Robotic Process Automation (RPA)

On Entering an Age of Automation of White-collar Work Through Advances in AI and Robotics

Recent progress in digitization has had significant impact on white-collar work as well as on products and their related technology. It has been said that in the next 10 to 20 years, 47% of jobs will be substituted by automated or robot labor. RPA is a particular type of digitization, and its implementation is absolutely essential to raising a company's added value in the future. At KPMG, we assist corporate problem-solving through our support for RPA implementation, making use of our prodigious industry knowledge of business innovation and RPA implementation cases in both Japan and abroad.

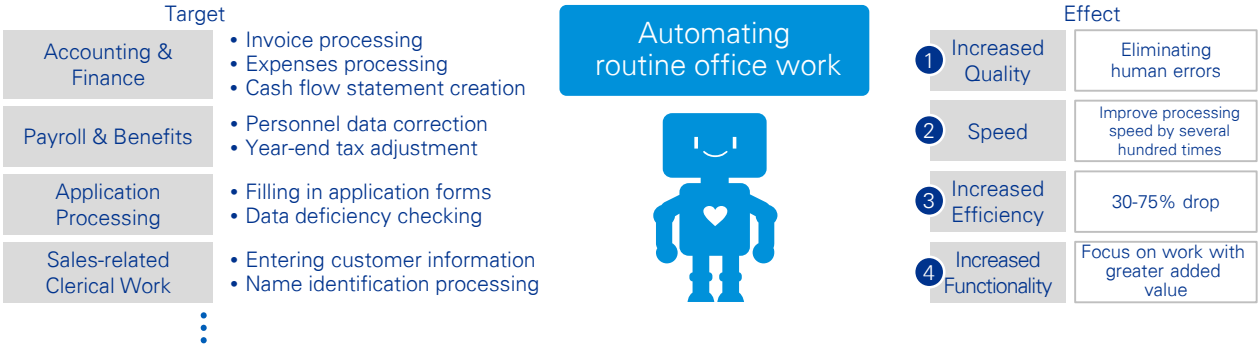
Overview of the RPA

What Is RPA and Digital Labor?

RPA comprises distinct types: automation of routine office work and automation of advanced intelligent processes through means such as artificial intelligence (AI). The effectiveness of routine office work automation has been operationally validated in not only North America and Europe but also in Japan, and this type of automation is now in practical use.

RPA can be described as introducing digital labor (digital worker) into the corporate organization in order to carry out work that only human labor was formerly considered capable of doing, or to augment human labor in carrying out highly advanced work.

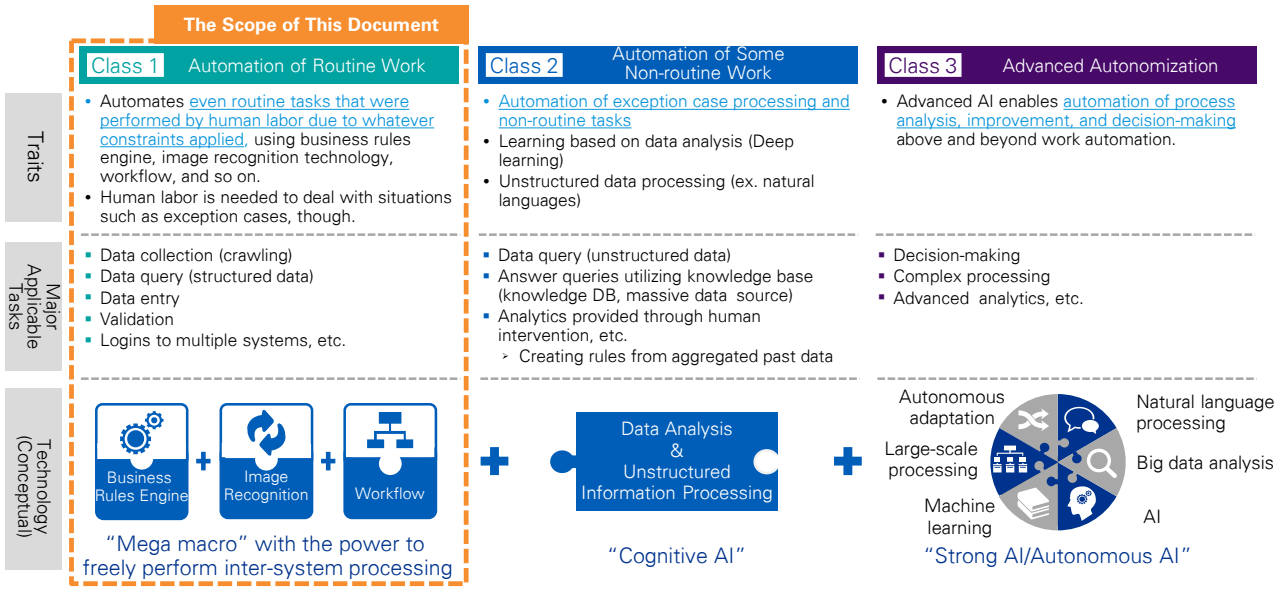
What Is RPA and Digital Labor?



RPA Classes and Major Scopes of Application

There are three classes in RPA, and at the present, companies are starting to create sizable impact through Class 1 implementation.

They are projected to reach Class 3 in five years, able to automate process analysis, improvement, and decision-making.



Why RPA, Why Now?

Surge in Labor Cost in Developing Nations and Evolution of Digital Technology

Since the 1990s, an increasing number of firms have sought to reduce their operating cost by outsourcing some of their white-collar work to developing countries with lower cost of labor, such as China and India. However, recent years have seen an upsurge in labor cost in developing countries, making it more difficult to reduce costs by leveraging labor cost differentials. The troubling rate of worker turnover in developing nations poses an additional challenge to securing sufficient level of quality.

On the other hand, technological development has resulted in greater automation in some industries such as the automotive sector, where the scope of automation has already been expanded for practical use. Automation of white-collar work through RPA, using technologies such as AI and robotics, is now poised for acceleration.

Major Impact of RPA implementation

Contribution to Quality Improvement

RPA enjoys high affinity with clerical task processing in general, and compared to human labor, is more capable of carrying out tasks both continuously and reliably. Consequently, errors and clerical mistakes are greatly reduced, leading to improved task quality.

Contribution to Speed

Data editing, screen operation, and other tasks via RPA do not involve physical manipulation of devices such as keyboard and mouse, and therefore a task can be accomplished at tens and hundreds of times the speed of human labor, resulting in overwhelming increase in speed of operation. In addition, the speed of implementation and response to changes, and overall speed in producing results, will also improve.

Contribution to Efficiency Improvement

RPA renders human intervention superfluous; work can be carried out in parallel with virtually no resource constraints. The result is that while cost-reduction achieved through business process outsourcing (BPO) and other measures based on labor cost differentials and standardization is thought to top out at 15-30 %, RPA enables cost reduction of 40-70 %.*

* According to results for Company A in their final report.

Reference: Customer Feedback from Early Adopters of RPA

The efficiency of our processes improved due to RPA implementation, leading to improved quality while also enabling us to focus more resources on work with greater added value such as improving the process itself or generating innovation.

Goals & Effects of RPA Implementation

1 Improved Quality
- Capable of more continuous, reliable, and high-quality task implementation than human labor.

2 Speed
- Overwhelmingly greater speed of implementation and response to changes, speed in producing results, and speed of operation.

3 Improved Efficiency
- Because a large number of tasks are automated, work can be carried out in parallel with virtually no resource constraints.

4 Improved Functionality (Shift Towards Business with Greater Added Value)
- Humans are freed from routine work, able to engage instead in work with high added value.
- One incidental effect is that various historic data can be amassed, contributing to identification of further opportunities for improvement.

Results of Study on Effects of RPA Implementation

No.	Item Thought to Have the Largest Impact	Response Rate	
1	Decrease in error rate	21%	(1) Improved Quality
2	Improved quality of routine tasks	21%	(1) Improved Quality
3	Improved speed of business process implementation	19%	(2) Speed
4	Reduced dependency on multiple systems and screens	14%	(3) Improved Efficiency
5	Increase in STP (straight through processing)	11%	(3) Improved Efficiency
6	Accumulation of data for process improvement	7%	(4) Improved Functionality
7	Potential reduction of excess tasks	7%	(4) Improved Functionality

Source:
"Insights from Early BPO Adopters of Robotic Process Automation," *Horses for Sources,* February 2015.

KPMG Standardized Approach

RPA implementation has the potential to change the way processes and business are done. Greater effectiveness can be unleashed by incorporating business process reform into the perspective rather than simply viewing the matter as RPA tool implementation.

Future Plans & PoC	Implementation Launch/Standardization/Upgrades	PDCA/Ongoing Improvements
Processes: 2-3; duration: 6–8 W	Processes: 10+; duration: 3 M	Processes: 30+; duration: 3–6 M / Processes: 100+; duration: 6 M+
1 Future Plans • Formulation & implementation of RPA rollout plan • ROI analysis and assessment	**5 Building Operation Management Functions** • Design, building, implementation, and testing of RPA implementation & operation processes, rules and organizational structure • Building of RPA integrated monitoring infrastructure	**8 Upgrading Operation Management Functions** • Large-scale RPA management strategy & horizontal deployment policy drafting/implementation • Robot analysis and assessment (KPI) system design/promotion	**9 Monitoring & Improvement** • Regularization of PDCA cycle • Operational transformation utilizing RPA
2 PoC • Technology verification and vendor selection • Applicability testing • ROI estimate	**6 Building and Promoting RPA Operations** • Work analysis & selection, requirements specification • RPA design, building, implementation, version upgrade • Release, operation, maintenance, response to inquiries		
3 Preparing to Launch the RPA Organization • Formulation of RPA management organization & system • Cultivation of personnel to launch RPA implementation	**7 Promoting RPA Organization/Human Resource Development** • Cultivation of personnel for development and operation work, implementation of skill transfer from experts • Cultivation of personnel to expand the scope of RPA implementation and promote RPA on an ongoing basis		**10 RPA Organization/Human Resource Development** • Growth and expansion of personnel for development and operation work • Offshoring and creation of business process center
4 Program & Project Management • RPA program scope, schedule, risk, and resource management • Integrated change management such as impact survey and regularization of various activities involved in RPA implementation			

Building Operation Management Functions

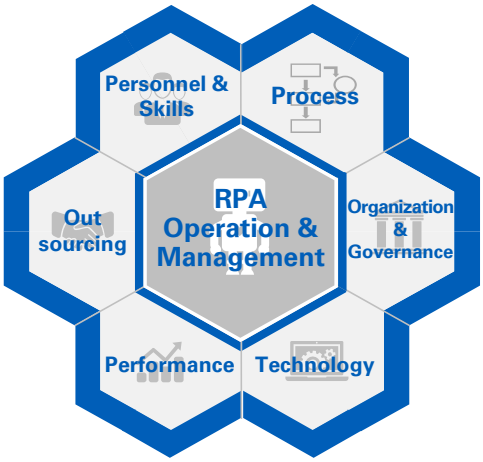
Six different aspects of RPA operation management architecture must be considered during the post-PoC, implementation launch and standardization phase.

* The following six perspectives are RPA-TOM (Target Operating Model), a KPMG's consulting methodology.

Personnel & Skills
- Securing personnel who will be responsible for operation management functions and developing their skills.

Outsourcing
- The scope of outsourcing to third parties in operation management.

Performance
- Effectiveness evaluation indices for each operation management function.



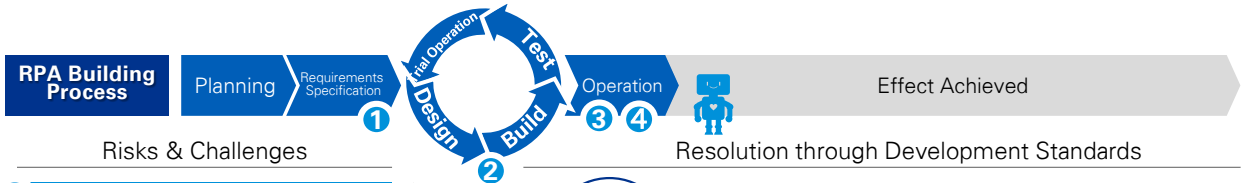
Process
- Implementation, operation and management processes and functions needed to achieve maximum effect in a stable manner.

Organization & Governance
- Organizational makeup and role assignment for achieving operation management functions.

Technology
- IT tools and platform for efficiently achieving operation management functions.

Building and Operating RPA

KPMG's RPA development and quality standards distill best practices nurtured through a wealth of productive experience to successfully build efficient and high-quality RPA that leverages the characteristics of RPA tools.



Risks & Challenges

1. Decline in ROI due to pursuit of perfect automation
2. Erratic quality and serviceability due to architecture that increasingly depends on individual skills
3. Risk of work stoppage due to unstable performance
4. Compliance risk due to absence of activity trail

Resolution through Development Standards

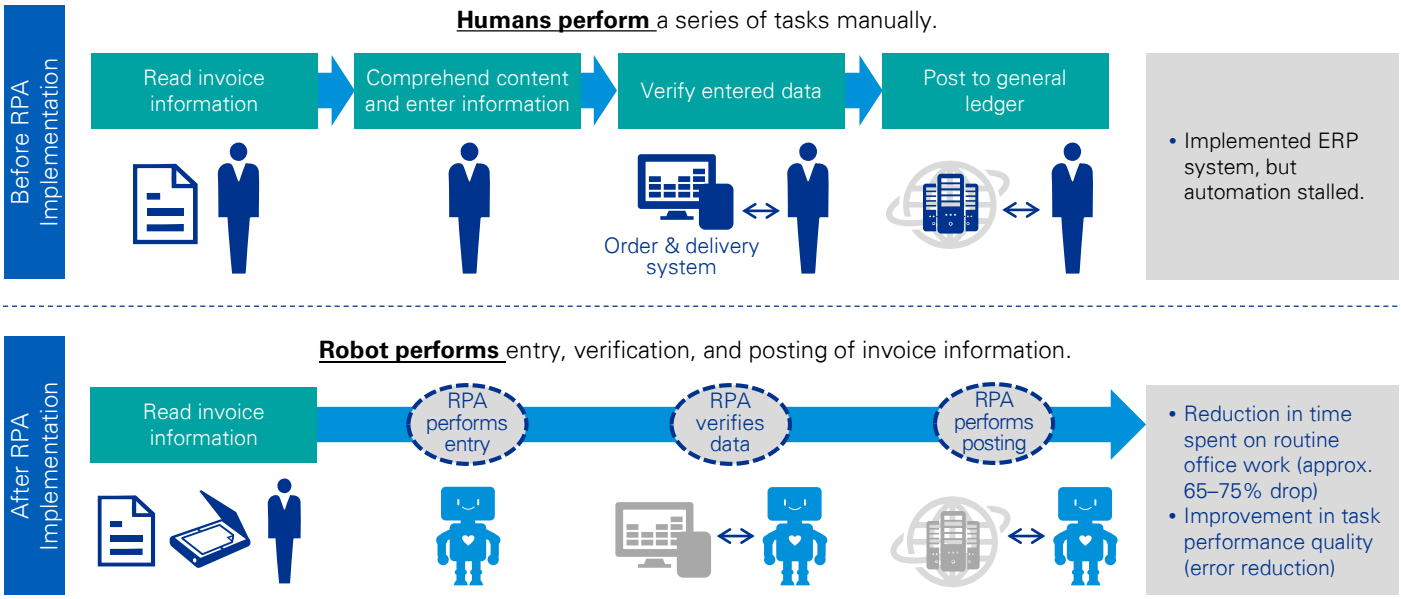
Effectiveness & Quality Assurance
- Leveling of granularity in RPA creation
- Increase maintainability

Operational Stability Maintenance
- Linkage with subsequent work
- Detection of any abnormalities that occur

Compliance
- Avoidance of security risk
- Recording and storage of results from logging activity (audit trail)

Case Study: Accounts Payable Operation Automation

Automaker B has implemented RPA into accounts payable operations at its global shared service center, automating the process.



Observations for the Age of RPA & Digital Labor

Exploring Applicability for Your Firm

In a few years, RPA will be implemented around the world. It behooves companies to prepare by using PoC on some tasks to verify applicability or by conducting researches on technology trends, before their productivity is left behind on the global stage.

→ There is ample room for exploration even when enterprise resource planning (ERP) refurbishment ROI cannot be met, since compared to ERP, RPA implementation can be extremely low-cost depending on scope.

Review of Existing Contracts

BPO and shared services present possibility of even greater efficiency. If your company has a long-term contract with partners such as BPO vendors, we think that a review of the contract going forward can yield even greater results.

Knowledge of the Industry As Well As Digital Transformation

KPMG supports optimization of deployment of digital labor in business operations, based on knowledge of digital transformation demonstrated by our trailblazing RPA implementation cases in and outside Japan, and our immense knowledge of business process reform for enterprises in every industry.

Commitment

We at KPMG consider it our top priority to build a long-term relationship with clients based on trust. We give our all to provide a solution for the client company that is efficient, effective, and one-of-a-kind.

Advantages of KPMG

Our Global Network

At KPMG, we use our global network, a wealth of experience with cross-border projects and our knowledge of trailblazing cases on a global level to provide advisory services, such as RPA diagnosis (status analysis & support in identifying RPA target scope), support in defining visions for the future, solution selection support, RPA implementation support, and process reform support.

Developing and Utilizing Personnel

All predictable work is possibly replaced with RPA, but on the other hand, there is concern that Japan will suffer from serious labor shortage in the future. One of the keys is to give renewed thought to areas where personnel currently on hand can be utilized, and what to do about education towards that end.

Policy & Governance in Shifting to RPA

RPA is capable of doing anything that can realistically be digitized, but applying RPA to everything increases the number of non-optimized processes, retreading the spaghetti codes from computing's past and rendering correction difficult. For that reason, policy and governance must be set in place determining what work is to be automated via RPA and what is to be systematized.

KPMG Consulting Co., Ltd.

kc@jp.kpmg.com

kpmg.com/jp/kc