# Transform Cost Optimization with RPA and Machine Learning

## Abstract

While productivity and growth are essential economic drivers, cost efficiency is a critical concern across sectors. Strategic decisions on performance improvement, operational efficiency, and customer experience, cannot be made without a nod to conscious cost optimization.

Technologically enabled solutions such as robotics process automation (RPA), artificial intelligence (AI), emerging capabilities in machine learning, and cloud computing, are redefining the way businesses think about cost optimization. Process automation that previously sought to replicate human tasks has now evolved to the extent that it can reason and respond. Cognitive computing is already a major disrupter. The opportunities to achieve cost and time efficiencies, flexibility, and scalability are unprecedented.

This paper explains how business cost optimization is reaching the next level with tech-solutions such as RPA, machine learning, and cloud computing.

## Use a Combination of Digital Tools to Rationalize and Simplify

Many organizations are rationalizing their current application landscape and skills to create simplified portfolios that are aligned to their business strategies. This improves business continuity, risk profiles, and helps retire or modernize existing sets of applications. As performances and productivity improve, gain-sharing models, which give employees a stake in the financial benefits, can be applied.

Simplification initiatives in application development, such as operating model improvement and technology consolidation, are making cloud access easy. Organizations are reorienting their existing development and operation roles. Numerous companies are shifting their business models from delivering an on-premise product to serving customers in the cloud.

Fixed price projects and consumption-based pricing are the preferred pricing models to optimize IT costs for cloud services. With technological advancements such as robust connectivity, low-cost sensors, and cloud, usage-based pricing has become extremely viable.

Consider the European Space Agency's (ESA) Gaia project that aims to create the largest and most precise 3D galactic map.[1] To prepare this map, the estimated cost to build in-house data processing of satellite observations of a billion stars over six years was €1.5 million, but that level of processing was only needed for two weeks every six months. The ESA chose to process the massive data set on Amazon's cloud computing unit, Amazon Web Services (AWS). It will pay AWS less than half of the estimated usage-based cost.

The IoT and embedded data analysis provide sophisticated insights into how and when products are used. This enables accurate forecasting of customer needs. And with blockchain technology, organizations can economically allocate, track, and charge for smaller and dynamic transaction sizes and products and services.

Along with application portfolio rationalization and simplification measures, infrastructure is being digitized to make businesses more nimble. Digital workspaces are dotting the professional landscape. Such workspaces reduce the cost of managing devices and end users, integrate devices, operating systems, and applications, and enhance customer experience.

With cognitive automation and cloud computing, data visualization has become commonplace. Show rather than tell is the new mantra. Cloud pioneers such as Netflix publicly reveal insights into their operations to show the pictures they look at every day and interfaces from their daily work.[2] Netflix believes that operational visibility with real-time insights enables it to build quality, quickly fix issues in operations, and delight its customers.

## Deploy RPA, Machine Learning, and Cognitive Solutions for Optimization and Agility

Organizations are employing technology solutions such as RPA, machine learning, cognitive computing, and straight-through processing (STEP) to save on business process costs. Figure 1 shows the progressive increase in savings and multiple benefits that organizations enjoy when they deploy technology solutions.

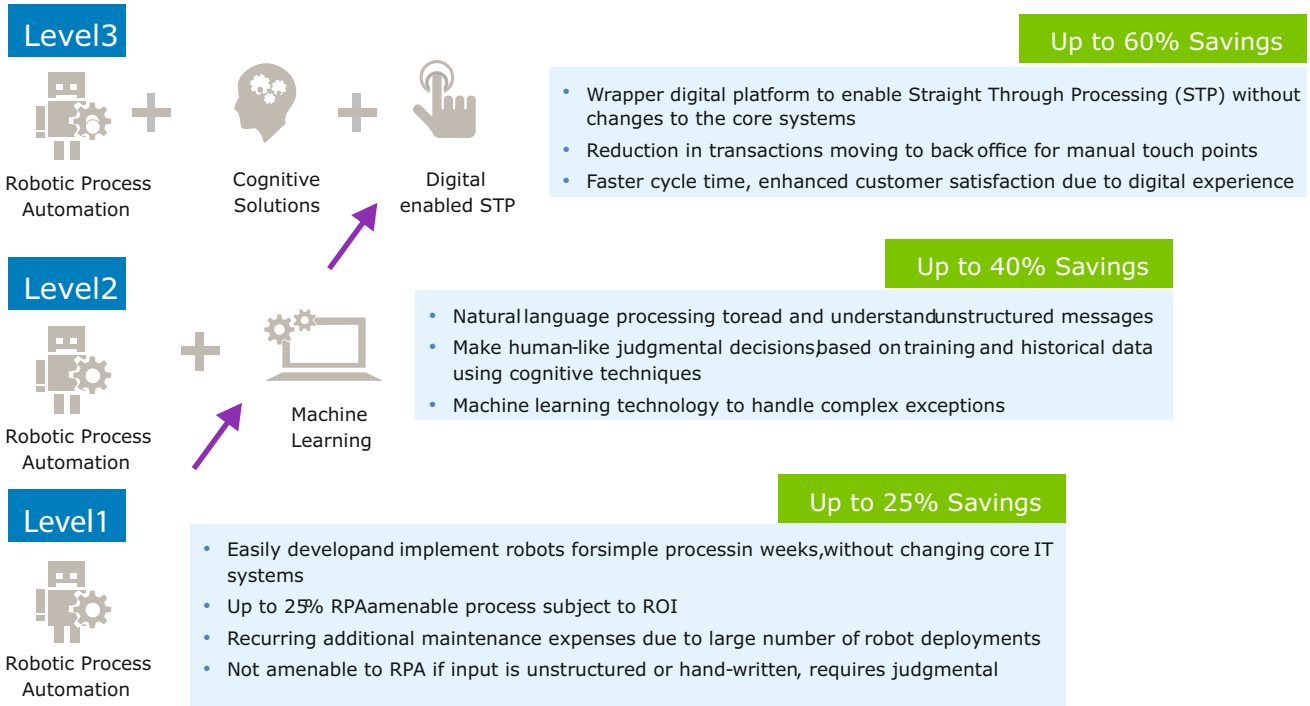


Figure 1: Progressive Increase in Savings with NextGen Technology Solutions

RPA is the game changer. Without having to change the core IT systems or intrude on the server side of applications, organizations are using robots for cost-effective automation of simple repetitive tasks across customer-facing as well as back office functions. With precise monitoring, reporting, and control, RPA reduces errors, increases savings, and achieves scalability.

At Japan's famous Conveyor Belt Kura Sushi 262 restaurants chain, robots make sushi and a moving conveyor belts 'serves' food.[3] Such automation has enabled it to save considerable costs, and hence price sushi plates at just about $1. Foxconn already uses about 60,000 robots for its manufacturing operations.[4]

decisions, has voice steps and unstructured exception handling

Not all businesses are amenable to RPA. For situations where business logic is not static and input is unstructured, organizations deploy machine learning technology. With machine learning, computers use cognitive techniques to arrive at human-like judgments based on training and historical data. Inefficiency in operations is quickly detected and errors are considerably reduced.

Natural language processing is being used to read and understand unstructured messages. For example Mara Labs' Locus.sh developed route-planning algorithms so that companies can chart the best possible route and outlets to deliver an order.[5] When planning the best possible route for its customers' packages, it faces multiple situations where the landmark and street name are associated with incorrect pin codes. To convert such information into units of latitude and longitude, its systems understand and interpret the English

Organizations that maximize savings with cognitive solutions and straight-through processing initiatives create additional advantages. Companies are able to conduct payment transactions electronically, without moving to back-office for manual touch points. This helps achieve faster cycle time and customer satisfaction. Shipping giant Maersk used Holger, a virtual robot, to price 9,000 articles in 300 different ports.[6] This process, which normally takes around 4.5 hours to complete, took Holger 30 minutes.

## Use Cloud and External Data for Productivity and Customer Satisfaction

On-premise deployment is costlier than cloud as the cloud reduces the total cost of running and managing infrastructure. IaaS providers are investing their capital and technical capabilities in hyper scale data centers. Figure 2 shows how IaaS creates value by reducing costs and increasing savings.

language and build natural language processing systems.

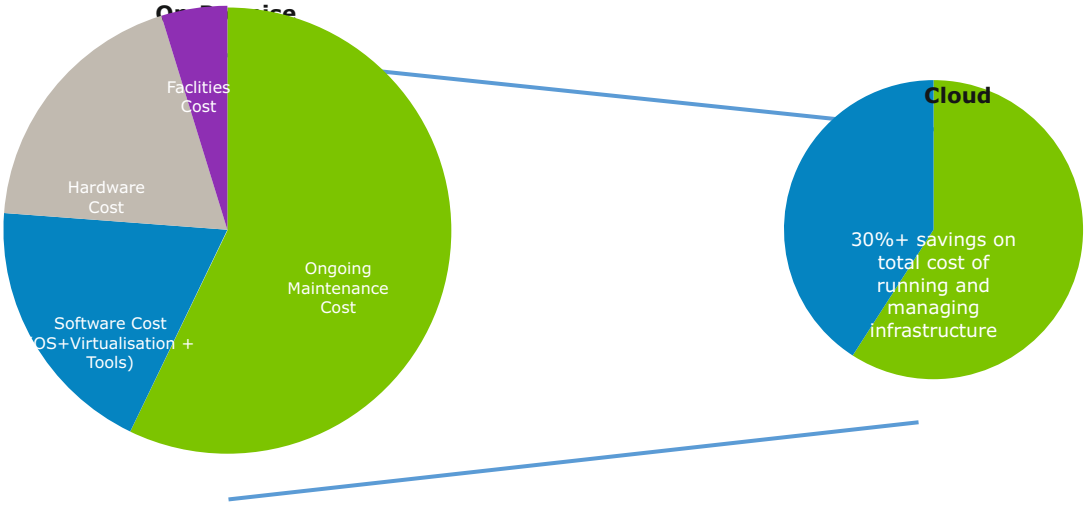


Figure 2: How IaaS Reduces Cost of Running and Managing Infrastructure

Cloud platforms and data analytics can be used to transform enterprise resource planning (ERP), customer experience, and human capital management in your organization. ERP shrinks the costs of accounts payable processing and software support reducing planning and business cycle times. It also improves processes and the finance staff's productivity. The business

Digitized and simplified customer experience cannot be emphasized enough. Take the case of WayBlazer, a travel search company that utilizes cognitive computing to make travel planning and booking easier.[7] It uses artificial intelligence to mine through the voluminous unstructured data on travel floating on the internet and increases both customer engagement and conversion.

Using cloud not only increases revenue from upselling or cross-selling and reduces costs of offers and sales operating expenses but also enhances customer value. You will also minimize the reporting time of sales representatives and improve sales planning and productivity. Employ reporting and

predictive analytics to transform your company's human capital management. Create opportunities for cost efficiency by reducing employee turnover, manual processes, external recruitment expertise, and time to hire.

## Make the Most of Automation Opportunities

Forward-looking leaders realize that cost efficiency will decide how businesses perform and survive going forward. The future will belong to organizations that smartly apply NextGen tech-solutions in their processes and strategies.

benefits from efficiency and scalability.

To gain the full benefits of cost optimization you'll need to identify which tech-enabled tools work best for your business ecosystem and then tailor their application to optimize your costs. View your business growth through the lens of transactions and customer experiences. Create the right structure, culture, and process disciplines. Refresh your processes. Retain your edge.

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