Automating The Smart Way

How To Get The Most Out Of Lean, Robotic Process Automation And Artificial Intelligence In Banking
With smart automation, banks can address the challenges of efficiency, customer centricity and growth

Over the past few years, banks have been constantly battling with slow growth, increasing capital requirements, unrelenting regulation and continued cost pressure. This unprecedented situation forced them to develop a culture of operational excellence – maximizing the efficiency of their processes, organization and tools – while maintaining regulatory compliance.

Regulation and cost pressure will always remain important topics, but banks are now facing new challenges - including digitally-empowered customers with increasing expectations and different needs. Furthermore, with macroeconomic drivers and pent up thirst for profits, the industry is at an inflection point.

To address these numerous challenges and to stand out from the competition, banks must take advantage of the rise of automation technologies in smart way – such as Robotic Process Automation (RPA), Artificial Intelligence, Machine Learning and Cognitive Computing. Together, they can increase process efficiency, help build a new customer experience, unlock more opportunities, and ultimately help create sustainable growth.

Have a holistic approach towards automation

Capgemini has developed a holistic approach towards automation which helps banks to re-think, re-design and re-configure its core business operation. The approach combines Lean methodologies with Robotic Process Automation (RPA) and Artificial Intelligence (AI), and helps organization to work out where and how they should use these technologies – or not.

Figure 1: Our holistic approach towards Automation

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<table>
<thead>
<tr>
<th>Process redesign approach that systematically seeks to achieve small, incremental changes in processes in order to improve efficiency and quality.</th>
<th>Using software to handle high-volume, repeatable tasks that previously required a human to perform.</th>
<th>Simulating human cognition processes to enhance ability to solve business problems.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eliminate/Optimize Lean Management</strong></td>
<td><strong>Automate/Robotize Robotic Process Automation</strong></td>
<td><strong>Add Intelligence Machine Learning/AI</strong></td>
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</table>

“Automation will change how we insure property, loan money, invest money, and what professionals in financial services do everyday.”

- David Reilly, CTO at Bank of America

“In the future, every decision that mankind makes is going to be informed by a cognitive system.”

- Ginni Pometty, Chairman & CEO of IBM

“The automation of an inefficient activity only increases the existing inefficiency.”

- Bill Gates

In this Point of View, we will illustrate the concept of RPA and explore how Artificial Intelligence technologies such as Machine Learning and Cognitive Computing can be combined.
**RPA is an affordable technology bringing substantial benefits**

RPA is a set of technologies using software as a ‘virtual employee’ to manipulate existing applications (e.g. ERPs) and to execute repetitive rule-based processes in the same way that a person completes a process. This virtual workforce helps to minimize (or even eliminate) human intervention in the execution of tasks and decision-making.

Many banks have already recognized the significant benefits of RPA and are investing heavily in this technology.

**Improved effectiveness and quality**

As banks have been seeking cost reduction strategies for several years, they have typically already conducted various process optimization projects and outsourced activities to lower costs. Now that most banks and insurers have reaped the benefit of these initiatives, they can use RPA to further reduce costs and transition from services-through-labor to services-through-software. As a result, process speed and process stability will improve significantly since robots can work faster and more accurately than humans. Where processes are complex yet highly rules-based, and employees are prone to error, RPA can significantly reduce error rates and improve the quality of work.

**Improved compliance**

Reducing risk and increasing compliance is another valuable benefit from RPA. Once designed, virtual employees will follow the same routines 100% of the time. Consequently, robots maintain adherence to standards. They can even be used to monitor human transactions, prompting alerts for any out-of-the-ordinary activities, which reduces risks and fosters better compliance.

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Figure 3: Based on our experience, we have identified four key success factors for RPA projects in banking

1. Assess feasibility before automating
   - Eliminate unnecessary duplication
   - Never automate if a process is not stable
   - No need for comprehensive streamlining an end-to-end process prior to automating some part of it.

2. Select the right processes
   Good process candidates:
   - Are executed frequently in large numbers
   - Are rule-based
   - Require limited exception handling
   - Require access to multiple systems
   - Are prone to human error
   - Are time-consuming, while time-critical

3. Have the business driving this journey
   - Consider RPA as an operational asset to be initiated by business stakeholders
   - Ensure business brings IT onboard early (to have a holistic view on impacts on Infrastructure, Security, Business Continuity and Disaster Recovery)

4. Build governance & communicate well
   - Grow in-house RPA capability by building a Centre of Excellence comprising a mixture of Operations and IT people
   - Engage a dedicated team of Change and Communication experts
   - Regularly communicate the benefits of automation to the business

Figure 4: Our RPA experience in banking helps us identify potential candidate processes

<table>
<thead>
<tr>
<th>Core Process Areas</th>
<th>Transversal Candidate Process Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Front Office</strong></td>
<td><strong>Corporate Functions – Finance &amp; Risk</strong></td>
</tr>
<tr>
<td>Customer On-boarding</td>
<td>Accounts Payable and Receivable</td>
</tr>
<tr>
<td>Product Application Processing</td>
<td>Transaction Approvals &amp; Payment processing</td>
</tr>
<tr>
<td>Claims Handling</td>
<td>Business Account Audit Requests</td>
</tr>
<tr>
<td>Customer/Business Account Onboarding</td>
<td>Transaction Duplication</td>
</tr>
<tr>
<td><strong>Back Office</strong></td>
<td><strong>Corporate Functions – Customer Care</strong></td>
</tr>
<tr>
<td>Billing and Payment Processing</td>
<td>Customer Support</td>
</tr>
<tr>
<td>Mortgage Processing</td>
<td>Customer Complaints</td>
</tr>
<tr>
<td>Loan Processing</td>
<td>Direct Debit Cancellations</td>
</tr>
<tr>
<td>Remittance Processing</td>
<td><strong>Corporate Functions – Others</strong></td>
</tr>
<tr>
<td>Investment Processing</td>
<td>Regulatory Compliance Reporting</td>
</tr>
<tr>
<td>Card Management</td>
<td>HR Administration</td>
</tr>
<tr>
<td>Wire Transfer</td>
<td>Employee Data</td>
</tr>
<tr>
<td>Dispute Resolution Process</td>
<td>Management &amp; Data Integration</td>
</tr>
<tr>
<td>Credit Card Sign Up</td>
<td>Automated Marketing campaigns</td>
</tr>
<tr>
<td>Fraudulent Account Closure</td>
<td>Internet Application Processing</td>
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With Artificial Intelligence, automation is going to the next level, giving banks a new challenge: lead or be left behind.

A digitally disrupted world is rising
Are you familiar with concepts such as computer vision, speech recognition, machine/deep learning and natural language processing? If not, you may already be lagging behind.

This transformative set of technologies, subsumed under the Artificial Intelligence umbrella, takes automation to the next level: simulating human cognition processes to upgrade a business’ capability to overcome the physical limitations of labor and open up new sources of value and growth.

The key is to consider AI as the hybrid of human and technology, which generates more value than either one of them alone. Not only does AI replicate labor activities at greater scale and speed, it can now even perform some activities otherwise beyond human capabilities. Google’s AlphaGo victory in Go, beating the top human player in this board game, is the most recent example of this.

To avoid missing out on the opportunity AI offers, bank leaders must work towards the future use of artificial intelligence. They need to look at AI not just as another productivity enhancer, but as a technology that can transform their business operating model and create sustainable growth through innovative products and services.

Capgemini groups AI algorithms into 4 main categories:

• Computer Vision – Algorithms enabling computers to process, analyze and gain high-level understanding of digital images or videos

• Speech Recognition – Technology that enables computers to recognize and translate human language so that machines can understand

• Machine/Deep Learning – A layer of self-learning algorithms through which data is analyzed and insights are assimilated by the AI without human intervention

• Natural Language Processing – Technologies that use intelligent systems in speech or text to communicate with a human being in natural language and syntax

It is also important to mention that big data is the foundation feeding into smart automation platforms that enable the implementation and exploitation of AI.
AI will drive benefits from digitization and lead innovative growth

Leveraging the power of AI and the surging popularity of cognitive technologies, financial service firms will be able to lead the digital transformation and unlock more opportunities.

Take efficiency gains to the next level

- AI equipped robots are capable of self-evolving and can process beyond structured rules and data. This will broaden the scope of automation and enable highly intelligent front office automation.
- AI can support compliance checking and fraud detection in banks, preventing financial and reputational losses.

For example, fraud specialists from MasterCard and RBS WorldPay have relied on AI to trace card usage and device or endpoint access. They can then analyze the behaviors of transactions and devices to prevent fraud.¹

Revolutionize the customer experience

AI technologies enable chatbots and other humanoid robots to become smarter and provide customers with personalized and dynamic interactions (see use case below).

Machine learning can help to personalize offers for customers at online portals or on the phone, making them more relevant. Amazon is an early adopter of a recommendation software which can guide shoppers towards the next best offer.

Figure 5: Implementation of AI on the phone channel offers significant and proven benefits

Phone is still the most popular channel for urgent issues being used by 77% of consumers.²

<table>
<thead>
<tr>
<th>Qualitative Gains</th>
<th>Quantitative Gains</th>
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<tbody>
<tr>
<td>Innovative image</td>
<td>Up to 20% of the contacts are automatically handled through AI³</td>
</tr>
<tr>
<td>Quality of service</td>
<td>Up to 10% reduction in inbound contacts duration²</td>
</tr>
<tr>
<td>Customer experience</td>
<td>1.5 Years estimated payback²</td>
</tr>
<tr>
<td>Employee experience</td>
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³ Source: Capgemini Consulting
The future of AI and innovation

Undoubtedly AI will open up indefinite possibilities. In the future, AI will analyze what’s out in the open digital world (internet), combine internal data and open data, and pursue ideas suggested by the AI algorithm.

For instance, a firm’s CEO might ask his/her digital assistant (the AI program) how the firm can better innovate on products. The AI program might take the following actions:

- Access all internal data of the firm to identify where the problems lie
- Translate into a search algorithm and scan the web accordingly
- Read matches on the internet and refine results
- Take actions on results and integrate innovation into products

Figure 6: Capgemini can help to determine the right automation solution that supports your business strategies and needs

1 http://blogs.lse.ac.uk/businessreview/2017/02/08/crowdscanning-the-future-of-open-innovation-and-artificial-intelligence/
Capgemini Consulting’s Automation Capabilities

For the banking industry, the question is no longer whether you should consider adopting automation and AI in your strategy. The question is what your automation strategy should be and how to implement it. As one of the world’s leading consulting services firms, Capgemini has extensive experience advising on automation and advanced technologies to deliver end-to-end services. Capgemini can help you work out where automation should be applied, and what type of automation it should be to help your organization achieve high performance and generate new sources of revenue.

End-to-End Solution
- Comprising four main disciplines, Innovation, Consulting, Technology, and Outsourcing, Capgemini delivers end-to-end insights-driven business transformation programs.
- We offer innovative Smart Automation solutions, including RPA and Artificial Intelligence, from opportunity assessment to implementation and maintenance.

Strategic Partnerships
- Capgemini’s partnerships with technology leaders enable us to identify important trends and technologies.
- We are development partners of IBM Watson and we collaborate with RPA vendor partners including UiPath and BluePrism, chatbot partners such as Smartly.ai, Kore, and Sereneo, and Machine Learning partner WorkFusion.
- We leverage our industry knowledge and leadership in financial services technology, solution development and integration to align our partners’ innovations with your specific business needs.

Centers of Excellence
- Leveraging a core hub through our Centers of Excellence, we drive consistent global delivery across business sectors and industries.
- We help companies scale rapidly from single proof of concept to global industrialized automation delivery.

Global Talent Pool
- Using AI specialist skills in all major Insights and Data technologies and platforms, providing informed and technology-agnostic advice and implementation services.
- Drawing on over 50,000 consultants in the Financial Services industry and 2,000+ experts and consultants in Automation.
## Contacts

### CC DACH

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About Capgemini Consulting

Capgemini Consulting is the global strategy and transformation consulting organization of the Capgemini Group, specializing in advising and supporting enterprises in significant transformation, from innovative strategy to execution and with an unstinting focus on results. With the new digital economy creating significant disruptions and opportunities, the global team of over 3,000 talented individuals work with leading companies and governments to master Digital Transformation, drawing on their understanding of the digital economy and leadership in business transformation and organizational change.

Learn more about us at www.de.capgemini-consulting.com

About Capgemini

With more than 190,000 people, Capgemini is present in over 40 countries and celebrates its 50th Anniversary year in 2017. A global leader in consulting, technology and outsourcing services, the Group reported 2016 global revenues of EUR 12.5 billion. Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness. A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

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