



# Automating The Smart Way

How To Get The Most Out Of Lean, Robotic Process Automation And Artificial Intelligence In Banking

# 1 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 -

Figure 1: Our holistic approach towards Automation



Process redesign approach that systematically seeks to achieve small, incremental changes in processes in order to improve efficiency and quality. Using software to handle high-volume, repeatable tasks that previously required a human to perform.

Simulating human cognition processes to enhance ability to solve business problems.

- "The automation of an inefficient activity only increases the existing inefficiency."
- Bill Gates

- property, loan money, invest money, and what professionals in financial services do everyday."
- "In the future, every decision that mankind makes is going to be informed by a cognitive system."

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.

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# Banks have been investing in Robotic Process Automation (RPA) to increase their efficiency

# 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

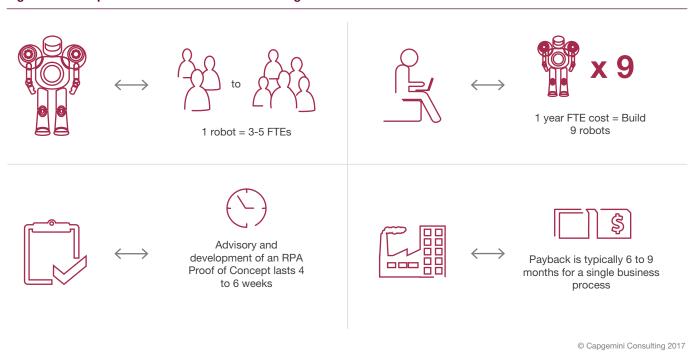
As banks have been seeking cost reduction strategies for several years, they have typically already conducted various process optimization projects and outsourced activities to lower costs. Now that most banks and insurers have reaped the benefit of these initiatives, they can use RPA to further reduce 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<sup>1</sup>.

#### 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<sup>1</sup>.

Figure 2: Our experience of RPA shows outstanding results



<sup>&</sup>lt;sup>1</sup> Robotic Process Automation - Robots conquer business processes in back office, Capgemini Consulting 2016

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



# 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.



# 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)



# 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

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

Core Process Areas Front Office		Transversal Candidate Process Areas  Corporate Functions – Finance & Risk	
Back Office		Corporate Functions – Customer Care	
Billing and Payment Processing Mortgage Processing	Wire Transfer     Dispute Resolution     Process	Customer Support     Customer Communication	Customer Complaints     Direct Debit Cancellations
Loan Processing Remittance Processing Investment Processing Card Management	<ul> <li>Credit Card Sign Up</li> <li>Fraudulent Account Closure</li> <li>Internet Application Processing</li> </ul>	Regulatory Compliance Reporting     HR Administration     Employee Data	Management & Data Integration     Automated Marketing campaigns
			© Capgemini Consulting 2



# 3 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 Al 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 Al offers, bank leaders must work towards the future use of artificial intelligence. They need to look at Al 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 Al 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 Al 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 Al.



# Al 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

 Al 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  Al 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.<sup>1</sup>

# Revolutionize the customer experience

Al 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

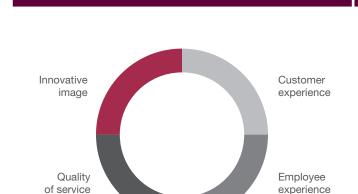


Phone is still the most popular channel for urgent issues being used by 77% of consumers.<sup>2</sup>



**Quantitative Gains** 

An IVR-based conversational agent helps achieve both qualitative & quantitative gains:



**Qualitative Gains** 

20% of the contacts are

of the contacts are automatically handled through Al<sup>3</sup> 10%
reduction in inbound contacts duration²

1.5

Years estimated payback<sup>2</sup>

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 $<sup>^{1}\,</sup>http://www.bankinfosecurity.com/webinars/how-to-fight-fraud-artificial-intelligence-intelligent-analytics-w-409$ 

<sup>&</sup>lt;sup>2</sup> Source: Northbridge, State of Customer Service Experience 2015

<sup>&</sup>lt;sup>3</sup> Source: Capgemini Consulting

#### The future of AI and innovation1

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

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

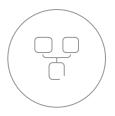
- Access all internal data of the firm to identify where the problems lie
- Translate into a search algorithm and scan the web accordingly
- Read matches on the internet and refine results
- Take actions on results and integrate innovation into products



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



#### Customer **Experience**



**Operational Efficiency** 



**New Offers** and Services

#### Customer **Understanding**

Pattern Recognition Machine Learning Recommendation Engine

**Process** Efficiency & Quality RPA Attended & Unattended **OCR** Machine Learning Chatbots

Vocalbots

New Offers

Pattern Recognition Machine Learning Recommendation Engine

#### **Digital** Marketing

Analytics Pattern Recognition Recommendation Engine

**Employees** Support RPA Attended Analytics Recommendation Engine

New **Services**  **RPA** Unattended Vocalbots

**All Channels Experience** 

RPA Unattended Chatbots Vocalbots

**Process** Insights

**Process Analytics** 

<sup>1</sup> http://blogs.lse.ac.uk/businessreview/2017/02/08/crowdscanning-the-future-of-open-innovation-and-artificial-intelligence/



# 4 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.



Fahrenheit 212

#### **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**

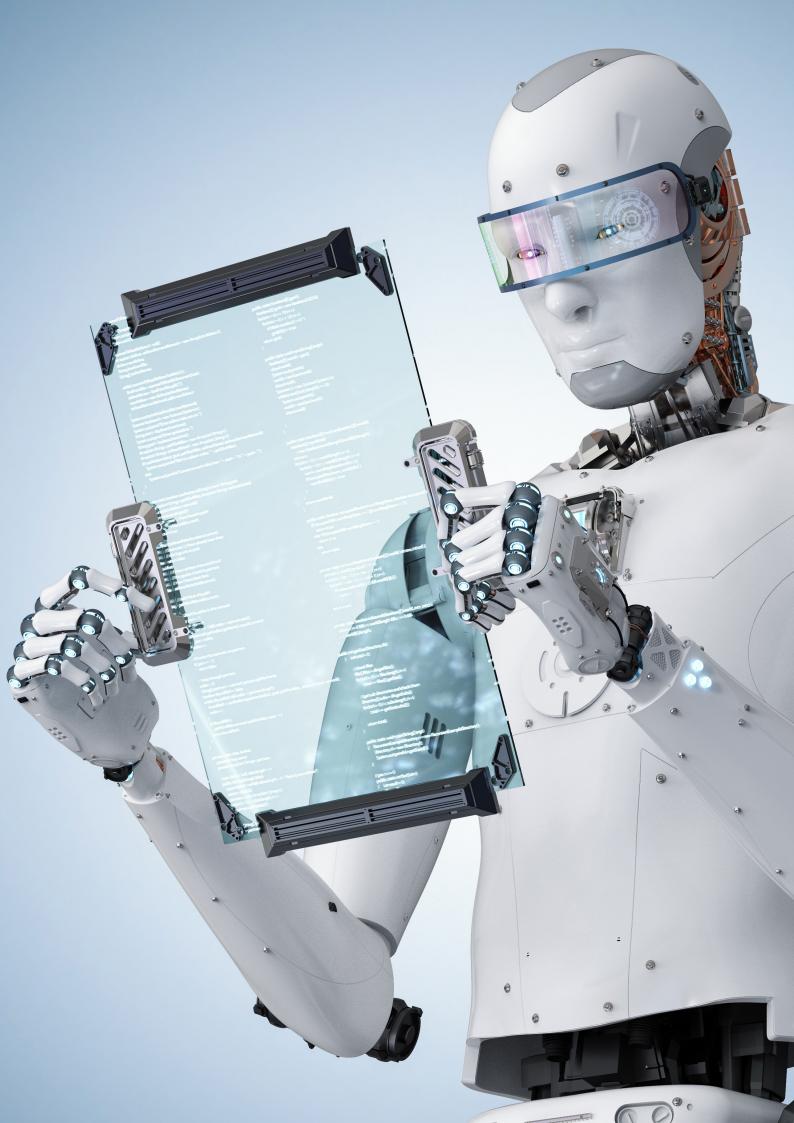
- Leveraging a core hub through our Centers of Excellence. we drive consistent global delivery across business sectors and industries.
- We help companies scale rapidly from single proof of concept to global industrialized automation delivery.



#### **Global Talent Pool**

- Using Al 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.







#### **CC DACH**

#### **Sandra Ficht**

Principal

Head of Digital Banking

sandra.ficht@capgemini.com

#### **Volker Darius**

Vice President

Head of Corporate Excellence and

Transformation

volker.darius@capgemini.com

#### **Wolfgang Enders**

Principal

Corporate Excellence and Transformation

wolfgang.enders@capgemini.com

#### Jörg Becker

Senior Manager

SPOC RPA Banking

joerg.becker@capgemini.com

#### **CC North America**

#### **Jean-Baptiste Arnaud**

Principal

Financial Services

jean-baptiste.arnaud@capgemini.com

#### **Lars Boeing**

Principal

Financial Services

lars.boeing@capgemini.com

#### **Arnaud Remillieux**

Manager

Financial Services

arnaud.remillieux@capgemini.com

#### **CC Netherlands**

#### Jos Bel

Managing Consultant

Corporate Excellence and Transformation

jos.bel@capgemini.com



### **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 50<sup>th</sup> 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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