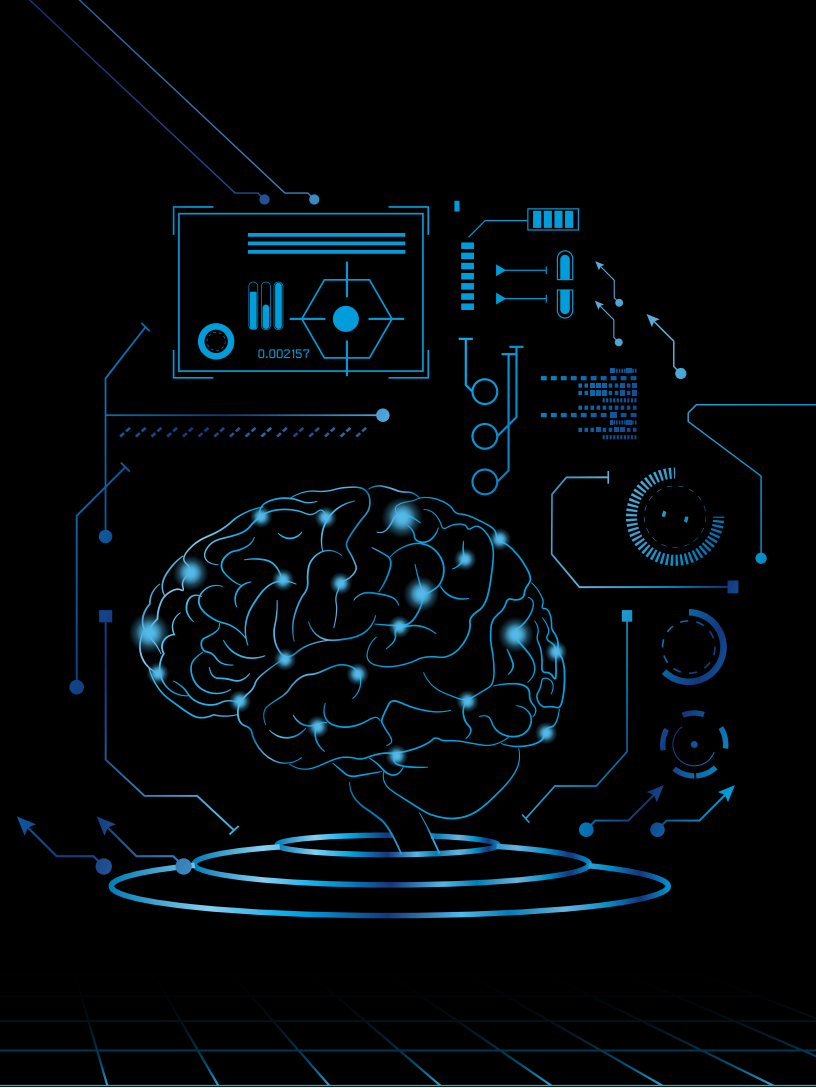


In association with **Blue Prism**

Calculating real ROI on intelligent automation (IA)

Organizations across every sector and geography are grappling with what automation is and how to best use automated technologies to generate ROI for their business. Automation is a key driver of new levels of efficiency, profitability, and growth. “Intelligent automation” is the use and orchestration of robotic process automation (RPA) and artificial intelligence technologies (e.g., machine learning, natural language processing) to transform businesses and achieve benefits. In this paper, we will explore what intelligent automation is, its return on investment (ROI), and what your business needs to best extract its benefits.



Introduction

There is a growing need among executives around the world to reduce operating expenses while satiating increasing customer demands. These executives are now exploring intelligent automation solutions to achieve scalability, higher business volumes, improve product quality and provide better customer service while minimizing increases in costs.

But what is intelligent automation? Simply put, Intelligent Automation is the use and orchestration of **robotic process automation (RPA) and artificial intelligence (AI)** technologies to transform businesses. These technologies can be used in isolation or in combination.

From robotic process automation...

Robotic process automation (RPA) provides automation of manual, repetitive, and rule-based processes based on structured input, thereby increasing scale and efficiency while reducing the scope for human error. RPA uses “software robotics” to synthesize data and automate processes or workflows. While it’s sometimes generally referred to as “robotics” or “robots,” RPA refers only to software that performs rules-based tasks that would otherwise be performed by a person. RPA enables transaction automation, dynamic data manipulation, and streamlined communication.

...to intelligent automation

Intelligent automation is the augmentation of AI technologies (such as natural-language processing, natural-language generation, and machine learning) to mimic human behavior such as perceiving, gathering evidence, and reasoning, to RPA technologies to unlock higher-value opportunities. Typically, organizations will start with RPA and look to automate low-value tasks and achieve some level of scale in benefits through the volume of transactions automated. However, there is a natural point where the benefits stop accruing. While RPA systems can validate, analyze, collate, calculate, and orchestrate processes that are repetitive and rule-based, artificial intelligence systems are able to learn, forecast, and anticipate based on available information and historical data. This provides businesses the ability to look at end-to-end processes and strategically build intelligent automation systems to achieve cost savings and increase revenue opportunities.

Let’s look at an example to understand how why intelligent automation provides greater value than RPA alone. Banking and insurance back-end operations are often a target for automation due to the large levels of manual effort and non-customer facing nature of tasks and processes. RPA can automate parts of customer onboarding by gathering external data for client verification but adding AI technologies can identify patterns in behavior that could indicate fraudulent payment activity—enabling a robust, automated “know your customer” process that can save banks millions in non-compliance fees.


What is the ROI of intelligent automation?


According to research from Market Research Future, the global intelligent automation market is estimated to be \$2 billion in 2019, and it's expected to expand at a compound annual growth rate (CAGR) of about 40% through to 2023, with the market size reaching approximately \$8 billion. As markets grow, organizations are grappling with whether intelligent automation could deliver value to their operations, and the crux of their questioning often revolves around return on investment (ROI). ROI must be considered in the context of total return generated from automation technologies and the total cost of ownership.


Benefits of intelligent automation

Organizations often fixate on direct labor savings when thinking of automation. RPA on its own will generally drive cost efficiencies through released human capacity. Even greater cost savings can be achieved as more complex human capabilities are automated and AI/cognitive are used to supercharge sales and marketing activities to increase revenue. It is, therefore, apparent there is a breadth of intelligent automation benefits, and a useful way to think about them is in **quantitative** and **qualitative** terms.


Quantitative benefits are useful for business case development to confirm the value of intelligent automation and justify investments. These benefits include:


 **Reducing operating costs:** Intelligent automation can reduce an organization's cost base with fully loaded FTE benefits from human effort automated, indirect FTE benefits of management and sometimes back office staff (who act as interfaces between systems), cost avoidance benefits from hiring additional staff/replacing staff, reduced delayed payment interest expenses, labor arbitrage benefits between outsourcing and automating, and, in some cases, supporting accommodation, and infrastructure costs. In terms of actual savings, intelligent automation has been proven to cut business process costs by anywhere from 25% to 40% on average¹.


 **Growing the top line:** Intelligent automation can create revenue by reducing customer churn through contextual interventions (e.g., using AI to improve search results in streaming media platforms), reducing "revenue leakage" through timely and accurate payment processing, increasing customer share-of-wallet (personalized offers to existing customers) and targeting new customers (using a combination of micro-segmentation, and digital 1-to-1 marketing).

 **Greater speed and velocity:** Intelligent automation also necessitates improved cycle times and improved throughput, driven by robots that work ~4 times the number of hours of a human, 2-3 times faster, and can be operational 24x7. Additionally, automation allows a reduction in the volume of human (and machine) hand-offs, further streamlining processes.


Qualitative benefits signal more profound shifts that intelligent automation enables, such as becoming a better customer-focused organization, increasing organizational agility, and having happier employees. These benefits contextualize to executives how intelligent automation will change their business and include:


 **Improved customer experience:** Intelligent automation enables organizations to make better use of customer data to improve customer experiences by anticipating their needs. Additionally, intelligent automation can also resolve sources of customer friction such as the need to repeat information due to manual error.

 **Greater return on human capital:** Intelligent automation creates new organizational capacity, which can be reported at more complex or higher-value tasks. For example, an employee manually approving purchase orders can shift focus to negotiating better vendor pricing if the approvals are automated.

 **Improved employee morale:** The tasks and processes most suitable for automation are typically the most onerous and least enjoyed and employees relieved of them can be refocused on more rewarding and higher-value activities, such as insights and analytics².

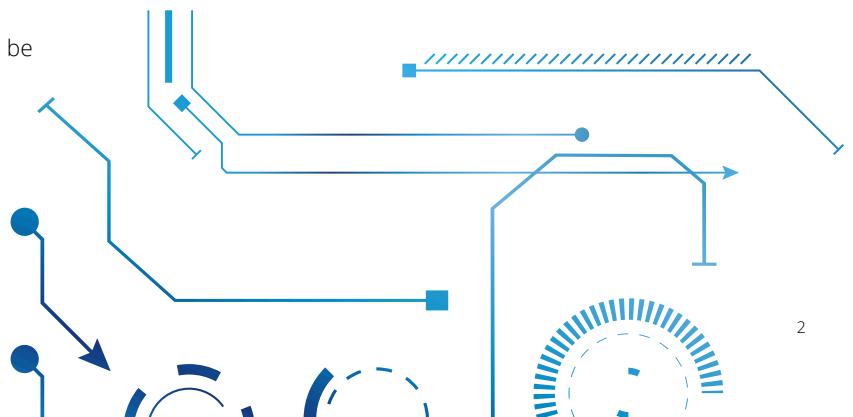
 **Acceleration of innovation within an organization:** Implementing intelligent automation technologies can also trigger organizations to make "big bets" in next-gen intelligent automation workforce capabilities and enable the entire organization to become better at adopting a "test and learn" mentality and quickly identifying new use cases to monetize.

 **Improved process quality:** Intelligent automation enables better transaction accuracy, greater controls, and greater standardization. Additionally, data capture allows detailed analytics which can highlight process improvements opportunities.

 **Greater levels of flexibility and scalability:** Intelligent automation allows scheduling of process execution, object reuse for other processes, and the reassignment of automation technologies when more important processes arise.

¹ Nizri, Gabby. "Using Intelligent Automation to Reduce Operating Costs." Ayehu, 2 Feb. 2018, ayehu.com/using-intelligent-automation-reduce-operating-costs/.

² Lowes, Peter, et al. "Automate This: The Business Leader's Guide to Robotic and Intelligent Automation." Deloitte.com, 2017, www2.deloitte.com/content/dam/Deloitte/us/Documents/process-and-operations/us-sdt-process-automation.pdf.



The total cost of ownership of intelligent automation

The total cost of ownership of intelligent automation consists of implementation costs, maintenance costs, and ancillary costs. To get a more accurate sense of ROI, all these costs need to be weighed against the benefits. While implementation costs and maintenance costs are more straightforward to characterize, ancillary costs can range from additional training required to cost of employing new role(s) to monitor the performance of intelligent automation solutions.



Implementation costs involve expenditure related to preparing, installing, configuring, and deploying intelligent automation solutions in an organization's IT environment. More specifically these costs are:

- **Software and hardware rollout costs**, including capex related costs such as development, configuration, deployment, and testing; opex related costs generally include licensing costs and infrastructure costs
- **Governance costs** that relate to new organizational structures required to manage automation roll-out; these can include data governance, infrastructure governance, software governance, IT governance, and even an intelligent automation Center of Excellence (CoE)



Maintenance costs involve expenditure related to the ongoing upkeep of intelligent automation technologies and supporting labor. These costs are:

- **Software and hardware maintenance costs**, including ongoing license costs and any labor required to maintain software, provide additional configuration, provide additional integration, and labor to maintain/upgrade infrastructure; these costs will generally all be opex related unless any new development activity is required
- **Ongoing governance costs** related to labor that manages parameters for where automation can and can't be applied and setting policies concerning process execution



Ancillary costs involve expenditures that are triggered by one-off events. These include:

- **Monitoring costs**, related to analyzing, reporting and making recommendations on intelligent automation solutions
- **Training costs** for business and technical staff to understand how to use automation technologies, how to interpret results, and how to log troubleshooting requests
- **Switching costs** related to transitioning maintenance of technologies from an external vendor to in-house (new hires and associated fully loaded costs), or from one vendor to another

The extent of the costs depends on whether RPA or AI/cognitive technologies are used (RPA is generally cheaper), whether development is completed in-house or by a vendor, and the scale of automation.



Maximizing ROI with intelligent automation

With the components of ROI understood, what is required to maximize ROI on intelligent automation? Organizational and operational readiness can drive speed, scale, and success in intelligent automation implementation. On the flip side, a lack of careful planning and preparedness can prolong timelines to achieve planned benefits, increase costs, and ultimately raise questions regarding the value of automation.

Although there are several key considerations to maximize ROI on intelligent automation, there are a few that are critical:

- i) Selection of the right processes to automate and transform
- ii) Identifying the optimal way to automate a process
- iii) Managing enterprise-wide change brought about by intelligent automation, and
- iv) Changing hearts and mindsets of employees to embrace automation

Selection of the right processes to automate

The first key consideration is identifying the right processes to automate. This decision is complicated by the fact that organizations have disparate departments run their processes independently or that cross-enterprise processes have unclear ownership. Generally, automation efforts and investments should focus on processes with the highest potential for success and impact. Prioritization of processes requires three steps:



Finding the fit³: Identify processes to be automated based on nature of process (core business process of a single department or cross-enterprise process), volume, manual effort, frequency, level of business rule standardization and predictability, repeatability, nature and structure of input data, and current exception rate, to name a few. This first pass of prioritization should be based on data and informed by documented business pain points.



Qualify the opportunities: This step is about assessing the relative value from automating the process. For this, the complexity of processes (scope, size, and variability of processes), the cost of automation as well as the potential benefits of process automation all need to be well understood. Once the analysis is complete, organizations can identify the highest priority candidates based on the value score of the process opportunities.



Dig into the details: The next step is moving from an initial qualification criterion to detailed prioritization parameters, assessing measures of non-quantitative success including: alignment of process or tasks to organizations core capabilities, increased process performance and accuracy, process scalability, improved data quality and consistency, enhanced governance, control and standardization, and increased employee engagement and morale.

For an example of how this works, consider the “customer invoice processing” process for a finance function. It is a “core” process for a department, relatively high volume, follows structured business rules, lower-cost process to automate, and would achieve sizeable time savings. However, an organization may not automate the cross-company budgeting process that generates the targets for the next financial year—at least not completely. This process would typically have many interdependencies across the business, requiring a lot of human insight and explanation, and take qualitative inputs from strategy, operations, channels, product, marketing, sales, etc. Having more detailed prioritization on processes can result in greater levels of commitment to the automation of processes selected, a collective agreement on proposed outcomes, and higher returns on intelligent automation investment.

Identifying the optimal way to automate a process

Knowing which automation solution to use is the next step, as RPA and AI have different potential to generate benefits, depending on the type of activities to automate. RPA is best used where the *volume of transactions* is the key barrier to achieving better productivity and where cost reduction is the key outcome sought. The pre-conditions for RPA to work well are that source data is structured, and the activities being automated are manual, repetitive, and rule-based. In addition, RPA is generally faster to implement than other automation technologies and has lower implementation costs. The RPA supply market also has more known players with demonstrated successes.

AI is better where *the complexity of data and lack of processing power* is the key barrier to achieving benefits, and where increasing value is the key outcome sought. AI aims to mimic human behavior such as perceiving, gathering evidence, and reasoning. AI works well with data that is unstructured, and from non-standard sources. Whilst the uses of AI are potentially limitless, depending on the activities and processes being addressed, AI can also have longer implementation times and costs. Related to implementation, AI solutions require greater levels of configuration and more test-and-learn intervention from humans in the initial stages. Finally, AI is still regarded as a nascent market overall, but developments are accelerating quickly.

However, if a business has identified a need for transformative change to propel growth and achieve cost reduction, intelligent automation (using a combination of RPA and AI technologies) would likely be the most attractive bet. The question then becomes more about timing and automation deployment approach. An organization could begin with RPA, scale RPA to applicable processes, and then deploy AI solutions.

³ Koppelman, Michael, et al. “Move into the Fast Lane: Guide to Accelerating Automation and Creating Scale.” Deloitte.com, 2019, www2.deloitte.com/content/dam/Deloitte/us/Documents/finance/guide-to-accelerating-automation-and-creating-scale.pdf.



Managing enterprise-wide change

Not managing change well can easily blow out implementation costs and times, making ROI less attractive. Intelligent automation rollout must be managed effectively to help ensure transition with minimal disruption to daily operations. Elements for consideration include: **a robust automation roadmap, solid governance structures, and IT readiness.**



Robust automation roadmap

A robust roadmap is required that outlines the initial processes to automate, defines the success criteria for any pilot, indicates the period to collect learnings, identifies training periods, and highlights points for subsequent process prioritization. A roadmap may also incorporate elements of progressing through automation maturity—beginning with embedding RPA and scaling, then moving to an “augmented” model, incorporating AI and cognitive technologies. Finally, this roadmap will also act as a guide to the timing of implementation costs and benefits. Adding incremental processes to an RPA solution may not incur much incremental cost and provide exponential benefits. However, the point where multiple, disparate RPA solutions are required to be connected, or where AI is introduced, may introduce a higher jump in incremental cost immediately and potentially “lagged” cost-saving and revenue benefits.



Solid governance structures

Depending on the ambition or target state of an intelligent automation roadmap, an experienced executive is generally appointed a leadership role in accelerating roll-out and adoption of automation across business units. In addition, a team that traverses business and IT capabilities is generally formed to plan and deploy intelligent automation. As a part of this, organizations may turn to a strategic implementation partner to help navigate new and challenging areas in RPA and cognitive automation. Deloitte’s RPA survey found that 63 percent of organizations plan to engage an implementation partner, in addition to the RPA vendor. Depending on the organizational model, this deployment team can either be a Center of Excellence that operates independently of but supports the entire business or a decentralized team.



IT readiness

According to Deloitte’s 2018 RPA Global Survey, ~20 percent said that “lack of IT readiness” was the biggest barrier to scaling RPA. This sentiment can be extended to intelligent automation more broadly. In Deloitte’s experience, many IT teams are only just beginning to appreciate how “different the deployment of automation technologies is to traditional IT systems, how profound the changes they will introduce are, and the potential impact on the role of IT teams”.⁴ RPA schedules have ranged from four weeks to 24 weeks, with the upper end becoming non-viable economically. As IT learns and adapts to changes required to implement intelligent automation successfully, the pace of deployment accelerates rapidly. In doing so, IT becomes a critical asset to the business overall and bridges the gap that often exists between business and IT.

Changing hearts and mindsets

Like other transformation programs, communications, training, and people management are all critical. Before any automation journey is started, impacted stakeholders must clearly understand the what, why, and how of automation. One difficult consequence may be redundant roles, however the organization may choose to re-point the newly created capacity somewhere else. Associated with this, new roles and capabilities may also need to be sourced to operate new capabilities. In any case, proactive communication of the changes needs to be part of the overall change program, with benefits and changes of the intelligent automation strategy clearly articulated to each role through a variety of different methods: leadership town halls, one-on-one manager discussions, internal forum postings and training modules. Adverse impacts also need to be communicated promptly, with supporting resources made available immediately.

The uses of intelligent automation are far-reaching. Intelligent automation can be expensive and take longer to implement than pure RPA technologies. However, as discussed, the payoffs can be far greater. As many organizations have exhausted large cost reduction and efficiency programs, intelligent automation can not only provide another lever to pull, but also enable revenue growth. The critical elements for maximizing ROI are: making the right selection on processes, using the right technology, effectively managing change, and connecting the change to employee impacts.



⁴ Horton, Richard, et al. “The Robots Are Waiting: Are You Ready to Reap the Benefits?” D.com, 2018, www2.deloitte.com/content/dam/Deloitte/fr/Documents/services-financiers/publications/deloitte_global-robotics-survey-2018-full-report.pdf.



Powering the connected entrepreneur enterprise.

Deloitte and Blue Prism work together to provide robotic process automation (RPA) implementation services and intelligent automation services across a wide array of industries and sectors, including financial services, retail, life sciences, and energy.

Together we can address a variety of client business issues and opportunities, and clients' internal applications—building and deploying automation that is configured within an organization's governing IT framework.

Deloitte has more than 250 accredited Blue Prism developers, architects, and engineers who are skilled in robotic automation and are trained to help clients enhance their operations and navigate their cognitive technology journeys.

Learn more at www.deloitte.com/us/blueprism

Deloitte and Blue Prism: delivering intelligent automation for enterprise digital transformation

Contact Us:

Dennis Ortiz
Managing Director
Deloitte Consulting LLP
deortiz@deloitte.com

Gina Schaefer
Managing Director
Deloitte Consulting LLP
gschaefer@deloitte.com

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms or their related entities (collectively, the "Deloitte Network"), is, by means of this communication, rendering professional advice or services. Before making any decisions or taking any action that may affect your finances, or your business, you should consult a qualified professional adviser. No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this communication.

As used in this document, "Deloitte" means Deloitte Consulting LLP, a subsidiary of Deloitte LLP. Please see www.deloitte.com/us/about for a detailed description of our legal structure. Certain services may not be available to attest clients under the rules and regulations of public accounting.