Roland Berger Focus

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Turning risks into opportunities

How Belgian banks can shape their digital future

Roland Berger

Management summary

In a poll of Belgian bank executives looking into the main forces bringing uncertainty and (potentially) disrupting their business, the most frequently cited were: digital banking, big data, robot process automation, artificial intelligence, peer-to-peer networks, blockchain and open banking.

Indeed, for each of these digital forces early signs of their impact are already visible – either in the development of FinTechs active in the Belgian market or in international examples of banks that have already embraced (and successfully managed) these disruptions.

Calculating the opportunities and risks in each area, we find that the opportunities far outweigh the potential risks and necessary investments. Banks that manage to effectively leverage four profitability-improving innovations – digital banking, artificial intelligence, blockchain and big data – can achieve an estimated 1.9 ppt. increase in ROE over the next three to five years and as much as 5 ppt. within the next ten years. Moreover, we find that managing open banking is crucial to control profitability.

Taking action will be key for financial institutions to avoid losing ground to competing Belgian and international banks, as well as to Big Techs. Having a clear strategy on how to (further) leverage these innovations should therefore be top priority for Belgian banks. If they want to achieve quick wins as well as a sustainable improvement in profitability, Belgian banks will need to position themselves on these innovations in line with their individual corporate DNA and strategy.

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Chapter 1:

The seven forces of disruption

Belgian bank executives and the uncertainty of their industry.

Belgian banks have returned to pre-crisis profitability levels, driven by both a decrease in costs and an increase in revenues (mainly fees and commissions). Today, we see several innovations emerging, potentially disrupting the products, processes and business models of the nation's banks. Yet it remains unclear where the real gains could be or where the biggest threat lies.

When Roland Berger experts advise Belgian bank executives, the latter mostly refer to seven causes of disruption: digital banking, big data, robot process automation, artificial intelligence, peer-to-peer networks, blockchain, open banking.

For each of the seven areas of innovation, we see both early signs of their development through the advent of FinTechs active in the Belgian market on the one hand, and international examples of banks that have embraced these changes ahead of the curve on the other. For all of the innovations, we analyzed the potential impact they could have on the ultimate bottom line of Belgian banks and identified FinTechs working on the issues concerned. → A

We base our assessment on the actual state and expected evolution of the underlying technology or business model. The disruptive forces are bringing uncertainty to the industry and requiring banks to develop specific approaches for how to navigate complexity. This study offers useful guidance on which battles Belgian banks should fight.

THE SEVEN FORCES OF DISRUPTION

1. DIGITAL BANKING

The shift from a physical client relationship managed in brick and mortar branches to a more digital client relationship has been going on for several years. With the introduction of first internet banking and now the widespread use of mobile banking, banks have already taken major steps into the digitalization of banking services.

For the last 15 years, digital banking has tended to increase rather than decrease net costs given its role as an additional channel used in a mostly hybrid customer journey. However, we believe that over the next 10 years, banks will be able to capitalize on the investments made in the past and reduce costs in the physical branches.

The impact is illustrated in the plans proposed by several leading Belgian banking groups, which have announced FTE reductions of up to 25% associated with digitalization.

However, it should be noted that Belgian customers tend to be conservative with regard to digitalization, especially compared to their Northern European counterparts. While services like payments can be expected to become fully digital, a large proportion of the customers will still want a more personal form of contact at key moments like when they are starting a business or getting a mortgage. Banks should therefore find the right balance between digital banking and personal contact at their branches to ensure sufficient customer intimacy, and many Belgian banks are currently rolling out "in-between" options whereby personal advice is provided remotely. Furthermore, any reduction of branches and staff numbers should be in line with the overall strategy of the bank. Banks who position themselves as customer-relationship oriented, for example, are expected to have lower levels of digitalization and cost reduction than banks focusing on digital only.

Two additional risks we identified are included in our analysis of the impact of digital banking: a reduction in up-selling and cross-selling activities (given digital banking's lower effectiveness than the physical channel in this regard) and a margin reduction (given the fact that digital banking makes products simpler and increases transparency). However, our analysis shows that digital banking is the innovation with the greatest potential to increase profitability for banks both in the short term (3-5 years) and in the long term (10 years).

A: Selected Belgian FinTechs and international reference players for each of the disruptive innovations.

SOURCE OF DISRUPTION	FINTECHS IN BELGIUM	INTERNATIONAL REFERENCE PLAYERS (BANKS/PROVIDERS)
Digital banking	The Glue, D!nk	DNB Norway, N26
Big data	INTIX, Scaled Risk	Santander, BBVA
Robot process automation		UiPatch, Blue Prism, Automation Anywhere, Contextor
Artificial intelligence	NG Data, NoisyChannels	Santander, BBVA, IBM
Peer-to-peer networks	Look&Fin, Koalect, Mozzeno	Lending club, Prosper
Blockchain	Finoryx, Keyrock, Orillia	UBS, IBM, r3.
Open banking	Pom, Ibanity, Cashfree, IbanFirst	Apple pay, WeChat

Source: Roland Berger

2. BIG DATA

Banks' awareness of the value of the customer data they possess (such as transaction behavior, services used and personal data) rocketed with the advent of big data. Big data is currently increasingly used to extract relevant information and to understand and predict customer behavior. While the technology behind big data and data analytics is already fairly mature, there is still significant potential for banks to further capture and leverage customer data in the coming years.

Belgian banks operating in the market today do not yet fully tailor their product offering to their customers' needs or sufficiently respond to changes in customer situations. In so doing, they do not fully optimize the value of their offering to the customer and the "customer lifetime value" to the bank. Making effective use of big data will allow banks to increase up-selling and cross-selling by personalizing product offerings, ultimately increasing both interest and fee and commission income. Moreover, big data will enable banks to make their marketing efforts more effective and therefore has the potential to reduce their marketing spend. Finally, analyzing online behavior and historic data improves banks' ability to estimate customer risk profiles, giving them the opportunity to engage in risk pricing.

3. ROBOT PROCESS AUTOMATION

Robot process automation refers to the automation of structured, rule-based processes with known output, where the automation is added as a layer on top of the existing IT infrastructure. RPA is a proven technology with many use cases, such as the automation of manual invoicing and the follow-up of accounts receivable through data comparison from different sources. Our recent case experience shows a savings potential of up to 20-25% in several departments (e.g. the Finance function and in Operations). One of the big advantages of RPA is that it is easy to implement given its compatibility with existing IT systems, and it requires limited investments. Therefore, we consider it to be a quick win that is relatively easy to implement.

4. ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) covers all type of technologies with cognitive functions normally attributed to humans, ranging from machine learning to chatbots. The AI technology has been around since the late 1950s, but has far from reached its full potential. Many Belgian banks are currently still experimenting with applications to gain experience in how to make full use of AI and how to let the systems learn effectively. Artificial intelligence can help banks both increase revenues and reduce costs.

AI enables more effective product offerings, increasing up-selling and cross-selling opportunities, and facilitates improved risk pricing. Moreover, advice to customers will be available 24/7, thus creating another opportunity for revenue generation. AI can free up time for commercial staff, thereby enabling a reduction in the number of employees needed and/or improving the services available to customers. Our recent case experience indicates a potential 10-15% improvement in commercial time. Banks that lay special emphasis on customer intimacy can particularly benefit from AI in further strengthening customer relationships while still digitalizing the bank.

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Artificial intelligence

NoisyChannels

NoisyChannels is a Belgian start-up, founded in 2015. The company combines artificial intelligence (AI) technologies in the form of natural language processing (NLP) and machine learning (ML) to optimize service processes. Through the Service Augmentation Platform of NoisyChannels, an organization could increase the speed and efficiency of it customer service by anything from 20% up to 50%. NoisyChannels develops intelligent assistance technology that allows customer service experts who handle written queries to work more efficiently, and their Service Augmentation Platform adds artificial intelligence to existing systems and processes.

NoisyChannels can demonstrate use cases with various clients in financial services and other industries, including a second-line support team at a Belgian financial institution. This support team replies annually to thousands of complex queries from their sales organization and increased its productivity by 20% with the introduction of the NoisyChannel solution.

While AI is one of the most promising innovations for banks, the investments required in AI will be high. Currently, AI remains expensive to develop or purchase, and the technology is not yet mature. Furthermore, AI is in many ways a second-line innovation, being only feasible if banks develop their big data capabilities. Insights from this data are needed to allow the software to learn and improve. Still, we believe AI has major potential owing to the time savings for commercial staff and greater up-selling and cross-selling capacity it offers by enabling continuous availability to the customer base as well as a more proactive and tailored offering to individual customers.

5. PEER-TO-PEER (P2P) NETWORKS

Peer-to-peer networks allow people to connect, share files, and even to trade, invest and lend without the need for an intermediary. Peer-to-peer lending platforms are in many cases seen as a threat to retail banks, in that they could compete with them in the future. However, P2P lending in Belgium has not yet taken off, especially compared to the current situation in the UK and US markets. The limited success in Belgium can be explained by the strong position of Belgian banks and the high customer loyalty of the Belgian customer. Moreover, Belgian regulation on P2P is particularly strict and especially favors the protection of depositors.

Certain P2P initiatives are currently being developed on the Belgian market (e.g. Mozzeno), but so far adoption has not been overwhelming, with the number of active depositors in the hundreds for the first year of operations. While we can anticipate an increase in the use of P2P lending over the coming years, we expect the market share to remain limited. Moreover, banks could position themselves as a partner to these platforms as an alternative to traditional bank loans, further offsetting the loss in interest income by increasing the fee income. We therefore consider P2P to constitute a minor threat.

6. BLOCKCHAIN

Blockchain is probably one of the most debated technological developments in the world today. Especially in financial services, the evolution of the distributed ledger technology is being closely followed: substantial amounts are currently being invested and first use cases developed.

For banks, the biggest potential of blockchain lies in the improvement of processes and the reduction of costs. One of the key features of blockchain is that verification, validation and reconciliation all happen during the actual transaction. Today, this still happens in the main after transactions have been initiated.

Blockchain will improve processes, e.g. verification, validation and reconciliation. And it reduces costs, especially fees paid to intermediaries for clearing and settlement, as well as payments, trade finance, syndicated loans, internal and external audit and compliance.

The main costs and processes that will be impacted by blockchain are fees paid to intermediaries for clearing and settlement, as well as payments, trade finance, syndicated loans, internal and external audit and compliance (mainly in KYC processes).
Taking the example of settlement, fees are expected to go down by 15-30% over the next 10 years. This reflects the potential blockchain has for clearing houses like SWIFT or Euroclear to significantly improve their internal processes, generating savings which will ultimately be passed on to the banks. From a technological point of view, it is often argued that the distributed ledger technology would allow banks to completely cut out clearing and settlement intermediaries. However, looking at SWIFT, we believe this scenario is highly unlikely to materialize within the time span of our analysis for two reasons:

> SWIFT connects ~11,000 banks in 200 countries. Cutting out SWIFT would require all banks to agree to develop a blockchain together and all banks to develop interfaces with the common blockchain. We believe this would present an almost insurmountable challenge.
> Blockchain technology is not yet mature enough to process the large volume of payments currently processed by SWIFT in a short timeframe.

A scenario where banks would be bypassed altogether in payments through the use of cryptocurrencies is also highly unlikely from a society point of view. Once there is no longer an intermediate party, customers would bear the risk for their own payments. For example, if customers entered an incorrect account number or fraud was committed with a cryptocurrency account, there would be no intermediate party who could reverse the transaction. We believe the resulting lack of trust places a limit on the growth potential of cryptocurrencies.

A second area where major savings can be expected through the use of blockchain is compliance, and more specifically in know your customer (KYC) and anti-money laundering (AML) arrangements. The KYC process is both costly and time consuming for banks. Moreover, it has to be done at all banks for each new customer. Putting these processes on blockchain would speed up the process and avoid duplication of work. From a technological point of view, costs linked to KYC and AML could be cut in half in the next 3-5 years. The main hurdle is the need for collaboration between banks. If data on a customer is submitted by one bank, another bank has to trust this data in order to achieve the cost reduction in full. As each bank will remain liable for its own customers, it is currently unclear to what extent the banks

Blockchain

SettleMint

SettleMint is a Belgian-based start-up that was incorporated in August 2016. The founders met while devising and developing blockchain applications for a large Belgian financial institution, but with SettleMint their aim is to make blockchain accessible not only to financial institutions, but also to governments and companies in other industries.
They developed and distribute the 'Mint' middleware, a suite of software development kits and developer tools that enable software developers to build blockchain-based applications. SettleMint has already developed the first fully functioning applications, whereby they developed, tested and implemented proof-of-concept applications in banking, government, telecoms and the supply chain.

would need to revalidate the customer information provided by the bank originally doing the KYC/AML process. However, we believe that within the concentrated Belgian financial scene, this issue is not insurmountable.
Finally, the distributed ledger technology increases transparency and facilitates communication between different departments and divisions of banks. Even in the short run, this can significantly reduce the costs of both internal and external audit and improve the effectiveness of information sharing between support functions.

7. OPEN BANKING

With PSD2 becoming effective as of this year, banks will be forced to give third parties access to payment accounts when asked to do so by their customers. This legislation is one step in the development of open banking, facilitated on the technology front by the Application Programming Interface (API). Open banking will facilitate the entry of new and non-traditional players into the financial services market and should also lead to the introduction of new and more tailored services for end customers, reduced prices and a better customer experience. Banks expect open banking to be one of the biggest drivers of change in the financial services industry. With the introduction of Apple Pay and similar services, we are already seeing Big Techs entering the payment market. While Big Techs are unlikely to begin positioning themselves as banks owing to hurdles like the need to manage a multitude of local regulations and the possibility of having to be split up, what we do expect to see is Big Techs cherry picking and offering selected banking services, especially like in payment services.
For Belgian banks, we expect open banking to reduce income from fees for payments, and to put pressure on margins due to increased competition faced by retail banks. Aside from that, banks will need to make investments, first to comply with the new PSD2 regulation, and then to defend their position in the market.
To limit the negative impact as much as possible, banks can also put themselves in the driving seat of the new ecosystem in order to benefit from the changes. By offering better and more numerous services to end customers and developing a multibank platform, traditional banks can exploit and strengthen the current high level of trust expressed in banks by Belgian customers.

Open banking

Ibanity

Ibanity is a Brussels-based FinTech, founded in 2016 and acquired by Isabel Group in September 2017. Ibanity started with the goal of improving services for the end customer by helping TTPs (FinTechs and other banking service providers) to gain access to the data held by banks, thus increasing the number and quality of services for end customers.
Using the API and SDK solution designed by Ibanity, banks can open up their data to TTPs and TTPs can gain easy access to this data. Banks can use this solution not only to comply with the PSD2 regulation, but also to more easily develop new financial apps without being held back by legacy IT systems, to get access to data from other banks in order to become a TTP, and to set up collaboration with FinTechs. Ibanity provides all the technical services related to the APIs and creates a 'buffer' between the TTPs and the banks, reducing the (IT) maintenance costs for banks. Currently, Ibanity is working with mid-tier banks to help them become PSD2 compliant and offers a network of FinTechs to connect with banks.

Open banking will have clear winners and losers. Players who manage to take advantage of the new opportunities created by open banking will claim a large slice of the pie, while the others might be forced into a back-office role, losing market share and margins.

Currently, we can see that all Belgian banks are anticipating the new legislation, but some seem to be at a more advanced stage than others. With the payconiq app and Itsme, Belgian banks are already collaborating in anticipation of the new regulation. However, if they really want to take a leading role in the new ecosystem, banks could already start developing new services, enabled by API. There are a range of international examples here, such as BBVA, Capital One and Crédit Agricole, but some Belgian banks are also moving fast on this and see APIs as a new product and a channel for both existing and new clients.

Especially in an open banking environment, cross-fertilization between banks and between banks and FinTechs would seem to be a crucial prerequisite to successfully face the new reality. Belgian banks are in an advantageous position given their history of collaboration driven partly by the scale of the Belgian financial scene. The same collaborative model is currently being applied by FinTechs, and could be a key asset for the Belgian banking landscape.

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Chapter 2:

More of a benefit than a threat

Why most innovations can improve profitability.

For this study, we analyzed the impact of 7 innovations on the return on equity (ROE) of the 6 largest Belgian retail banks, taking their P&L from 2015 and 2016 as the starting point. Our analysis estimated the impact per innovation on each line item of the P&L. The change in ROE for the average Belgian retail bank was calculated as the change in net profit divided by the average equity value. A distinction was made between short-term effects (3-5 years) and long-term effects (10 years). Estimates on the P&L impact were based on Roland Berger case expertise and analysis, expert interviews and literature review.

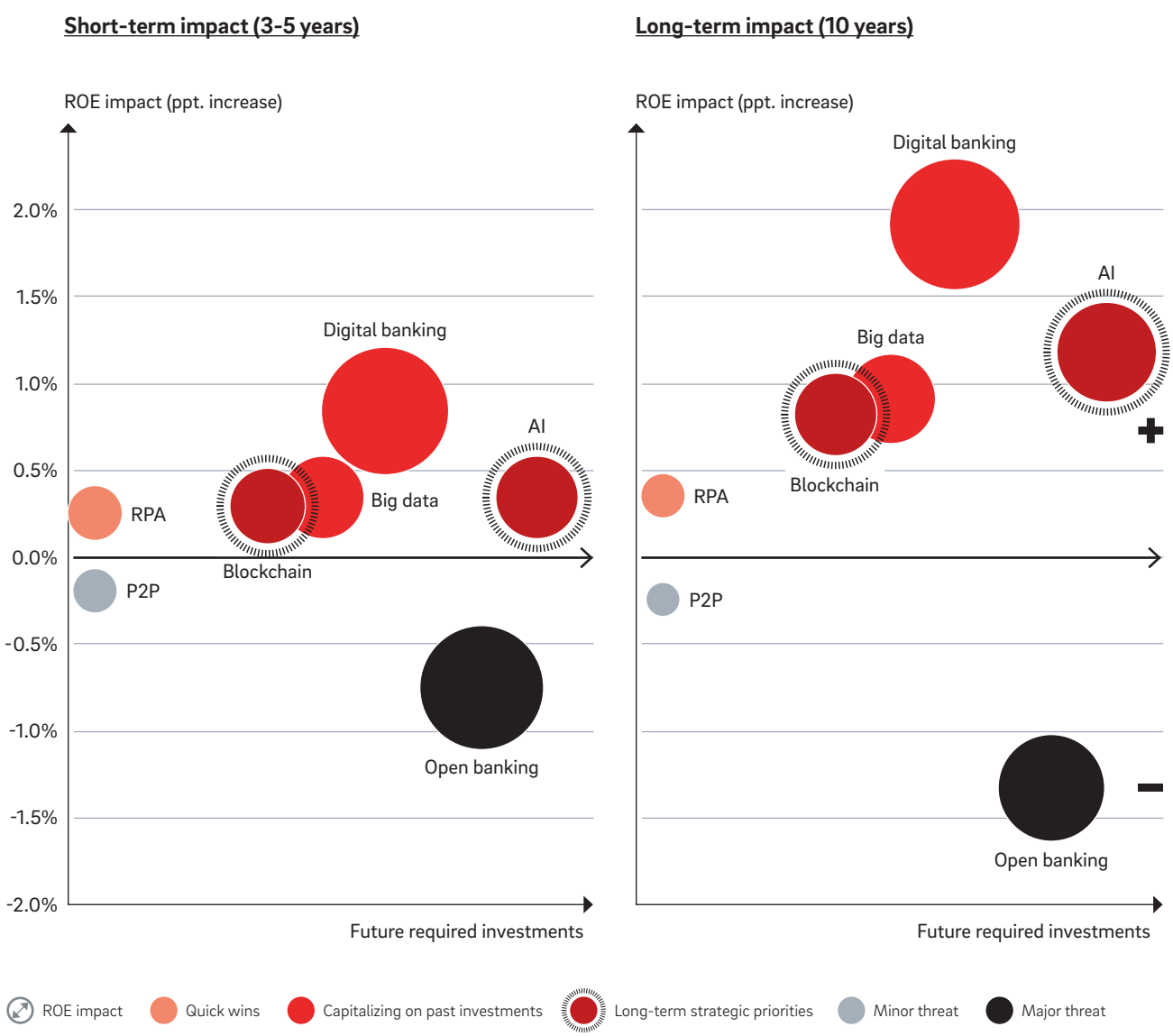
Our analysis shows that many innovations emerging in the banking sector do not pose a threat as such, but offer opportunities for Belgian banks to improve their cost/income ratio. Digital banking has the biggest potential to increase ROE both in the short and long term, followed by AI, blockchain and big data. Applied adequately, these 4 innovations combined are estimated to have the ability to increase ROE by 1.9 ppt. over the next 3-5 years and by 5 ppt. in the next 10 years. Consequently, having a clear strategy on how to (further) leverage these innovations should be a top priority for Belgian banks.

That said, competition from non-traditional players will increase, putting pressure on banks' market share and margins. Open banking, potentially combined with the entry of Big Techs into banking services, will be the main driver of this increased competition. Big Techs possess large quantities of customer data and have easy access to end customers, putting them in the perfect position to start offering B2C banking services. Players like Google have already taken their first steps in this direction and social media providers like Facebook could easily offer services like P2P payments via their messenger functions. With Apple Pay and Android Pay, we are seeing these players already entering the open banking space and challenging banks in payment services.

Digital banking has the biggest potential to increase ROE both in the short and long term, followed by AI, blockchain and big data.

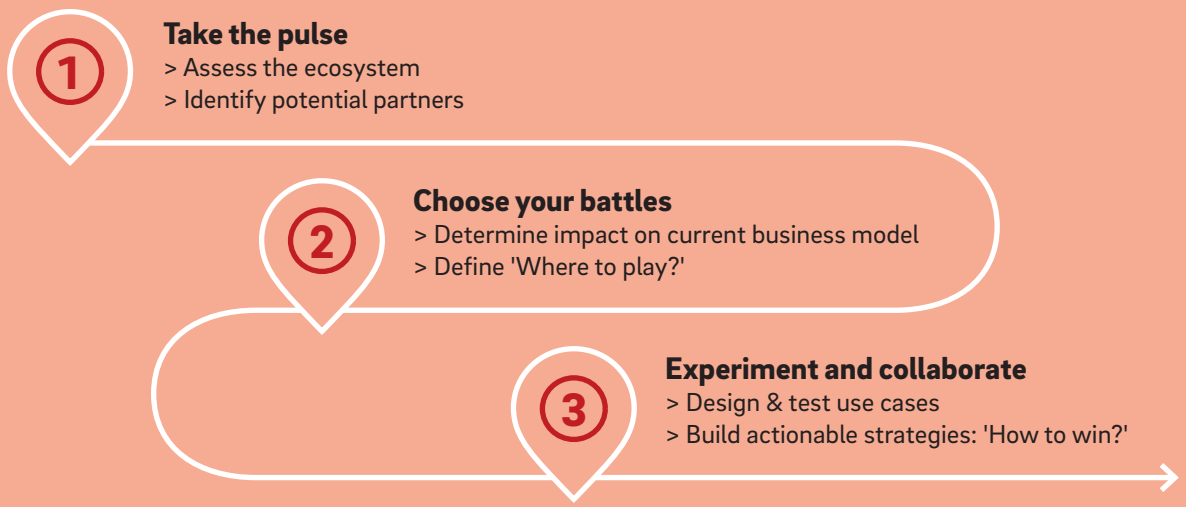
Investing in innovations is crucial for Belgian banks to stay competitive in the future. It is not unlikely for increased profitability to at least partially be redistributed to end customers in the long run due to competitive pressure between banks. As a result, banks will need to act on several fronts. First, **quick wins** can be realized in selected departments and processes through the implementation of RPA. Second, Belgian banks can **capitalize on past investments** and use digital banking and big data to both reduce costs and improve revenues. Third, blockchain and AI do require substantial investments but can offer major improvement potential. They represent **long-term strategic priorities**. On the negative side, open banking brings uncertainty and poses a potential **major threat** for banks. Here, cooperation between banks, cross-fertilization with FinTechs and high customer loyalty are clear assets for Belgian banks. Given careful positioning on the various innovations, we believe these disruptions offer a real opportunity for Belgian banks, both within Belgium and within the European banking landscape. → B

B: Profitability impact and required investment of the innovations (short term and long term).



Source: Roland Berger

The roadmap to higher profits



Source: Roland Berger

Take the pulse – To unlock the full potential, banks should first feel the pulse of the ecosystem and FinTech landscape. Banks very often have an internal focus, being large, complex organizations continuously offering the same type of products to their clients. Therefore, it is important to look outside the boundaries of the organization and to be early and open to collaborate with other players. An assessment of the ecosystem, with a mapping of the different players, their key activities and the identification of who could be potential partners, is a first key step on the road to adopting an innovation mindset to generate growth.

Choose your battles – Based on a good understanding of the ecosystem and potential partners, the bank has to determine what the potential impact of the innovation is on the organization and choose the key focus areas aligned with the overall strategy and DNA of the bank.

Experiment and collaborate – Once the bank has determined its battlefield, it should start experimenting with the technologies and collaborate with other players to adopt the innovations. The bank can set up a team that has both an internal and an external view on all aspects of the considered innovations and that can think and work outside the traditional bank environment (sometimes also literally). This team should be able to work in an agile way to quickly build the necessary experience with the technologies, collaborate with FinTechs or other partners from the ecosystem. To obtain fast results, prototypes can be built that can be first tested by a group of beta-users to incrementally improve the prototype and gradually evolve into a minimum viable product.

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