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INNOVATION BY MID-SIZED BANKS



INTRODUCTION

Mid-sized banks (MSBs), which we define for the purposes of this paper as those with total assets between approximately \$100 - \$500 billion, face numerous challenges in today's market. These include complying with new regulatory measures and policies in the aftermath of the 2007-2008 financial crisis, market uncertainty, a low-rate environment, increased competition from Global Systemically Important Banks (G-SIBs) and new market entrants, and an increasingly demanding digital consumer base that expects innovative services focused on user experience. In this challenging environment, MSB executives increasingly consider technology as key to remaining competitive. The realization has helped propel many forward-looking MSBs to modernize their digital services, systems, and infrastructure. This paper outlines the innovation-focused strategies being implemented by astute MSBs and explores how they are leveraging technology to better serve their customers, improve efficiency, reduce costs, strengthen security, mitigate risks, and compete in an increasingly digital marketplace.

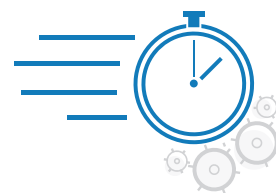
STRATEGY FOR INNOVATION



Change Banking Culture



Partnerships with Tech Startups



Capitalize on Competitive Advantages

With severe pressures on business models, lower margins, and increases in the cost of doing business, MSBs are increasingly strategizing about how to implement the right culture within their organizations to help foster innovation, effectively collaborate with third parties, and capitalize on competitive advantages.

To improve the chances of successful innovation, progressive mid-sized banks are changing the business culture within their organizations and embracing new ways of thinking and operating. They understand that challenging the status quo will be central to long-term success. The change is starting at the top and permeates all the way down the chain of command; without support from leadership, including the CEO and the Board, it is extremely difficult to innovate, according to our discussions with members. Many of the banks we spoke with are placing a greater emphasis on changing the traditional mindset within their organization by hiring a diverse workforce with different expertise and backgrounds, and encouraging open collaboration across all levels within the bank. Several firms informed us of approaches involving "incubating" employees for several weeks or months outside of the bank's main facilities to foster "in-house" innovation. The idea is to leverage the creativity of all employees and provide them with the freedom to build unique solutions for the business while in an environment without traditional banking governance structures and restrictions. Furthermore, instilling the notion that organizations will need to proactively and continuously explore and experiment with tech-based solutions is high on the list of priorities for several of the banks we spoke with, as is focusing on what the future of finance could look like and implementing strategies today to prepare for tomorrow.

Establishing partnerships with third parties will also be vital to the success of mid-sized banks and is a high priority for many firms. Though still only a tiny share of the overall financial market, new digital players are playing a considerable role in helping transform the industry with new expectations for customer experience, products, and services. Their low-cost technology platforms and different business models help them compete asymmetrically by targeting specific areas of the banking value chain. They also face fewer legacy costs and benefit from greater specialization, risk tolerance, and agility. While they provide challenges to MSBs in the form of new competition, they also represent opportunity in the form of mutually beneficial collaboration. By partnering with inventive startups, MSBs can scale up their business to reach a larger customer pool, focus on several tech initiatives at a time, bolster their competitive position, and reduce the time required to develop, test, and launch original products, while startups are able to capitalize on MSBs' relatively deep pockets, name recognition, and large base of clients and their data. One approach undertaken by MSBs to help in this endeavor has been the establishment of innovation labs where financial technology (fintech) startups, the investor community, and banks work collaboratively in an attempt to accelerate innovation opportunities. Several MSBs, including CIBC (Canadian Imperial Bank of Commerce) and Sweden's SEB, have recently launched innovation labs. As we will see throughout this paper, a growing number of strategic partnerships between forward-looking MSBs and tech firms are materializing, enabling enhanced customer experiences and innovative solutions.

Mid-sized banks are focusing on how to capitalize on their strengths as well, namely their smaller size and relative agility vis-à-vis G-SIBs. Thanks to shorter lines of communication as well as smaller, flatter, and less hierarchical structures, many MSBs can implement decisions and jump on tech-based opportunities more quickly than their larger rivals. Moreover, they can more easily test, refine, and deliver tech-based solutions across their networks. Many MSBs we spoke with release new functionalities every couple of weeks or months after receiving feedback on products and services from customers. This agility is essential during these uncertain times.

INNOVATION EFFORTS



Enhancing Customer Service and Experience



Modernizing Back and Middle Office

MSB innovation efforts fall into two basic categories: improving customer service and modernizing legacy infrastructure and systems with tech-based solutions. The former involves focusing on convenience, transparency, timeliness, simplicity, personalization, and engagement; the latter with automation, integration, adaptability, nimbleness, scalability, and security. These innovation efforts are becoming more important to banks by the day. According to a report by Singapore's DBS, retail banks that do not adopt a "digital model may see a drop in return-on-equity by around 18% over a five-year timeframe, mainly due to pressure from fintech firms and progressive banks. However, retail banks that are able to reinvent themselves could see a substantial increase in ROE of around 18%, largely driven by the lower cost of serving customers and the efficiencies they will reap."

ENHANCING CUSTOMER SERVICE AND EXPERIENCE

Astute MSBs are increasingly harnessing the power of technology to provide businesses and customers with a rich user experience that better meets the demands and expectations of their clients, who have grown accustomed to intuitive platforms and services offered by tech-savvy companies in other industries. Progressive MSBs are focused on exploring new ways to connect with and serve customers more effectively, and provide an innovative, tailored, and consistent experience across digital devices and channels.

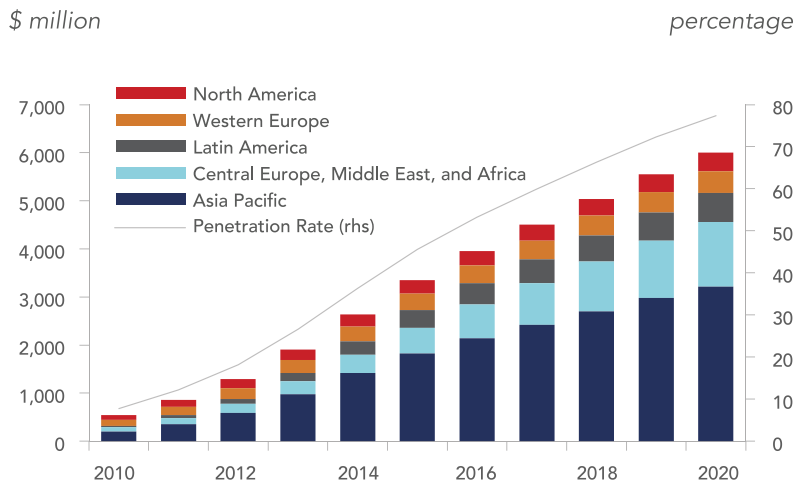
There's an App for That

With ever more powerful smartphones rapidly spreading to every corner of the world (Chart 1), a key area of focus for MSBs has been the development of intuitive mobile banking platforms. Mobile technology provides new methods for MSBs to communicate with and provide products and services seamlessly at all hours to their customers, encouraging greater engagement and brand allegiance. Moreover, the unprecedented data and access afforded by mobile phones provides MSBs the opportunity to offer more personalized services and spot customer trends and evolving needs more quickly than before. Through more frequent interactions, greater customization, and better engagement, MSBs can build more meaningful relationships with account holders—especially the increasingly important and influential millennial demographic—and increase customer trust, satisfaction, and retention rates.

Forward-looking MSBs are providing several unique service features to their customers via mobile banking channels. For example, USAA—a diversified financial services group of companies that provides banking, insurance, and investing services and products to current and former members of the United States military and their families—offers three different biometric identifier options to its customers: facial, voice, and fingerprint. This helps make accounts more secure and allows customers to log-in to their accounts more quickly. So far, over 1.4 million USAA customers have signed up for the feature. Moreover, Ireland's AIB facilitates personal loan applications via their app, and, using mobile image capture solutions, U.S.-based Capital One and Norway's DNB allow mobile app users to snap a picture of a check and remotely deposit it to their account, typically within a day. This helps customers save the time and money required to make a trip to their local branch. In addition, Belgium's KBC recently launched K'Ching, a mobile banking app specifically for teens and young adults that, among other things, promotes financial literacy and enables users to withdraw cash at KBC ATMs without a card. Furthermore, India-based ICICI Bank's mobile app provides customers with over 100 services, including integration with Google Now, and DBS' mobile-only bank in India, Digibank, allows individuals to open accounts via their smartphones using biometric authorization. Finally, Austria's Erste Group Bank's popular mobile app "George" allows clients to use plug-ins for their accounts at other banks and financial institutions thus enabling every customer to use George as a single "go-to" app to manage all their accounts across different organizations. This is an interesting development enabled by a new trend to open application programming interfaces (APIs).

CHART 1

Global Smartphone Subscriptions and Penetration Rate



Source: United Nations, Ericsson, GSMA Intelligence, IIF.

Open APIs

APIs are used to help different systems and applications integrate and transfer information in a streamlined and efficient way. They have been used inside banks to integrate mobile apps and legacy systems for years, have become a dominant piece of industry architecture, and have been the way banks and their fintech partners integrate cleanly on specified information while maintaining separate systems. Open APIs refers to making these information interfaces publicly available to any third party who wishes to build their own service using the bank and customer information. This open approach can attract unknown new partners, facilitate faster innovation, and broaden the new applications from third party developers.

The move toward open APIs is happening globally. Several American MSBs are exploring open APIs to spur innovation, including Capital One and San Francisco-based Bank of the West, a subsidiary of BNP Paribas. In an effort to fuel the development of a broad fintech ecosystem, the Monetary Authority of Singapore (MAS) has strongly encouraged their banks to open APIs for customer data. Banks regulated by the MAS are now asked to regularly report on the APIs they have opened to the public. In Europe, the movement is even further along, partly because of government encouragement and regulation. The European Commission's Payments Services Directive 2 (PSD2) requires banks to let third parties access their customers' data should the customer consent to it. The PSD2, which has been formally adopted by EU lawmakers but still needs to be incorporated into national legislation across EU member states by January 2018, gives customers ownership of their banking information and not the banks that maintain those accounts. The movement toward open platforms could, according to industry experts, lead to numerous challenges and opportunities for banks. Potential challenges include additional security concerns, fintech competition, and business cannibalizing. Potential opportunities include new ways to drive revenue by becoming a marketplace for apps—similar to Apple's model—as well as obtaining richer insights into client activity that would help banks provide more tailored services and products to customers across multiple channels. The aforementioned plug-ins for the George app at Erste Group Bank are a remarkable example because it is an attempt by one mid-sized bank to act like a fintech startup and intermediate the relationship their customers have with other banks and financial institutions. This nimble move to maintain customer engagement—through a fee-based integrated financial management dashboard—illustrates how some fundamental challenges are fueling creative solutions and, in this case, a revenue stream.

While there are many signs that open APIs will become the norm across the banking industry in the future, the role governments and regulators will play and the timeline for deployment are unclear. In a marketplace where consumers could access and manage all their banking transactions and information through third party apps created by budgeting or wealth management startups for instance, or platforms from companies like Google or Facebook, agile mid-sized banks may be able to make a compelling offering, leverage customer relationships, and become a broader service portal for products beyond their own.

Social Media

MSBs are also capitalizing on the popularity of social media to communicate with customers, disseminate information, and offer increased transparency. Through social media platforms, individuals are able to obtain detailed information as well as varied reviews and real-time input from other clients ("people like me") to help them make the best decision regarding the suitability of a particular product or service. This transparency has become increasingly important and appreciated by clients in the aftermath of the financial crisis as many of the financial firms' reputations were severely tarnished resulting in widespread distrust that exists to this day. Moreover, social media is being used as a new channel to deliver financial services to customers. For example, ICICI Bank became the world's first bank to offer banking on Facebook when it created "Pockets," an application that, according to the company's website, allows customers to "access their bank accounts while on Facebook, check statements, transfer funds, book movie tickets, recharge their prepaid mobile, pay bills and do much more."

Social media platforms are also becoming increasingly valuable sources of data for banks, which could ultimately benefit customers. According to a report by consultancy firm PwC, finance firms will soon be capable of detecting an emerging consumer need through social media and subsequently quickly produce and market customized services and products to fill that need. The report suggests that this can be accomplished through the “creation of a digital intelligence infrastructure, which includes monitoring, dashboards, process flows and integration into client relationship management software...with the desired result of more leads, more qualified leads and deeper engagement with existing leads, resulting in a tailored product for the end-client.”

Personal Financial Management

Personal financial management tools are another way MSBs are delivering consumer-centric services to their clients. Earlier this year, SEB partnered with Sweden-based [Tink](#), a fintech startup, to help customers aggregate their bank and credit card accounts, and more effectively collect, analyze, and manage their funds. The software automatically categorizes and analyzes a user’s spending continuously over time, enables bill payments, and provides alerts on early signs of suspicious identity fraud. SEB has incorporated Tink’s technology into its mobile app and more functions are being developed. According to Christoffer Malmer, co-head of corporate and private customers at SEB, “The combination of our integrated offering and Tink’s functionality is a good example of how established banks and fintech companies can create customer benefits together.” Other MSBs providing similar services include Capital One, which acquired money management app [Level Money](#) in 2015, and Spain’s CaixaBank, which launched ReciBox and CardBox to simplify bill and fund management for its customers. Another example of a bank using technology to better serve their customers’ with their financial planning is DBS, whose “Home Connect” app helps users find a new home, educates them about the home buying process, and provides budgeting tools to help calculate monthly mortgage payments and related costs.

Virtual Banking Assistants

Perhaps the most exciting development in the space currently is how numerous mid-sized banks are using virtual assistants powered by [artificial intelligence \(AI\)](#)¹ to further enhance customer experience.

For example, SEB recently announced the plan to deploy “Amelia,” the learning cognitive agent created by [IPsoft](#), a global tech firm headquartered in New York City, to its customer service operations. According to IPsoft’s website, SEB’s deployment of Amelia “promises to signal the start of a new area in global financial services.” The software can absorb vast amounts of knowledge, understands concepts, measures emotions, learns independently, and is able to assist customers with a wide range of services, including opening accounts. The tech company’s chief cognitive officer, Edwin Van Bommel, told the IIF that “she” is able to resolve issues 50% faster than a human in a similar customer service situation. Amelia communicates via online chat and utilizes contextual filters to allow her to understand questions structured differently but with the same meaning. If she is unable to answer a question, she will refer the customer to a human colleague for help, listen to the conversation, learn the answer, and then be prepared the next time she is asked that question. According to Rasmus Järborg, chief strategy officer at SEB, “Customer service is a key differentiator in the competition for customers. Amelia will be an additional way for us to increase accessibility for our customers and make our service even more individualized. Our belief that this technology can create positive customer experiences is based on the good results we have seen in tests in IT support. During the first three weeks, over 4,000 conversations were held with 700 employees, and Amelia solved the majority of issues without delay.”

Moreover, DBS has partnered with U.S.-based [Kasisto](#), a fintech company that has created an AI-based conversational platform that—per our discussion with the company—“augments mobile and wearable computing financial applications by enabling intelligent conversations using the perfect mix of speech, text, and touch

¹ Artificial intelligence (AI) enables software to exhibit human-like intelligence, including learning, planning, reasoning, problem-solving, and decision-making. AI is a broad field with many subfields and related fields, including “machine learning,” “cognitive computing,” and “deep learning.” For purposes of the paper, we refer to these terms without distinction. For more explanation, please click [here](#), [here](#), and [here](#).

interfaces.” Kasisto’s virtual banking specialists allow consumers to understand their spending patterns in real time, such as “How much did I spend at Starbucks this month?”, and execute complex transactions on the go, such as “Make a payment on my AmEx today, and pay \$235 from my savings account.” A Kasisto press release from June stated that the company’s technology will also allow individuals to bank directly through “Facebook Messenger, Slack, SMS, and other messaging services.” Zor Gorelov, CEO and co-founder of Kasisto, told the IIF, “Our products are designed to simplify the banking experience for consumers, provide a richer set of features, and, more importantly, make banking ubiquitous.”

Additionally, in 2014, USAA trialed IBM Watson’s cognitive computing platform to help advise its clients on a variety of finance-related topics, including insurance, home purchasing, and searching for jobs. Moreover, the company is using AI technology to improve navigation features on its mobile app and enable its clients to perform 200 actions through voice commands, including paying bills and transferring money.

Finally, Garanti Bank, one of the largest private banks in Turkey, is leveraging “Nina,” the intelligent virtual assistant from [Nuance Communications](#), a software firm based in Massachusetts. Garanti Bank customers can speak with the assistant on the bank’s mobile app, using natural language, to obtain information about exchange rates, transfer funds, and acquire account details, facilitating a far more convenient customer experience.

As cognitive agents become more advanced, MSBs will be able to collect enormous amounts of real-time data through software-client interactions, which will allow them to gain deep insights into each of their clients’ unique needs. Cognitive agents, and the technology behind them, will enable banks to offer services at a level of sophistication, customization, and scale never previously possible. However, a growing number of national and international regulations on data privacy and sharing will undoubtedly influence how banks will be able to use consumer information to provide such services.

Payment Services

MSBs are working on providing customers with faster and more convenient and secure payment services as well. For example, Danske Bank’s [MobilePay](#) app—which is currently offered in Denmark, Finland, and Norway—allows users to make online, in-store, and peer-to-peer payments easily with a couple of simple taps on their smartphones. Since the 2013 launch of MobilePay, more than 3.5 million Danes have downloaded the platform, making it the third most popular app in Denmark—approximately nine in ten smartphones in the country have the app installed, thousands of businesses accept payment through it, and dozens of developers work to integrate MobilePay into other merchant platforms. Furthermore, Capital One and U.S.-based PNC recently announced they will be joining “[Zelle](#)”, a new, faster payments network created by Early Warning, a payment and risk solutions provider. According to Early Warning’s press release, upon launch in the U.S. in early 2017, Zelle will enable more than 76 million mobile banking users to send and receive payments “using just an email address or mobile phone number from within the mobile banking experience of network banks or using the Zelle app.” So far, the network—which gives banks a chance to recapture market share from non-bank institutions such as PayPal and Square—has approximately 20 banks as partners. In addition, many MSBs have joined popular mobile payment and digital wallet networks created by tech titans, including Apple Pay, Android Pay, and Samsung Pay, to further appeal to their customers, particularly millennials.

One cannot talk about payments innovation, however, without talking about [blockchain](#)², a distributed ledger or database that is tamper-proof and permanent. While most often referred to in the context of the Bitcoin platform, it is not technically dependent upon it. Other applications can, and have, incorporated the technology. Moreover, innovation is ongoing and a wide range of alternative models are being developed.

² Blockchain—the underlying technology first used in Bitcoin—is a new type of distributed consensus system that enables transactions to be quickly validated and securely maintained through cryptography, computational power, and network users, removing the need for a trusted centralized authority. The blockchain provides an immutable record and audit trail of transactions and agreements that are replicated on computers around the world, thereby eliminating a single point of failure. For comprehensive background information on blockchain technology, please see our [Banking on the Blockchain](#) report.

Because the transformative technology enables—among other things—faster, cheaper, and more secure and transparent movement of money across the globe, many MSBs are exploring the technology and working with tech companies in the space to help provide better services to their clients.

For example, SEB has invested in [Coinify](#), a blockchain payment service provider that allows merchants around the world to accept secure payments in 16 different virtual currencies and then receive payout in their local fiat currency, ensuring protection of value. Moreover, BMO (Bank of Montreal), CIBC, and SEB have partnered with [R3](#)—a New York City-based startup building a consortium of financial institutions to explore the technology’s potential—and the latter two banks with [Ripple](#), a distributed ledger startup based out of San Francisco. Just last month, Ripple and R3 teamed up with 12 banks, including two Canadian MSBs—BMO and CIBC—to trial Ripple’s protocol for cross-border payments. According to Andrew Irvine, head of commercial banking and partnerships at BMO, “This technology will be a catalyst in reducing complexity, streamlining processes and ultimately lowering the significant costs associated with interbank cross-border payments, which will benefit both banks and their customers in the years ahead.”

MODERNIZING THE BACK AND MIDDLE OFFICE

In addition to enhancing customer experience, progressive mid-sized banks are focusing on modernizing the back and middle office with tech-based solutions. While overhauling large legacy systems is certainly a costly, complicated, and lengthy undertaking, it could help facilitate efficiency gains, support better business flexibility, automate complicated tasks, ameliorate decision-making, allocate resources more effectively, reduce errors, strengthen security, and mitigate risks. Moreover, per a report by DBS, replacing “legacy systems with automated systems that are better integrated and account for less paperwork can help banks realize 30% cost savings.”

Because of its enormous potential to form the underlying architecture for more efficient payment systems, trading platforms, and information sharing mechanisms in and between financial institutions, blockchain has attracted the attention of many MSBs for this purpose as well. The possible benefits surrounding the technology are endless. For instance, by providing a universal source of truth that is tamper-proof and distributed, blockchain could lead to increased efficiency and improvements, including establishing a level of accountability and transparency that hitherto was impossible; reducing human error, fraud, data duplication, processing delays, and transaction and administrative costs; and providing easier and improved data access to parties.

One of the most valuable applications of blockchain in banking involves minimizing settlement times and the collateral required to back business transactions. Due to legacy infrastructure, the transfer of various financial assets can take a very long time to complete. For example, in the U.S., loan settlements can extend to 20 days or more. This considerable time lag invites financial risks because the longer a trade is outstanding, the possibility that it will not be fulfilled rises. Moreover, since the financial crisis, EU and U.S. regulators have instructed banks within their jurisdictions to earmark ever-larger amounts of capital to protect themselves from such risks. Blockchain advocates, such as Blythe Masters, CEO of New York City-based startup [Digital Asset Holdings](#), highlight that the technology could shorten settlement times from days, or even weeks, to minutes for many financial products, minimizing risk and freeing up capital for more productive use.

Proponents argue that because distributed ledger technology can streamline complex and extensive networks, operations, and processes, remove intermediaries, improve compliance, and is faster and more secure and reliable than today’s legacy systems it could save banks billions of dollars in expenses each year. It is, therefore, unsurprising that mid-sized banks—like many other entities across both the private and public sector—are actively exploring the technology. In addition to the partnerships mentioned earlier in the payments section, numerous MSBs, including Capital One, KBC, PNC, and USAA, have invested in, or partnered with, blockchain companies to explore various use cases of the technology. For example, KBC, working with Cegeka, an IT firm, developed Digital Trade Chain (DTC), an application based on a permissioned blockchain with [smart contracts](#) that facilitates secure and efficient international trade between small and medium enterprises (SMEs). Piet

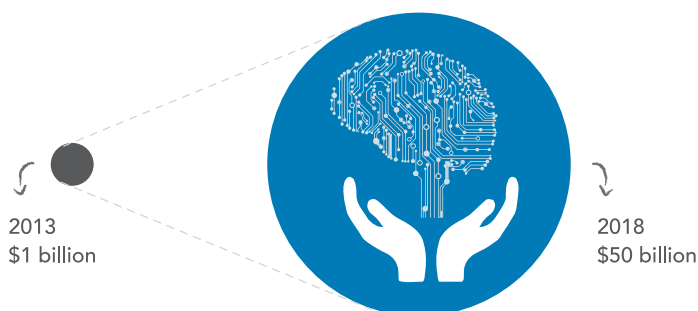
Malfait, senior program manager at KBC, told the IIF that because of the enormous amount of documentation involved with trade finance, DTC will help make the process easier for all parties involved. He said, “All trade events are registered by the parties on the blockchain and the final payment by the buyer against receipt of goods will automatically be processed by the execution of a smart contract. With DTC, SMEs and corporates receive access to risk mitigation and financing services from their bank in a user-friendly, fast, and digital way leading to shorter trade cycles and thus improved working capital.” The platform was successfully trialed earlier this year by 17 SMEs in various sectors. Additional testing will be performed before the platform is officially brought to the market.

The trend in partnerships between MSBs and blockchain tech firms is expected to continue, and according to an IBM [survey](#) of 200 banks (of all sizes), 15% of them expect to use blockchain technology commercially in 2017 and 66% plan to do so by 2020.

Artificial intelligence software is also expected to play an increasingly large role in modernizing processes and digital infrastructure within MSBs. For example, AI can help collect, connect, and analyze the enormous amounts of data that is currently stored in different places and poorly organized and integrated across many banks’ extensive networks. This would allow firms to more effectively harness the vast and dispersed data available to them and, in doing so, strengthen their understanding of the market, operate more efficiently, and provide superior services to their clients.

CHART 2

U.S. Cognitive Computing Market



Source: Deloitte.

It comes as little surprise that in 2013 Deloitte forecast the cognitive computing market in the U.S. alone to expand from \$1 billion to \$50 billion by 2018 (Chart 2). This forecast is in line with what Neal Cross—managing director and chief innovation officer of DBS—told the IIF, “We’ll see significant impact of machine learning and cognitive computing in the next five years. It has the potential to be more impactful than blockchain.”

Because AI software is easily scalable and can enhance automation, MSBs utilizing the technology will be able to simultaneously offer services at a level of sophistication, customization, and scale never previously possible, while also reducing operational costs as the need for employees performing certain tasks gradually declines. AI software could, for example, automatically collect real-time credit data on an individual seeking a mortgage loan and then make near-instantaneous decisions on applications and set personalized interest rates based on an individual’s risk profile. This could help bring greater consistency to decision-making within the industry and make processes more cost-effective, efficient, and faster with less human involvement.

In light of these potential benefits and developments,

Streamlining Regulation and Compliance

One of the most promising benefits of overhauling outdated legacy systems and adopting advanced digital solutions for MSBs could be the potential easing of financial burdens resulting from the ambitious regulatory reform agenda implemented after the financial crisis, which has closed loopholes in the financial regulatory framework, but has also significantly increased compliance costs of banks. By adopting modern, agile, and integrated digital systems and infrastructure powered by advanced technologies—including distributed ledgers, artificial intelligence, APIs, biometrics, advanced analytics, and cloud computing—MSBs will be able to make compliance less complex and capacity-demanding, freeing up capital to put to more productive uses, improve the quality and efficiency of supervision, and reduce risk in the system. We refer to the application of technology solutions to solve regulatory and compliance requirements more effectively and efficiently as “[regtech](#).” While

the regtech market is still in the early stages of development, several MSBs have begun exploring the space and are collaborating with startups to find possible solutions to various regulatory challenges.

For example, Capital One—along with Citi Ventures—has invested in, and is working with, [Feedzai](#)—a startup based in California—to help address financial crime regulations more effectively. Feedzai’s machine learning platform helps merchants and financial firms uncover fraud up to 30% earlier than conventional techniques. Moreover, Feedzai’s machine learning models “detect up to 80% of fraudulent activity—two-thirds more than traditional systems,” per a white paper published by the company.

Furthermore, Bank of Ireland has become a client of [Trustev](#), a tech company that blends identity data with digital data in real time to provide online fraud prevention solutions. The bank uses Trustev’s technology to verify new online accounts and credit applications more efficiently. Online applications, for example, are automatically examined using thousands of data points to determine, in real time, the risk associated with that application. This has helped the bank to significantly reduce costs per new application and block fraud.

In addition, BMO and U.S.-based SunTrust are working with [Fenergo](#), a tech firm headquartered in Dublin. According to Fenergo’s website, the company’s software solutions allow financial institutions to solve regulatory challenges by “streamlining the end-to-end client lifecycle management processes, from regulatory onboarding, data integration, client and counterparty data management, client lifecycle reviews, and remediation all the way to client offboarding.” In August, it was also announced that BMO began working with [KYC.com](#), a joint venture between IHS Markit, an information services company, and Genpact, a business process management and services corporation, to streamline the collection and management of Know Your Customer (KYC) information.

While upgraded digital infrastructure powered by transformative technologies could lead to great efficiency gains and more effective compliance at MSBs, there are significant barriers to the implementation of many regtech solutions, including restrictions on the ability to share, store, and access data across national borders. For more information on both the opportunities and the challenges, please see our detailed report, [RegTech in Financial Services: Technology Solutions for Compliance and Reporting](#).

Strengthening Security and Mitigating Risk

As technology increasingly permeates the world of banking, and the frequency and sophistication of malicious virtual attacks grow, cybersecurity becomes ever more critical to the industry’s ability to expose emerging threats and mitigate risk. Repeated breaches at a bank jeopardize its ability to attract and retain customers as it can damage business operations, the balance sheet, and reputation. Safeguarding sensitive client information and the protection of internal IT systems is thus paramount to the success, and, ultimately, the survival of banks. Therefore, it is unsurprising that astute MSBs are exploring next-generation cybersecurity technology as they transition from legacy security models that are static to dynamic ones that offer new layers of defense, are more predictive, and are built to not only prevent attacks but also to adapt to various circumstances and easily detect and resolve breaches within large and complex banking networks should they occur. Partnerships with tech companies providing state-of-the-art enterprise security that addresses evolving client demands—such as cloud-based platforms that leverage advanced analytics and AI, are flexible, highly scalable, and offer robust prevention, detection, and remediation capabilities all in one—are growing. Members, however, were understandably reluctant to share company names during our discussions given the delicate nature of the topic.

CONCLUSION

A confluence of challenges and market conditions, including regulatory pressures, economic uncertainty, increased competition, and changing customer demands, have led to tightened margins for most mid-sized banks. Astute MSB executives increasingly view innovation as the key to remaining competitive and achieving long-term success. This has led many MSBs to challenge the status quo and accelerate the shift toward digitization by pursuing innovation-based growth strategies—including changing the banking culture

within their organization, effectively partnering with third parties, and capitalizing on competitive advantages vis-à-vis larger rivals—consumer-centric services, and the modernization and integration of digital systems and infrastructure. Moving forward, it will become ever more important for MSBs to embrace technology and innovation. Mid-sized banks that proactively lead in the space will be in a much better position to overtake the competition, capitalize on emerging opportunities, and increase market share while simultaneously cutting operational costs.



Kristen Silverberg

Managing Director
ksilverberg@iif.com



Conan French

Senior Advisor for Innovation
cfrench@iif.com



Dennis Ferenzy

Associate Economist
dferenzy@iif.com



Stephanie Van den Berg

Program Associate
svandenberg@iif.com

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