adding activities rather than repetitive tasks has been vindicated across industries and is now widely accepted. A few of the firms in the healthcare and financial services industries have gone one step ahead and tried to explore opportunities in the artificial intelligence and cognitive automation domain. Firms which embraced these automation techniques early in the game have been able to gain dramatic benefits—a global bank recently implemented RPA in their operations business and were able to automate 235 processes. They then deployed the freed-up manual workforce to critical functions where human intervention was indispensable.[1]

A majority of firms in the financial services industry are now in the process of evaluating automation tools and are planning to embark on the RPA journey soon. Also, there are examples of firms that paced into the implementation phase but, later, either could not reap the full benefits or had to defer the deployment schedule.

It is strongly recommended that any enterprise scouting for the right RPA tool or a partner for implementation should account for all the possible challenges in the RPA journey.

This paper examines the key aspects that every organisation, especially those in financial services, should consider well before defining their RPA strategy and drafting their implementation roadmap. The first decision that organisations need to make pertains to the processes (of various functions) that are to be automated. Usually, organisations start with low-hanging fruits, i.e. processes which are standardised, involve repetitive tasks and require low manual intervention. After ascertaining the success in these areas, they go for more complex ones. After deciding on the processes, the organisation should critically evaluate various vendors to select the one most suitable to its unique requirements. It can opt for a single vendor or a combination of different tools as per their strengths, applicability and firm's requirements. Vendor selection has to be followed with a clear definition of the implementation approach (in partnership with all stakeholders), followed by the establishment of the governance, business continuity and change management mechanism. All these facets have been covered in the following sections.

---

1   Mindfields, 2015

Process assessment and prioritisation

Correctly identifying the process is a critical step and holds the key to the success of an automation initiative. This is also an opportunity for the firm to re-engineer its processes in order to maximise the benefits of automation.
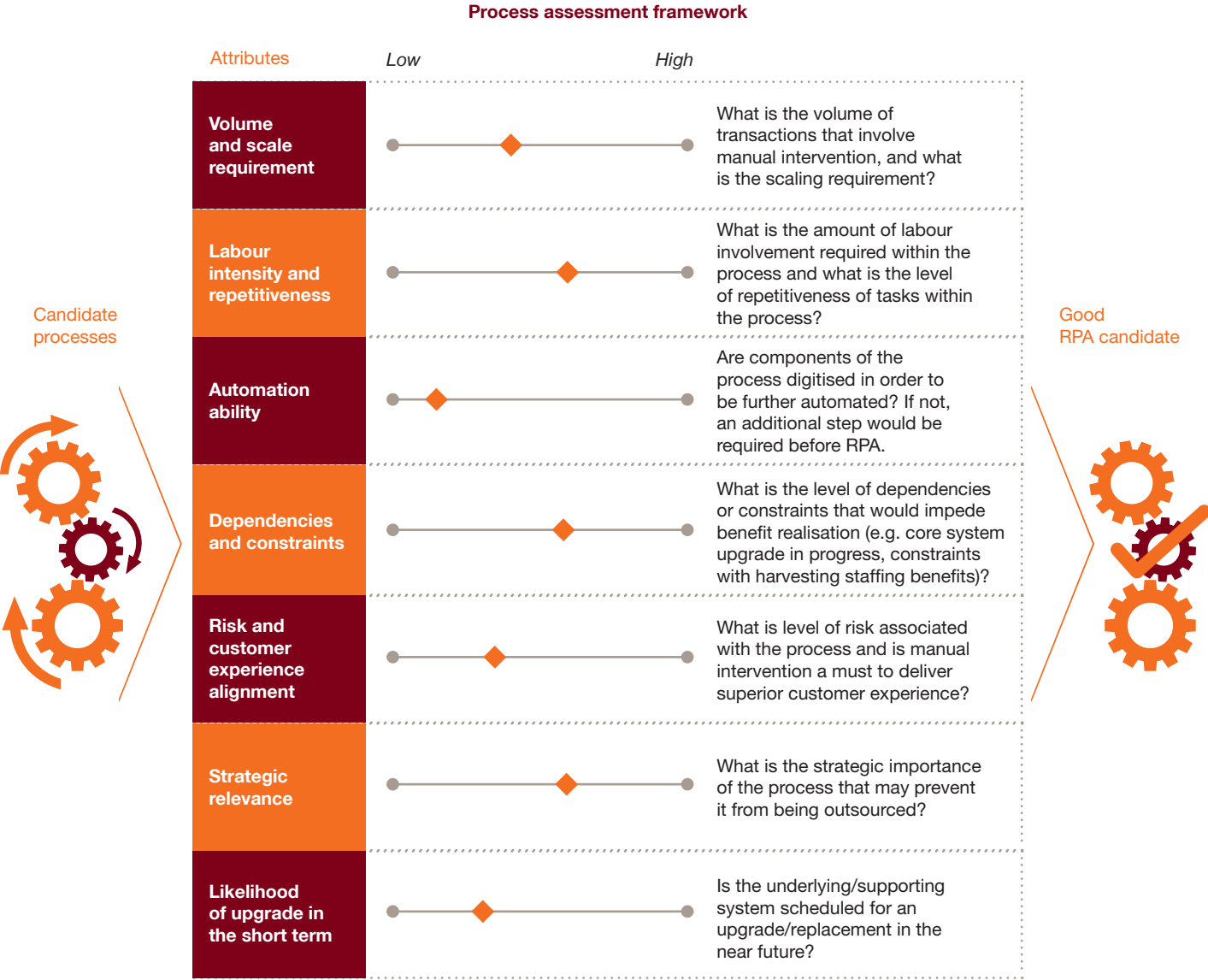
Process assessment

Many organisations fall into the trap of making an intuitive decision while determining which processes are to be automated first rather than conducting an objective analysis. A suitable framework (aligned with the firm's business and strategic objectives) needs to be employed to ascertain the fitment of a process for automation and to prepare a priority-based roadmap.

The framework should examine processes from three perspectives:

a. **Suitability:** Degree of automation that can be achieved for a particular process. Volume of transactions, scalability requirement, degree of digitisation, and system dependencies and constraints are to be considered to determine suitability.

b. **Value:** Financial and strategic value gained through automation of the process. Labour intensity and repetitiveness (which indicate cost benefits) and strategic relevance determine the value of automation.

c. **Risk:** Degree of risks involved in automating the process. Risks associated with regulatory requirements, customer experience and system stability are to be appropriately considered.

The framework should be devised at the organisational level, and business units should refer to this framework to conduct an assessment exercise where a score is generated for each process. The processes above a predefined cut-off should be selected for automation. An indicative framework developed by PwC for such an assessment is presented below.

Process assessment framework

Attributes	Low	High		
Volume and scale requirement		◆		What is the volume of transactions that involve manual intervention, and what is the scaling requirement?
Labour intensity and repetitiveness		◆		What is the amount of labour involvement required within the process and what is the level of repetitiveness of tasks within the process?
Automation ability	◆			Are components of the process digitised in order to be further automated? If not, an additional step would be required before RPA.
Dependencies and constraints		◆		What is the level of dependencies or constraints that would impede benefit realisation (e.g. core system upgrade in progress, constraints with harvesting staffing benefits)?
Risk and customer experience alignment	◆			What is level of risk associated with the process and is manual intervention a must to deliver superior customer experience?
Strategic relevance		◆		What is the strategic importance of the process that may prevent it from being outsourced?
Likelihood of upgrade in the short term	◆			Is the underlying/supporting system scheduled for an upgrade/replacement in the near future?

Candidate processes

Good RPA candidate

Process centralisation

Most business processes today are performed by teams that are widely distributed geographically and for each team member, the process might be a fraction of their work. In order to gain maximum benefits out of the automation exercise, some process transformation initiative, with the objective of centralising the process, might be necessary.

i. Businesses should consider the location (offshore/nearshore/onshore) while setting up bots. Although robots do not require continuous supervision, they do require oversight to ensure that they are operating as expected. Hence, manpower allocation for maintenance and support becomes equally critical.

ii. Bots deployed on server and accessed from a remote location may cause latency. Customer experience and throughput time need to be considered at the time of process selection.

Managing unstructured processes

RPA implementation heavily depends on structured data and defined workflows. In day-to-day operations, back-office processes in the banking and financial services industry involve multiple sources of data in irregular formats, thus requiring manual intervention for comprehension and interpretation. RPA can assist in cases such as the following:

i. In the banking industry, the mode of communication varies considerably in order to either expedite settlement of trade or to maintain confidentiality of data. Banks may prefer to communicate via phone calls or plain text on an email or system screenshot or password-protected PDF/Excel file, or sometimes even handwritten scanned information. This has the potential to limit RPA's ability to analyse variation and extract required information.

ii. In the reconciliations and payment domain, in the case of processes such as swift matching, the incoming swift message comes in multiple formats, and there is no fixed rule or logic to arrive at a decision. A user needs to contact multiple internal and external teams like settlement, middle office groups and external agent banks to provide additional information.
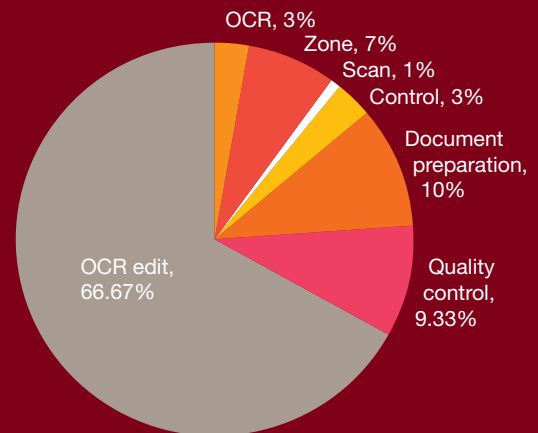
Case in point: *Employing optical character recognition (OCR) to manage unstructured processes*

OCR is the mechanical or electronic conversion of images of typed, handwritten or printed text into machine-encoded text. In most cases, OCR is a good solution and a cheaper alternative for manual data entry from paper. However, it is not always a preferable option owing to the following challenges:

i.   Low accuracy of around 60 to 70% while reading data from scanned images
ii. Bad quality scans, overwritten texts and markups leading to distortion
iii. Incapability of OCR systems to interpret different languages
iv. Poor recognition of characters in a handwritten document

Cost of digitising a hard copy document[2]

- OCR, 3%
- Zone, 7%
- Scan, 1%
- Control, 3%
- Document preparation, 10%
- Quality control, 9.33%
- OCR edit, 66.67%

Typically, in an imaging system life cycle, two-third of the project costs are spent on correcting OCR errors. OCR normally marks only 60% of its errors as suspicious, leading to the rest of the errors being transferred to the data repository. Sometimes the correct characters are also marked as suspicious. Correction of these errors requires manual labour or an automatic checker. These additional requirements increase the overhead cost and also undermine the objective of RPA. On average, one second of conventional OCR processing leads to 18 seconds of editing time and 3.5 errors that get passed on to manual correction. This calls for an enhanced version of OCR with higher accuracy. Although this enhanced version reduces the errors, error correction time and total processing time, it is three times slower and three times more expensive than the conventional OCR systems.

While the RPA tools available in the market are evolving and vendors are working to improve the suitability of their features, organisations should conduct a thorough cost-benefit analysis before automating processes which involve unstructured data.

Stability of the process

There are certain processes which change frequently due to regulatory or business requirements, and the bots for such processes would need to be modified accordingly. Although it is claimed that a number of automation tools are easily adaptable, a modification cost must be incurred each time a change is made. Also, the current process would need to be either completed manually or stalled while the modifications are being made. Hence, stability of the process is an important factor to consider before proceeding with automation.

---

2   Prime Recognition

Vendor selection challenges

Organisations should avoid the herd mentality of blindly selecting an RPA tool just because one of their close competitors has finalised that vendor. One size never fits all. Organisations need to evaluate which RPA tool best suits their unique needs. There have been instances wherein an existing technology partner has been selected for RPA implementation without any evaluation, as organisations had the misplaced belief that it would be easier to work with an incumbent vendor rather than a new one. Below are some pointers which can help organisations avoid pitfalls during the RPA vendor selection phase:

| Scalability requirement | Security concerns | Other parameters for vendor selection |

Scalability requirement

Easy and rapid scalability is often touted as a big advantage of RPA. The cost of creating a bot is certainly less than that of hiring and training a human being. However, organisations need to compare the cost and time required to create and deploy additional software bots while selecting their RPA vendor.

i. Bots need to be scaled when there are fluctuations in the volume of transactions. The load-balancing capability of the RPA tool needs to be evaluated if spikes in volume are expected for a process.

ii. To deploy additional software bots, readily deployable versions of the automated process files are required. This necessitates the presence of a version control mechanism within the RPA tool or the availability/compatibility of a separate stand-alone version control tool.

iii. The time required to deploy the automated process files on various machines also depends on the infrastructure available. Low-end infrastructure takes more time for deployment and, subsequently, greater turnaround time for full-fledged scalability.

Security concerns

Almost all the data generated or used by a banking or financial services firm is regulated and classified as potentially sensitive or private. Though RPA increases efficiency, it also brings with it the concern of system hacking and data breaches.

Organisations selecting RPA tools must evaluate them on the following points in order to ensure data and system integrity:

i. The RPA tool should encrypt stored data using the Advanced Encryption Standard (AES).

ii. Access to the automated process file within the RPA tools should pass through a strong credential vault.

iii. Credentials should not only work for authentication but also for authorisation, allowing experienced personnel access to more complex tasks.

iv. Development and runtime environments should be segregated and their respective automated process files should be maintained through a formal version control.

v. Systems should be in place to raise an alert in case of breaches or process errors and a knowledge base should be handy for a quick remedy in such scenarios.

vi. RPA tools should be equipped with an audit trail/task action list feature which details the actions taken/data changed by the bot during a particular time period or a particular process run. This helps not only in monitoring but also in reversing a particular action in case of a crisis.

vii. RPA integration with a secured third-party application with just 'view' access may pose implementation challenges. Compatibility with such systems needs to be determined.

Other parameters for vendor selection

i.   The underlying technology of the tool should not be obsolete and adequate resources with the technical skill sets should be available.

ii. The RPA tool should be compatible with the underlying legacy applications. Some RPA tools have integration issues with particular platforms. During the proof of concept phase, it should be ensured that the tool is less IT intrusive or else it may lead to cost escalations.

iii. It is necessary to verify the vendor's credentials through their existing customers. RPA implementation is at a very nascent stage across the world and very few credible institutions have successfully implemented RPA. Hence, cross-verifying vendors' credentials remains a challenge for the time being.

iv. The association of the organisation with the RPA vendor would be long term. Hence, stability (financial and organisational) of the vendor needs to be considered. Research and development (R&D) investment, historical evolution and product roadmap are pointers to a vendor's commitment to the RPA space.

v.   Vendors are entering into partnerships with other organisations for implementation, wherein the vendor focusses on product development while the implementation partner (with capability to scale) handles tool implementation. Availability of such associations indicates the long-term commitment of the vendor.

The major tools in the RPA domain—Automation Anywhere, Blue Prism, UI Path and Open Span—have significantly evolved to tackle the industry challenges. For example, to address security concerns, Automation Anywhere has come up with a stringent control mechanism that combines private key/public key infrastructure with AES encryption. Similarly, to set up robust governance, Blue Prism has a detailed log sheet which provides a time-stamped history of every action and decision taken by the software robot. Companies like Work Fusion and IBM Watson have employed cognitive capabilities and artificial intelligence to combat issues like unstructured data and exceptional handling. While most of the challenges discussed have been dealt with by some or the other tool available in the market, the industry is still looking forward to developing a one-stop solution for all the possible bottlenecks in their RPA journey.
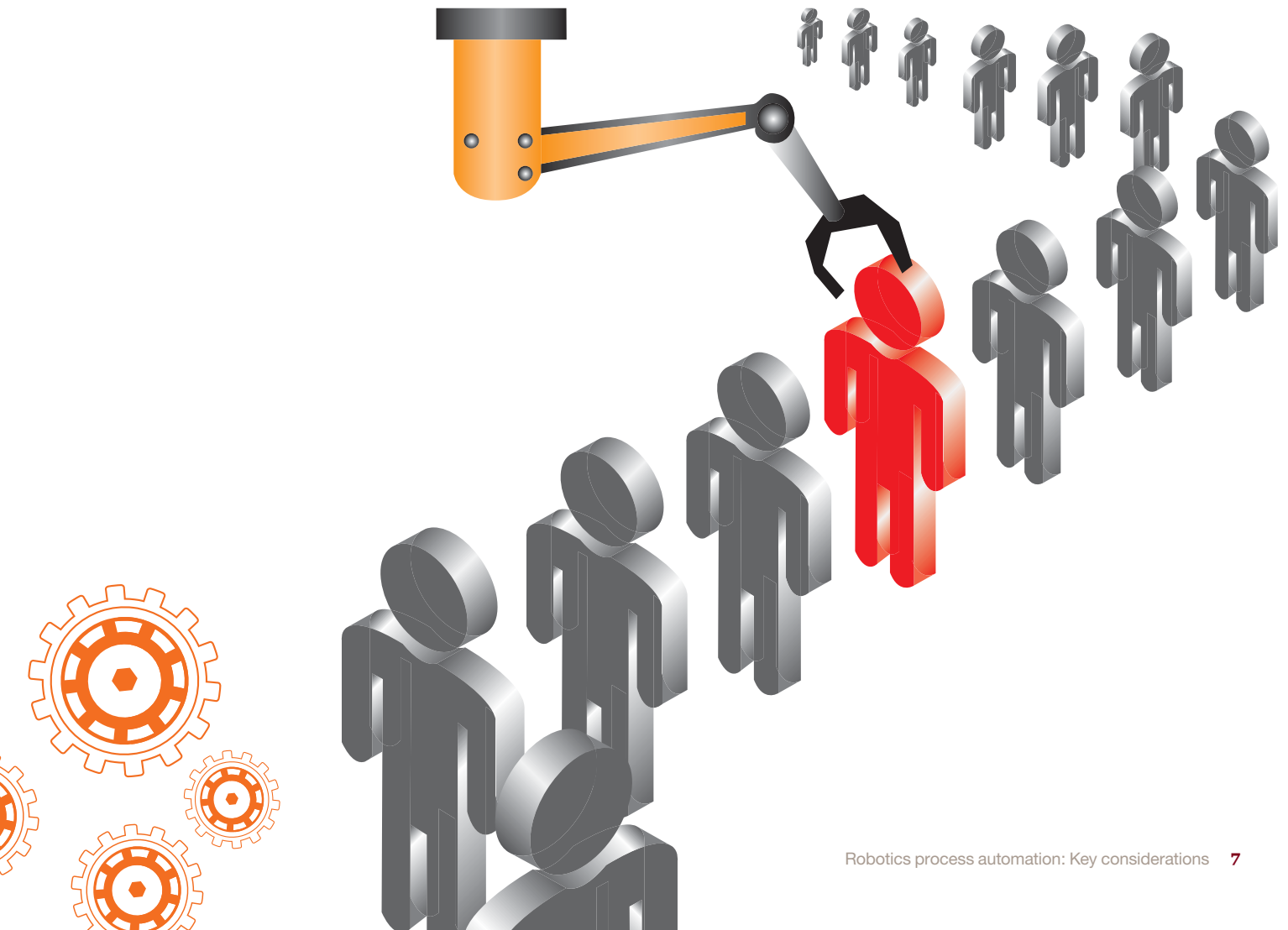
Implementation approach

Once the processes have been selected and vendor has been finalised, organisations need to devise their approach for implementation.

i. The automation exercise can be driven by a central technology team or by the respective business functions independently. Another approach being taken by some organisations is that a central team defines the framework and provides the guiding principles; business units then drive automation of their processes.

ii. The implementation (bot development and deployment) is often done by the RPA vendor or by an implementation partner. As the tools available are easy to use, certain organisations have undertaken implementation internally.

iii. Vendor teams would usually have a strong technical foundation but would lack an understanding of the intricacies of the business, while the internal business users would have limited know-how of the technical constraints and workarounds. Hence, involving an implementation partner with requisite skills— functional know-how (process and domain expertise) and technical competence, along with implementation experience—ensures successful automation.

iv. Accountability and metrics to measure the success of the implementation need to be clearly defined.

Governance

An adequate governance mechanism is required to monitor the bots and ascertain the accuracy of the tasks being performed, reliability of the systems and adaptability to process changes.

i. Organisations need to put in place a central governing body to validate and approve any system change in case of processes which have been automated. Any change in the bot logic or in process needs to be discussed with the IT and operations teams first, followed by approval from the governing body.

ii. The RPA tool should be capable of generating a detailed audit trail, highlighting any change or decision taken by the bot.

iii. Bots should be designed and output data should be stored in such a manner that data required for regulatory compliances is readily available in the desired format.

Business continuity plan (BCP)

An adequate governance mechanism is required to monitor the bots and ascertain the accuracy of the tasks being performed, reliability of the systems and adaptability to process changes.

i. BCP: To attain an effective BCP, installation of bots at multiple locations is a critical factor. This implies that duplicate bots should be available at different locations, ready to be employed in case systems at one location fail. Also, an alternative process (aligned to the pre-automation process) should be available for business-critical operations before the system becomes reliable.

ii. DRP: Though recovery from a bot crash looks much easier to handle in comparison to the traditional loss of human life or infrastructure, companies need to have an exact copy of all the bots deployed across all their locations at an established disaster risk reduction (DRR) centre. Version control plays a crucial role in duplicating the original bot.

Change management

To achieve the benefits of automation, the top executives, operation managers and IT leaders need to be well versed with the potential change that the technology will bring. Automation will have widespread implications for employees and the ways in which existing technology functions across the organisation. The policymakers would need to:

(a) Invest time in defining new roles and responsibilities for the teams managing the implementation cycle, operational realignment and service governance. C-level executives need to define the roles of the staffs who are at risk of getting replaced by the bots well in advance.

(b) Ensure the target operating model (TOM) is in place. Operations should be aware of the prerequisites of RPA, what needs to be completed prior to moving into business as usual (BAU) and the controls around the automation book of work.

(c) Reframe policies and redesign the key performance indicator (KPI)/key risk indicator (KRI) model for the virtual workforce. After investing in automation, an organisation cannot accept accuracy standards that are similar to those for the human workforce; they need to assess and set up new standards of quality measurement.

(d) Plan communication. Even if the top management is jittery about the final benefits of the plan, they need to proactively communicate why they are bringing about the change, what the final organisation structure after implementation will be and the impact of the change on the existing workforce.

(e) Conduct training. The business users need to be adequately trained to enable them to interact and interface with the bots, especially in the case of changes in business processes. Reskilling of the workforce that is being freed up will be a major factor for the overall success of automation.

(f) Manage knowledge. Usually, bot creation would be done by an implementation partner or the vendor. The relevant knowledge on bot creation and maintenance has to be passed to internal staff for a seamless transition.

Organisations assessing RPA applicability should develop a long-term strategy and involve key people from the strategy team, business unit and the technology team to define value drivers and owners of the RPA initiative upfront. They should focus on automating cross-functional end-to-end processes across multiple stages instead of deploying bots in pockets. Once an organisation has pondered over all the said challenges and obtained leadership buy-in, they should deploy a robust change management approach to engage employees throughout the organisation. Evaluating all the vendor selection challenges would lead an organisation to find the right set of partners and optimal technology solutions to meet the long-term objectives. In order to harness the full potential of RPA, companies need to view RPA as part of their strategic goal rather than a tactical one.

References

- *Ahuja, N. (2013). Customer service: 4 steps to effective vendor selection. Retrieved from https://www.cebglobal.com/blogs/4-steps-to-effective-vendor-selection/*

- *Konopka, M. (2015). How to select the right candidate for robotic process automation? Retrieved from http://virttia.com/2015/10/how-to-select-the-right-candidate-for-robotic-process-automation/*

- *Milam, R. (2016). Addressing insider threats and data security with automation technology. Retrieved from http://www.workflowotg.com/blogs/644-addressing-insider-threats-and-data-security-with-automation-technology*

- *Mindfields. (2015). Robotic process automation: Driving the next wave of cost rationalisation. Retrieved from http://www.mindfields.net.au/pdf/Maturity_Assessment.pdf?utm_source=ma&utm_medium=ma&utm_campaign=ma*

- *Nelson, C. (2015). Change management on steroids: Three imperatives for robotics-enabled transformation. Retrieved from http://www.alsbridge.com/change-management-on-steroids-three-imperatives-of-rpa-enabled-transformation/*

- *Prime Recognition. (n.d.). Advantages of high accuracy OCR software. Retrieved from http://www.primerecognition.com/ocr_software_why_high_accuracy.htm*

- *Schiff, J. (2013). How to choose the right software vendor. Retrieved from http://www.cio.com/article/2386740/enterprise-software/how-to-choose-the-right-software-vendor.html*

Notes

Notes

About PwC

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 157 countries with more than 2,23,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com

In India, PwC has offices in these cities: Ahmedabad, Bengaluru, Chennai, Delhi NCR, Hyderabad, Kolkata, Mumbai and Pune. For more information about PwC India's service offerings, visit www.pwc.com/in

PwC refers to the PwC International network and/or one or more of its member firms, each of which is a separate, independent and distinct legal entity in separate lines of service. Please see www.pwc.com/structure for further details.

Contact

Sumit Srivastav
Executive Director, Advisory, PwC India
sumit.srivastav@in.pwc.com

Authors

Sumit Srivastav
Executive Director, Advisory, PwC India
sumit.srivastav@in.pwc.com

Shubham Singh
Advisory, PwC India
singh.shubham@in.pwc.com

Shrinath Gadiyar
Advisory, PwC India
shrinath.gadiyar@in.pwc.com

Bibhuti Anand
Advisory, PwC India
bibhuti.anand@in.pwc.com

pwc.in