

Since its introduction in 2012, Robotic Process Automation (RPA) has rapidly become a strategic enterprise capability, with leading companies combining RPA and Intelligent Automation to accelerate value realization, master scale challenges, and conquer complexity in ways never before possible. This series of reports highlights how they're using combinatory innovation to become more competitive and create new value.

JUST ADD IMAGINATION

MASTERING AGILITY AT SCALE

MARCH 2020

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“Scaling is the most important yet most hidden and rarely discussed attribute – without understanding it one cannot possibly understand the world.”

Nassim Nicholas Taleb



In our previous paper, we highlighted how financial services companies are applying imagination and combinatory innovation by shrinking the time lag between requests and fulfillment, creating a “triple win” for customers, employees and shareholders. Sometimes, however, the business challenge isn’t just about time, but size and scale, operating with agility and resilience.

The advantages of achieving and operating at scale, in both private and public domains, are considerable and well-established — greater economies of production and service, and preferred access to resources, markets, skills, relationships and infrastructure — benefits unavailable to smaller players. Simply put, size matters, or as a famous revolutionary once observed, “quantity has a quality all its own.” Despite these obvious advantages, however, operating at scale can also lead to inefficiencies, poor communications, hidden expenses and costly delays.

Large organizations with multiple constituencies are particularly vulnerable, especially those providing the products and services we rely on in our daily lives. Legacy systems, multiple handoffs and broken processes can prove costly. In this paper, we look at leading examples of large-scale companies, service providers, and government entities that are applying imagination to re-invent their operating processes at scale.



Quantity has a quality all its own.

Organizations with multiple constituencies are vulnerable.



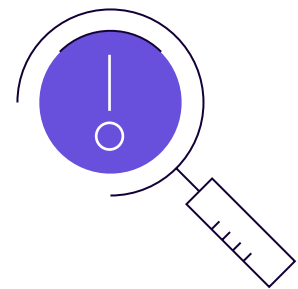
What does combinatory innovation look like at scale, and what can we learn from early adopters?

WE BEGIN WITH A 100+ YEAR-OLD U.S. ELECTRIC UTILITY, SERVING MORE THAN 2 MILLION CUSTOMERS.

One of the biggest challenges for electric utilities (aside from downed power lines) is customer identity theft — service that’s fraudulently obtained using another person’s identity. This not only results in lost revenue but also customer frustration with ensuing billing and credit impacts.

This utility company initially applied imagination by using analytics to proactively detect potential identity theft based on key indicators, including odd consumption patterns, short duration in premises, and accounts in arrears. Given the scale of its operations, however, fraud investigators just couldn’t handle the volume of potential theft cases, so the company built an automated screening process using RPA and Machine Learning (ML) to identify and target the most likely cases for human “investigation”.

RPA + ML to proactively detect potential identity theft.



\$3 million saving year 1, and growing.



With nearly 100% accuracy, the combinatory solution saved this utility over \$3 million in its first year, a sum that will grow steadily as the RPA/ML process continually improves, while minimizing inconvenience and frustration for identity theft victims.

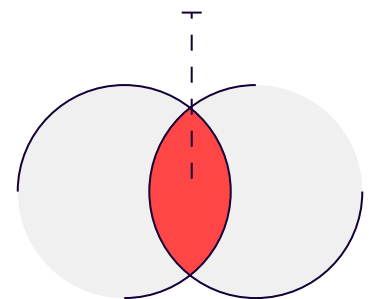
A UK ONLINE RETAILER FACED A SIMILAR SITUATION WHEN GOODS WERE ORDERED FRAUDULENTLY UNDER EXISTING CUSTOMER ACCOUNTS.

The company used imagination and combinatory innovation to develop an impressive solution.

The challenge was massively complex, given that multiple orders might be placed fraudulently on each account, and each order might contain several items sourced from multiple fulfillment centers and delivered by different courier services. As with the US electric utility, the fraud was directly impacting revenue and creating negative customer experiences.

While the complexity was intimidating, the retailer had extensive prior experience with automation, and applied imagination to integrate connected-RPA with analytics tools to identify fraudulent orders and intercept goods before delivery. Since each courier service used different communications methods, the company built five different mechanisms to interface with third-party portals or e-mail messaging services to stop couriers from delivering the goods and return them to the retailer's fulfillment centers. The key to driving value was the speed and accuracy with which the connected-RPA Digital Workers could contact couriers identified for each item.

Combinatory innovation



The key to driving value was the speed and accuracy.

Connected-RPA + analytics intercepts fraudulent orders before delivery.



COMBINATORY INNOVATION TRANSFORMS SERVICE DELIVERY FOR 750,000 BANKING CUSTOMERS

A North American provincial financial services company applied imagination and creativity to streamline its end-to-end customer experience while improving its data accuracy and quality.

The bank is using connected-RPA to integrate a blockchain-based platform with natural language processing (NLP) tools and Artificial Intelligence engines to transform the customer experience at scale, completely digitizing its online customer interface and enabling customers to select and set up their desired services directly.

With 24/7 availability, the new automated processes guide customers through each request using NLP to identify the customer request, and to capture, structure, and validate the necessary data from the customer, automatically accessing multiple internal and third-party resources. The integrated solution creates dynamically configurable workflows that guide customers across three high-volume processes: customer onboarding and account origination, account servicing, and shared services.



The bank applied imagination and creativity to streamline its end-to-end customer experience.



**99% TIME
SAVING +
GREATER
ACCURACY
+ QUALITY**

This innovation has dramatically reduced turnaround time for customers — with up to 99% improvement — while greatly improving data accuracy and quality. The new solution handled more than 90% of the transactions in the targeted processes in the first 12 months of operation with no manual intervention.

FOR THE GLOBAL PHARMACEUTICAL INDUSTRY, THE CHALLENGE IS ALL ABOUT ENSURING TIMELY APPROVAL AND AVAILABILITY OF VITAL MEDICINES FOR BILLIONS OF GLOBAL CUSTOMERS.

The process of developing and delivering new medicines — from laboratory to patient — is complex and challenging, involving development and distribution on a global scale. A global pharma company applied imagination and combinatory innovation at key early- and late-stage points in the end-to-end process.

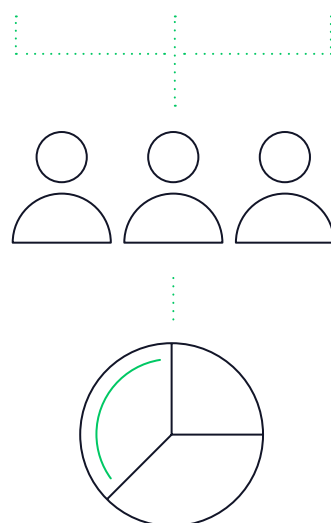
On the front end, the critical process for gathering and structuring data from the company's clinical trials for regulatory review involves creation of more than 10,000 highly detailed data visualizations annually for clinical study reports. With each visualization a painstaking task requiring expert supervision throughout, the process was vulnerable to corrections and rework.

The pharma company used connected-RPA, computer vision and analytics tools to read, verify, and structure the raw clinical data. The Digital Workers then invoked multiple graphic tools to render the data visually, with tables, charts, graphics, and pictures. The entire automated process is completed in less than 24 hours, greatly reducing cycle times for clinical drug approvals.

The “last-mile” challenge in pharma, of course, is getting medicines to patients quickly and reliably. Here, the company again applied imagination to build a solution based on connected-RPA. The Digital Workers now use computer vision to convert import documentation from e-mail submissions into PDF documents, extract key data fields, apply rulesets to highlight discrepancies in the documents and notify local teams of any mismatches or gaps.



The entire automated process is completed in less than 24 hours, greatly reducing cycle times for clinical drug approvals and speeding medicines to patients in need.



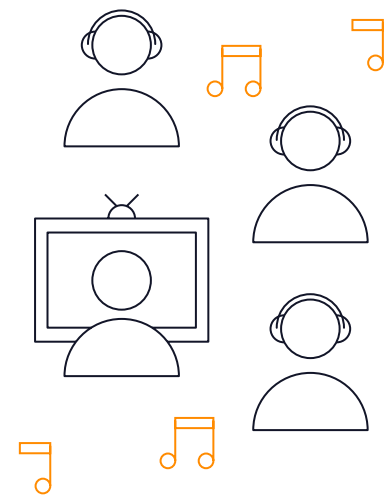
The solution improved accuracy and greatly increased employee productivity, saving some 220,000 hours of manual checking when deployed in all markets.

Ultimately, of course, as with faster clinical approvals, this innovation enables the company to get medicines in the hands of doctors and patients faster.

ON A LIGHTER NOTE, WE ALL ENJOY WATCHING TV PROGRAMS AND GOING TO THE MOVIES.

But we take for granted the global systems and processes that enable us to watch and listen to entertainment where we want and when we want — not just production and broadcasting, but the “invisible” business infrastructure of rights, royalties and distribution that supports and enables the entertainment industry. Applying imagination and combinatory innovation proved the winning approach for a global media services provider in managing multiple intellectual property revenue streams involving diverse media players around the world.

The diversity of revenue streams (ad sales, movie royalties, etc.), spanning three continents, each with global variations, was beset by high-volume, non-standard, data-intensive processes, and by specialized systems supporting each revenue stream. The complexity inherent in processing thousands of document variations was overwhelming and highly vulnerable to errors and delays.



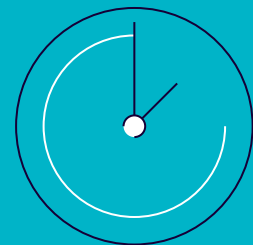
Combinatory innovation enables entertainment whenever and wherever consumers want it.



The company applied imagination and combinatory innovation to redesign and simplify their payment processing, building new end-to-end processes supporting high-volume workstreams. The fundamental solution design integrated connected-RPA with sophisticated document processing tools to extract and validate information from thousands of non-standard sources, screens and data models, and structure it for efficient and accurate processing. The connected-RPA platform was further extended to integrate multiple internal systems and applications, as well as the external media-specific and web-based tools involved in the payments process. Taken as a whole, the new solution reduced processing times by 70-90%, resulting in faster payments, greater partner satisfaction, and improved regulatory compliance.



70-90%
IMPROVEMENT IN
PROCESSING TIMES



As we saw in our earlier analysis of financial services companies applying imagination to compress time, we can see here how large-scale enterprises and governments are using imagination and creativity to master the challenges of operating at scale by integrating connected-RPA with sophisticated analytics, cognitive applications and cloud-based services to improve their operating performance and customer experience.



Their early successes and the rapidly expanding array of new intelligent technologies hold great promise for other industries and customer communities challenged by size and scale.

Authors' note: Our general research into IT systems at Knowledge Capital Partners dates back over thirty years, while our focus on new technologies — Cloud, RPA, AI, Cognitive, etc. — dates roughly to the emergence of cloud computing around 2010, through the introduction of Robotic Process Automation in 2012, and continuing developments in cognitive technologies. We research, understand and interpret them, in other words, in the longer-term context of IT-based innovation and practice.



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