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FINACLE CONNECT

Connecting the banking world

#TrulyDigital Banking

Cover Story

A Renewal Strategy Towards Truly Digital Banking

Inside Talk

Fidor Bank AG: The Fidor Smart Current Account

Lending Club: Breakthrough ideas

Idea Bank: It all starts with an idea


DIGITIZING JUST THE FRINGES OF YOUR BANK?
SUCCESS LIES IN BEING DIGITAL INSIDE-OUT.
Being digital is more than just adding multichannel capabilities or developing a new mobile app. A slick front-end linked to sluggish, legacy back office systems, will derail any well-crafted customer experience journey.
It's time to be #TrulyDigital.
Get your digital strategy right.
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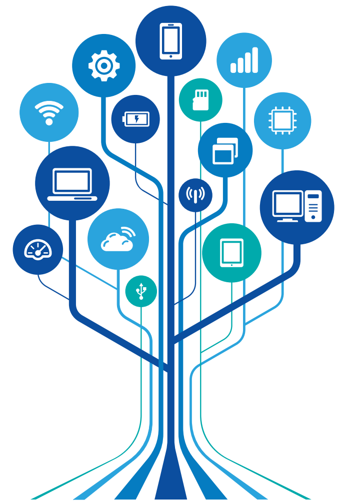

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ITALY
FRANCE

Truly digital banking

Consumers are so willing to adopt new digital technologies that startups can challenge established players and norms at every turn. This makes the status quo short-lived, as technologies and customers increasingly churn. But the term "digital" has become a catchall phase. What does digital really mean for a bank customer? And what separates a digitally enabled bank from a truly digital one? Our cover story in this edition talks about the four hallmarks of a digital bank as we see them. The story also looks at some of the work we have been doing to help our clients advance their digital strategies and become truly digital.

From blockchain to cloud and wearables, our *Feature* follows this digital thread and takes a look at technology trends for 2016. And the *Big Bet* builds on this further to explain the differences between a renewal bank, an adaptive bank, and a visionary bank.

In this edition of FinacleConnect, we also cover the findings from the study that we did together with the European Financial Management Association (EFMA). The seventh edition of the Annual Global Innovation in Retail Banking Study reveals some very interesting facts and statistics about the financial services sector and the disruptions we are seeing in it. In this edition, we also feature three insightful interviews with the winners of the BAI-Infosys Finacle Innovation Awards. The first is with Carsten Luth, VP Fidor Group International, who talks about his bank's journey. After that, Andrew Deringer, VP, Head of Financial Institutions Group, talks about Lending Club and what makes it tick. The third interview is with Małgorzata Szturmowicz, Board Member, Idea Bank, which is pioneering the mobile ATM. We also have a guest article by Debbie Bianucci, president and CEO of BAI, on how the winning combination of leadership and technology can drive innovation in global financial services.

The Finacle Client Innovation Awards celebrate notable innovations by Finacle clients using our solutions. Please have a look inside to see the full coverage. Another piece that deserves particular mention is *Fintech*, which takes a closer look at the Singapore fintech ecosystem. In this edition, the *Kaleidoscope* article covers Italy and France, two important banking markets in Europe. All of this and more in store this time. Enjoy this issue and have a great year!

Happy reading!

Michael Reh
Executive Vice President, Infosys and
CEO (designate), EdgeVerve

Technology
Trends 2016

With technology changing constantly, it's important that banks not just track but actually become *'first-movers'* or at least *'fast followers'* in harnessing these technologies to engage digitally savvy customers.

In the coming year, banks need to keep their focus on technologies, some new and some evolutionary, that have the potential to redefine banking in 2016. We believe the five technologies that banks will have to watch out for in 2016 will be Blockchain, Internet of Everything, Cloud Services, Open Banking and Mobility & Wearables.

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Blockchain

The financial services industry is all abuzz about the potential for Blockchain, the technology underlying Bitcoin, to transform the industry. To quote the Bank of England's Chief Economist, Blockchain may offer an "imaginative solution to that distributed trust problem".

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Many Fintech startups are already running with the technology to create some unique solutions for the financial services industry: A smart contracts platform for syndicated loans (Symbiont); a decentralized clearing network for OTC derivatives (Clearmatics); a multi-asset multi-currency platform to simplify institutional payments (SETL); a DIY Blockchain and smart contracts platform (Eris Industries); a ledger that connects distributed ledgers (Ripple); a distributed ledger for the precious metals market (itBit'sBankchain); and even a Blockchain-inspired challenger bank (Secco).

Even the incumbents are betting on the potential for this technology in banking. For instance, American Express made its first bitcoin move this year with an investment in Abra, a global remittance service built on Blockchain. Goldman Sachs has not only invested in bitcoin startup Circle Internet Financial but is also patenting its own cryptocurrency that simplifies securities trading and settlement. Meanwhile, Spanish Bank BBVA's annual Fintech Open Talent competition featured 10 bitcoin and Blockchain startups in the finals this year.

Incidentally, BBVA is also backing the R3 initiative, an industry-wide coalition that currently includes over 40 of the world's leading banks, to explore the use of Blockchain in mainstream banking. The consortium, led by Fintech firm R3, will focus on developing commercial Blockchain applications as well as defining consistent standards and protocols for this emerging technology.

So industry interest in integrating Blockchain technology is clearly building momentum and we expect some significant developments to emerge in the coming year. It is therefore clearly time for all banks to define a path to adoption for this transformational concept.

The Internet of Everything

The Internet of Everything (IoE) can potentially create incremental economic value of up to $19 trillion within this decade. As everything from automobiles to refrigerators to kitchen containers become connected and smarter, banks have a huge opportunity to get closer to their customers' lifestyles and financial needs. Banks need to ensure that they have the analytics infrastructure in place to take this huge deluge of data and turn it into hyper-personalized financial experiences. First movers in this space will also gain a reputational advantage of being seen as digital mavens by increasingly discerning digital consumers.

As everything from automobiles to refrigerators to kitchen containers become connected and smarter, banks have a huge opportunity to get closer to their customers' lifestyles and financial needs.

Thus far, the milk ordering refrigerator has become the de facto point of reference to discuss the possibilities of IoT-enabled banking. But some more tangible and immediate possibilities are emerging. For instance, progressive banks are already talking about a car banking concept that can turn the car into a wallet and create smartphone-free payment at gas stations and drive-thrus.

The IoT phenomenon has a lot of potential applications across the entire spectrum of banking services. Earlier this year, Santander InnoVentures, the Fintech innovation fund from the Santander Group, published a paper detailing multiple use cases that go beyond retail banking. One particularly significant example combines IoT data-capture devices with Blockchain's smart contract functionality to streamline contractual processes.

For the banking industry, the IoE represents a disruptive opportunity that is as big if not bigger than the Internet revolution. But this time around, the pace of transformation will be much faster. Banks that tap in on the opportunity early, innovate quickly and consistently, and create connected banking experiences will emerge as winners.

Banking on Cloud

There is this telling anecdote of how an e-commerce giant discovered that most of the banks in a particular market did not have the infrastructure to handle the estimated transaction volumes of a one-day only 'Big Billion' sale. Now it is hard to think of a provisioning strategy that could solve that problem without leveraging the potential of the cloud.

For banks, the key question when it comes to cloud adoption is not 'why' but 'how'. Based on our experience with our financial services partners, we believe that banks should follow a simple three-step strategy to transition smoothly into a cloud-first model. The first step is to shift non-critical environments, like development and testing, to the cloud. This should be followed by a focus on leveraging cloud techniques to optimize infrastructure investments and performance. The third step is to move the production environment to the cloud and take a cloud-first approach to all future technology sourcing decisions.

Banks need to view the cloud as a business model rather than a technology.

In our view, banks betting on digital leadership should at least have progressed to the second phase of this three-step program. There already are some early examples of cloud-first banking. Robeco Direct N.V., a Dutch bank, has moved its retail banking platform to the cloud following the country's banking regulator authorizing the use of Amazon Web Services. Bankinter, a leading Spanish bank, is using cloud to run credit risks simulation. In fact, it has been able to do these simulations now in just 20 min instead of 23 hours it took earlier.

Banks need to view the cloud as a business model rather than a technology and evaluate its utility based on the value it delivers to all stakeholders. Granted, there are still some security concerns and regulatory grey areas that need to be addressed. But a coherent cloud strategy will be a critical component of any successful digital banking strategy.

Open Banking

Earlier this year, a European Union Council passed the revised Payment Services Directive (PSD2) that mandates the opening up of banks' payment APIs. In India, the national payments council has introduced unified payments interface APIs wherein anyone can initiate a payment transaction and create unique payments experiences.

The UK government is also currently working with banks and Fintech to define a framework for an open API standard ecosystem that will make it easier for Fintechs to build apps for any bank's customers.

We believe that open banking, a connected ecosystem of financial and non-financial services, is the future of digital banking. Now whether that happens by initiatives taken by banks, fintech completion or regulatory mandate remains to be seen. But open banking technologies are certainly set to transform the business of banking. The fundamental promise of this model is to enhance the choice, utility and experience that customers derive from their banking service providers.

Open banking will be driven by – apps, app stores, and extended developer ecosystems which banks and other providers will build around their APIs. Banks stand to gain immensely from this model. As more and more third-party services integrate with their Open Banking ecosystem, banks will gain access to even more data that they can channel back to fine tune and personalize their customer experience. An API-centric approach also enables banks to seamlessly connect with innovative services that leverage emerging technologies like wearables or IoT. The ability to add value-added services and expand into new niches will create new revenue and growth opportunities for banks. It also makes it easier for them to address niche markets more cost-efficiently.

Open banking technologies are certainly set to transform the business of banking. The fundamental promise of this model is to enhance the choice, utility and experience that customers derive from their banking service providers.

Mobility and Wearables

The mobile phone continues to evolve rapidly in terms of functionality, processing power and embedded services. This means that the goalposts for mobile-first banking are constantly being moved. Then, of course, there are wearables, tipped to become the second-largest selling consumer electronics product, behind smartphones, by 2020.

Digital banking strategies cannot remain static when the market for consumer digital devices is expanding rapidly in terms of profile and functionality. Banking strategies will have to be continuously reworked to accommodate these shifts. For instance, when the focus of digital banking shifted from the web to the mobile device, banking strategies had to account for some of the native functionalities of mobile devices like geolocation and camera. Now with the addition of wearables to the mix, banks will have to reimagine service delivery both in terms of the functionalities of the touchpoints as well as the consequent evolution of customer preferences.

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Even within the smartphones category, the possibilities are continuously evolving. Take for instance, the new Force Touch technology in the latest iPhones. Is there an opportunity to leverage it to enhance the app experience for mobile banking customers? Or do customers even want banking apps anymore? After all, Siri gets over 1 billion requests a week. How many of those users are hoping to upgrade from an app-based to a voice-based mobile banking experience?

The point is that technology is moving faster than ever before. Consumers are adopting new digital technologies more readily than ever before. This means that digital banking strategies will have to run even to stand still.

Conclusion

We believe that 2016 will be the year that the focus within the global financial services industry shifts from digitizing banking functions to building a truly digital banking model. It is a model where all structures, systems and strategies stem from the needs and expectations of the customer at its center. The coming year will also see the bar for banking innovation being raised higher thanks to the new possibilities presented by technology concepts like Blockchain or IoE and the relentless competitive pressure being applied by Fintech startups. Most importantly, we believe that 2016 will be the year that the industry takes its first definitive step towards an open and collaborative banking model. The future of banking, we believe, lies in being truly digital.

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A Renewal Strategy towards Truly Digital Banking

Positioning is the art of creating a distinct and unique identity vis-a-vis the competition in the consumer's mind. But in at least some new-age digital-only banks, positioning isn't about differentiating from the traditional bank at all. On the contrary, the emphasis is on not being a bank, at least not in the conventional sense of the term. Think, Simple, the self-proclaimed anti-bank, and Atom, the bank that claims it won't 'act like a bank at all'.

This isn't merely clever branding, it's also about distancing the new-age bank from the legacy trappings of the old. It's a message that resonates strongly with future banking customers, such as millennials, many of whom believe that tech startups will drive banking innovation and make better financial services providers than conventional banks.

Legacy, a huge source of challenge for conventional banks

It is ironic that IT systems, a bank's biggest enabler, are today its biggest barrier to innovation. Built in the days of product-centric banking, IT applications were architected to run processes for each product from end to end. This created rampant duplication of applications and processes across product lines.

The problems were compounded with channel proliferation, which required the integration of channel-specific interfaces to product-centric architectures. The sudden shift to customer-centricity forced a series of tactically appropriate decisions and discrete integrations that only worsened an already chaotic situation. Large banks in particular, have taken a big hit to agility, flexibility and innovation capability.

All this is not only preventing banks from performing to potential but also from exploiting the power of new digital technologies to the fullest. So, does that mean established banks, with their legacy, can never turn truly digital? Or that new banks that have no legacy, automatically are? No, not at all. At Infosys Finacle we believe that there's a lot more to the truly digital bank, a point of view that is shared here.

The four hallmarks of a truly digital bank

- ***The customer is the focal point***

  Customers are no longer just passive consumers of financial services. Digitally empowered, they are taking control of their banking relationships and financial decisions, and expect that their banks will help them achieve their goals effectively and efficiently. With customers becoming more demanding, assertive and influential in the relationship, banking experience is becoming the kingmaker in this business. Hence every aspect, including processes, strategies and decisions, must reflect this priority.

  The truly digital bank will find ways to innovate regular products and processes to make them

Future banking customers, believe that tech startups will drive banking innovation and make better financial services providers than conventional banks.

customer-centric. Fintech startup Digit and Commonwealth Bank exemplify this: Digit offers an app-less service that analyzes customers' spending based on which it withdraws small amounts to put into a fixed deposit. Incidentally, this type of product – a Flexi Fixed Deposit – has been offered by many of our clients for several years now. Commonwealth Bank has made the mortgage process more customer-centric with its property guide mobile app, which allows prospective home buyers to just "scan" a property and instantly receive data on ruling price, sales history, suburb profile, rental yield etc. This gives the bank an opportunity to engage with customers early on in the mortgage engagement cycle.

The truly digital bank will find ways to innovate regular products and processes to make them customer-centric.

Offering services to cater to customers' growing preference for social banking on Facebook, Twitter etc. is one way to bring customer-centricity to channels. However, today's digitally-empowered customers demand customer-specificity where the focus shifts from addressing identical individuality to recognizing individual identity. Banking solutions will have to be tailored to 'segment of one' circumstances, like Alpha Bank's wearables-linked savings account that rewards customers for an active lifestyle.

In a truly digital banking scenario, technologies like gamification and augmented reality will be leveraged to encourage desired behaviors and improve experience. Banks will look to collaborate and co-create to come up with the best, most customer-centric ideas. Importantly, banks will not only look at the needs of their own customers, but also their customers' customers. Once again, Commonwealth Bank serves as a great example. The bank has launched the Albert App for merchant point of sale terminals, which is revolutionizing the payment experience for cardholders. What's more the App can be used to customize the interface for different businesses. In restaurants, for instance, the interface can be designed to allow a group to view the bill, split it up, get the individuals to pay their share including tip, discreetly and without any intervention by restaurant staff. This has really improved the experience for all concerned.

In Poland, the ever innovative Idea Bank (even its name is appropriate!), the winner of BAI – Infosys Finacle Global Banking Innovation Awards 2015, is offering cash management services to SME clients that enable them to order a multi-function mobile ATM at no additional charge. A dedicated mobile app, developed in cooperation with iTaxi is behind this facility. Clients can call the nearest vehicle and monitor its position on a map with a real-time tracking system. Once it arrives, the customers can complete their cash management operations within minutes.

No doubt banks have made efforts to become more customer-centric over the years. But now there's a need to step up the pace of change, as well as broaden its area of impact, starting with the business model. Hence, when drawing up their business plans, banks should focus on customer value and experience as a primary goal, rather than an afterthought to cost and revenue targets.

- ***Insight is everything***

  Banks always had a wealth of customer data, which has multiplied manifold in the digital paradigm. The ability to quickly capture and convert data in near- or real-time into actionable insights will distinguish the digitally-enabled from the truly digital. With the help of advanced analytics technologies, banks can now leverage the treasure trove of information, both within and outside the enterprise, to gain granular, real-time insights into customers, operations, markets and more.

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  Apart from transaction and behavioral data, banks also have access to a variety of external data sources from social channels that enable them to segment customers on the basis of individual values, expectations and needs, rather than by broad demographics. Using the power of analytics banks can now build richer insights into individual customers' life stage circumstances and personalize the banking experience to the 'segment of one'. From the customer's perspective, this will manifest as more personalized, contextualized and relevant products and services. Truly digital banks will leverage insights to stay ahead and educate clients proactively about their emerging needs – even before the customer has fully recognized them.

  Insights drawn from the advanced analytics will also be critical to reduce the cyber-risks and contain frauds. Truly digital banks will also leverage data-driven insights to optimize operations to reduce costs. For instance, banks can leverage the insights to optimally staff their call centers during the holiday season. Many of our clients are leveraging insights to decide upon the location for their ATMs. Digital banks will also leverage insights to identify opportunities for revenue expansion ahead of others. For instance, reaching out to unhappy customers of other banks with contextual offers.

  To imbibe the full potential of analytics into the organization, truly digital banks would need to leverage cloud-based/open source technologies. In addition, they must make efforts to democratize analytics and integrate it into the experience of all stakeholders, from customers and all types of staff – not just senior executives – to suppliers and partners.

- ***Automation drives experience***

  The rise of digital banking has created an explosion in transaction volumes. For a truly digital bank, automation is a critical prerequisite both for delivering a frictionless experience at the customer interface and streamlined operations at the back-end. Automation, driven by business rules, algorithms and machine learning, will give

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banks the operational leverage to process millions of transactions and thousands of loans every day without increasing costs. It will also allow them to accelerate the pace at which they acquire new customers and expand their business. Automation will also free up the workforce from mundane repetitive tasks to allow them to focus on higher value generating activities.

But that's only the beginning. The truly digital bank has to exist in a world of autonomous businesses driven by the Internet of Everything and smart machines, which has several implications. For instance, autonomous cars and sharing culture stimulated by providers like Uber is expected to reduce the number of cars per household significantly in future. Banks need to understand how this would impact their motor loan business. When refrigerators and kitchen containers order groceries on their own, banks must have a way of engaging with those gadgets. Even more importantly, they must prepare to engage and influence intelligent machines like Avatars, Robo-advisors and Automated Investment Platforms that will help clients take decisions in future.

With more data, more compute and better algorithms driving smart automation on the one hand, and emerging technologies like Blockchain pointing at the automation of clearing, settlement and reconciliation on the other, the truly digital bank will need to create the necessary capabilities to help it sustain in its fully digital environment.

- ***Collaborative ecosystem is the new universal bank***

  The digital paradigm distributes, decentralizes and disintermediates. Hence truly digital banking will be built not on individual universal banks, but on an ecosystem of providers who will together deliver best-in-class experiences. The focus, therefore, will have to be on building systems of collaboration that can create a constantly expanding ecosystem that can deliver all services

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relevant to a customer's financial needs in a seamless manner. Accordingly, the ecosystem needs to include partners from the financial and non-financial industries.

Such an ecosystem will give banks the ability to create interfaces with other auxiliary networks and services that can enable them to extend the reach of their core business functionality as well as quickly add new competencies. Banks will become more open, thanks to APIs, apps and developer/partner ecosystems. Co-operation and Co-opetition will continue to increase. Already, we are seeing examples, such as Semble, a collaborative project between three mobile operators – Vodafone, 2degrees and Spark – and ASB and BNZ banks, to create New Zealand's first mobile wallet.

One of the biggest challenges to creating collaborative interfaces has been the legacy applications and the risk involved in granting access to banks' core information resources. But banks can now address that challenge by deploying modern componentized, APIs-led applications, to decouple front-end services from back-end resources. This means banks are now empowered to develop collaborative ecosystems that expand access and accelerate innovation at the edge of the enterprise without compromising the security of core resources.

Increasing collaboration and openness is not only a business imperative; going ahead even regulators are going to demand this of banks. For instance, Europe has proposed the PSD 2 initiative mandating banks to open up payments APIs to enable other providers to easily consume such services. Progressive banks aren't waiting until such a day. They are embracing open banking to proactively curate the ecosystem of service providers around them. They understand that the ecosystem will be the new universal bank in the digital era.

This broad framework makes it quite clear that wrapping an old business model in the latest digital technologies, or giving legacy processes a digital facelift, is not going to create a truly digital bank. In order to become truly digital, traditional banks need to take a holistic approach to digitalization that will transform them in entirety – from the structures that define their purpose to the processes and systems that power their business.

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However, digital banks will face a serious challenge in the form of the increasing cyber-attacks. With touch-points increasing, and banks opening up to partners and external ecosystems, the need to secure their systems against digital attack has never been greater. Unfortunately most banks are ill prepared to face this threat, as evidenced by incidents like the cyber-attack on RBS online services and the JP Morgan data breach and so many others like it. Banks need to secure themselves by staying compliant with an ever-expanding repertoire of risk management best practices, and also by developing an understanding of yet to emerge risks, such as that of fraud scenarios in distributed ledgers. Banks need to create a strong foundation of agile systems and processes and an environment of continuous innovation, to manage the challenges and exploit never-before opportunities for growth in the digital era.

And that is something that all our progressive clients understand. They have no misconceptions that cosmetic digitalization will be enough to address either the exacting expectations of today's digital customers or the heightened threat of digital-only competition. Rather, they acknowledge the need to digitalize the enterprise holistically. Capabilities built on modern technology will lay the foundation for this transformation. Today Infosys Finacle is helping many of these organizations do just that with a dual strategy of "Renew and New" – because it is necessary to renew the existing landscape of legacy systems to make it ready to exploit the new technologies that are central to a truly digital bank.

Renew and New: Infosys Finacle's recommended path to truly digital banking

Clearly, the truly digital banking experience requires a transformation that impacts almost every aspect of the enterprise. The good news is that the fundamentals finally seem to be aligning up to favor this. In 2015, the global GDP is expected to grow at 3.5%, a small yet important improvement over the last year. The global banking sector also seems to have finally come out of its extended recovery phase. Therefore, the time is ripe to launch a transformation exercise.

To our clients, we recommend the dual strategy of 'Renew and New', built on the bedrock of unified purpose, innovation and creativity. The strategy calls for banks to upgrade and deploy modern systems that allow them to tap into the benefits of new technologies such as mobility, analytics, cloud computing, block chain, and artificial intelligence to gain agility to respond effectively to the evolving environment. At the same time, banks also need to leverage these new technologies to open green-field opportunities for growth, profitability and enhancing consumer experience.

Balance is key to the Renew and New strategy. While banking leaders everywhere are eager to add new digital capabilities that will open up new

Balance is key to the Renew and New strategy. While banking leaders everywhere are eager to add new digital capabilities that will open up new opportunities, they have to also ensure their existing systems, processes and applications are capable of absorbing and supporting such capabilities.

opportunities, they have to also ensure their existing systems, processes and applications are capable of absorbing and supporting such capabilities. A linear approach, which prioritizes one over the other, will fail to deliver to expectations. Focusing entirely on adding digital capabilities at the customer interface without connecting them back to the core would create a short-term tactical advantage at best. On the other hand, reengineering the core without adequately re-imagining processes and digitalizing customer-facing systems will severely impede innovation in the enterprise.

ICICI Bank has grown business from a customer base of 2 million in 2001 to over 56 million today; from 110 branches to over 4050 branches and reaching an asset size of over US$ 103 billion with over US$ 9.8 billion in revenue.

The beauty of the Renew and New strategy is in its ability to adapt itself to the specific circumstances of each bank's digital transformation needs. Every bank has a unique IT transformation agenda derived from the technological and architectural profile of its systems, business priorities, among others. At Infosys Finacle, we have successfully applied our dual strategy to banks of diverse sizes, in different stages of technological evolution, and with distinctive priorities. Here are a few examples of this from our client organizations.

Powering all-round innovation at India's largest private sector bank

ICICI Bank, India's largest private sector bank, has been a torchbearer for technology-leveraged innovation and a pioneer of many industry-first innovations in the past decade. In the process it has managed explosive growth in customer base and business. The Bank has grown business from a customer base of 2 million in 2001 to over 56 million today; from 110 branches to over 4050 branches and reaching an asset size of over US$ 103 billion with over US$ 9.8 billion in revenue. The Finacle platform has played a key role in enabling many of the bank's breakthrough innovations.

Riding on the sound technology foundation of multichannel capabilities offered by Finacle Core Banking, and Finacle e-banking solution, the bank has pioneered many industry-first innovations in the past decade such as Flexi-fixed deposits, Goal based flexi-recurring deposits, Facebook Banking, Direct Banking, and Tablet Banking.

ICICI Bank realized that to continue to win in the new digitized environment, it needed to leverage the latest in digital technology, and modernize both core banking and digital channels. The bank kicked off 2015 with the renewal of its core banking system by deploying Finacle version 10 to serve its customer base of over 56 million with real-time, customer-centric experience. This was quickly followed by the launch of Pockets, India's first digital wallet that enables users, including non-ICICI customers, to transact on any website or mobile application in India. Mere months later the bank launched iWear, the country's first multi-platform smartwatch app that lets ICICI customers stay connected with their bank accounts at all times.

Progressive modernization for a leading U.S. direct bank

The application and associated benefits of the dual strategy of renew and new are not limited to the traditional banks. We are also working with new-age direct banks to accelerate their journey towards delivering truly digital banking. One of our clients, The account opening process has been reduced from twenty steps to six and customer requests are now being processed with 40% fewer clicks.

Discover Financial Services (DFS) is a direct bank in the U.S. with just one branch, but a presence across all fifty states. It is the thirty-third largest bank holding company in the country, with total assets of $80.6 billion.

DFS had a complex legacy IT environment supporting over 100 discrete IT services, 75 of which required point-to-point integration. Many of these services were also being used from hosted system providers.

We partnered DFS to implement a program of progressive renewal and modernization that would help minimize risks and accelerate business benefits faster. Considering the bank's pan-U.S. presence, compliance with all Federal and State laws was also a critical requirement of the transformation.

Since the transformation of the deposit business, in the first phase, DFS has achieved significant acceleration in many of its key business processes. The account opening process has been reduced from twenty steps to six and customer requests are now being processed with 40% fewer clicks. Account servicing costs have also dropped by 65% while interfaces for customer service agents have gone from 20 to an incredible figure of 1. Compliance requirements have also been completely automated thus significantly reducing the risk of non-compliance.

Following the successful modernization of its deposits business, DFS is now working with Infosys Finacle to transform its loans portfolio.

Multi-country commercial banking transformation for a global financial powerhouse

Commercial Banking modernization is one of the most ambitious programs at The ING Group, a true tier 1 global financial institution. In 2013, ING in partnership with Infosys Finacle, embarked on a massive exercise to transform its commercial banking operations in 28 countries spread across three continents.

Like most large banks, the technology landscape at ING featured multiple legacy components that not only impeded scalability but also drove up maintenance costs. The general lack of standardization also created multiple operational challenges for the bank, including drawn-out time-to-market for new product launches. ING wanted to standardize all offerings and solutions around the key program objectives of maximizing customer-centricity and operational efficiency. The plan is to leverage the robust account management modules and the multi-entity feature of Finacle to unify multi-country operations under one entity with a unified database.

In 2013, ING in partnership with Infosys Finacle, embarked on a massive exercise to transform its commercial banking operations in 28 countries spread across three continents.

The early results of transformation, with the first country, Ireland, going live on Finacle, have been highly encouraging. The time-to-market for new and innovative commercial banking products has been reduced to weeks from the months it took with the previous legacy systems. The account opening process now takes ten minutes instead of two days. The new Global Account Management System also opens up the opportunity for ING to offer new services, like white label and intraday liquidity services, to its corporate and institutional customers.

Multi-entity, big bang transformation towards growth and profitability

Our client, Rizal Commercial Banking Corporation (RCBC) is the fourth largest bank in the Philippines with over 400 Branches, 3,000 users and 6 million accounts. Its subsidiaries include RCBC Savings Bank for thrift banking, RCBC Capital for investment banking services, Bankard, Inc. for credit card issuance, RCBC Forex for currency trading, and RCBC Securities, Inc. for brokerage services.

Without any staff additions, the bank was able to achieve a nearly 25% increase in loan processing volumes and a 300% increase in Internet banking transactions through enhanced automation.

In 2012, RCBC started Project Destiny, carrying through an upgrade of its system with Finacle's solution suite across commercial banking and thrift banking subsidiaries. RCBC upgraded 96 application systems, redefining 291 processes, reconfiguring over 400 branches, and migrating 3.5 million customers simultaneously in all its branches, and head office units as well as in its subsidiary, RCBC Savings Bank. The results have been outstanding and offer a great example of how renewal of business can create a great foundation for new innovations, growth and profitability.

Without any staff additions, the bank was able to achieve a nearly 25% increase in loan processing volumes and a 300% increase in Internet banking transactions through enhanced automation. The cost of teller-based transactions went down by 10% even as teller productivity increased 33%. Straight through processing and automation also delivered cost savings of 25%.

RCBC realized a 54% return on transformation investments during the first year with benefits expected to go up to 2.1 billion Peso by the fifth year of deployment. The bank has also received multiple awards for the program including the Asian Banker award for best implementation and the Celent Model Bank award. The bank's CIO, Mr. Dennis Bancod was also named the Most Outstanding ASEAN CIO in 2013.

Creating a new multi-country direct banking model

When one of our clients, Raiffeisen Bank International, took the decision to target digital customers, they launched a completely new entity called ZUNO Direct Bank. With this, they created a unique multi-country direct banking model.

Finacle played a strategic role in supporting ZUNO's ambitions to expand its geographic footprint as well as its product portfolio. The bank was launched in Slovakia at the end of 2010 with an initial portfolio of deposit products, including current accounts and debit cards. In July 2011, it expanded into the Czech Republic and also successfully added a new lending product portfolio, including personal retail loans and overdraft lines.

Finacle played a strategic role in supporting ZUNO's ambitions to expand its geographic footprint as well as its product portfolio.

ZUNO has since grown into a multi-country direct bank with a customer portfolio of more than 250,000 customers. The bank plans to further expand its product portfolio as well as enter new markets in future.

Becoming truly digital

Most banks understand the need and the importance of becoming truly digital and the role this will play in the success of their business aspirations. But legacy challenges, especially at large banks, have thus far slowed down the transition to a truly digital banking model. Even as banks accelerate the deployment of new digital capabilities at the edge of the enterprise they have been largely unable to achieve a proportional pace in digitalizing the core. And unless they are able to accomplish a perfect alignment of their digital capabilities from the core to the customer interface, they will not be able to realize the delivery of truly digital banking. The emphasis, therefore, has to be on an orchestrated strategy that drives renewal from the core outward even as it enables the effective assimilation of new digital technologies from the edge.

Infosys Finacle's strategic "New and Renew" model is designed to help banks achieve that orchestration while simultaneously accelerating digital transformation, minimizing business risk and expediting business benefits. This dual strategy will enable them to add new capabilities critical for pursuing greenfield opportunities as well as re-energize existing systems, processes and policies with emerging technologies. The approach should be to build on existing strengths of scale, reputation, brand, trust and customer relationship, and in parallel, experiment with new technologies, innovations and business models befitting the digital age. Along the way, there will be trial and failure, innovation and success, improvement and iteration, all as necessary as they are unavoidable.

Infosys Finacle's strategic "New and Renew" model is designed to help banks achieve that orchestration while simultaneously accelerating digital transformation, minimizing business risk and expediting business benefits.

Author: Puneet Chhahira
Global Marketing Lead
Infosys Finacle

Fidor Bank AG: **The Fidor Smart Current Account**

In conversation with
Carsten Luth,
VP, Fidor Group International

Q: Congratulations Carsten, on winning the BAI-Finacle product and service innovation award. So what is the Fidor Smart Current Account? And what makes it innovative?

A: Thanks! It was an honor for us to receive the award, and an incredible affirmation of the work we're doing to improve the lives of our community. The Fidor Smart Current Account is the account that everyone gets when they sign up with Fidor, but it's much more than your standard current account. It's built with APIs, so connections can easily be made to third parties to offer innovative financial services. Some examples of these partnerships come in the form of global money transfer, precious metals trading, and crowd funding (just to name a few). Generally, newer FinTech companies can offer a better and more customer-centric solution than the traditional banks can. Combine that with the fact that as a bank we are required by law to thoroughly vet each of the third parties, and you create an environment where it's less risky for the customer to try these new products and services. It's hard to describe, but the account feels better than your traditional 'set it and forget it' bank account. We offer the customer the ability to explore, to experience the best of FinTech.

> It's hard to describe, but the account feels better than your traditional 'set it and forget it' bank account. We offer the customer the ability to explore, to experience the best of FinTech.

Q: You have a very interesting concept of 'community' in banking. Could you talk about the idea behind this?

A: The bank actually started out as a financial community where users could rate products and advisors to try and get the best value for their money. This was back in 2009 when the world was still reeling from the crisis and didn't know who to trust. This mentality of being as transparent as possible and working with the community to create fair products still shapes how the bank makes decisions today. We regularly use the community to ask for feedback and to help shape the development of new offerings. Simply giving customers a medium to voice their opinions and suggestions may seem obvious, but unfortunately it's still fairly uncommon in the world of banking.

Q: Tell us about how a Fidor Bank account holder's experience would differ from that of a bank account holder in a regular bank.

A: The biggest thing people will likely notice is everything is done online. While there are plenty of resources you can contact if you need help, we have a total of 0 branches. We believe that the branch experience of being told which products to use is far inferior to getting advice from a community of people who look out for one another.

Additionally, the account itself feels more transparent and easy to use; there are no secret products or fees. If you want to start a social trading account, simply go to the social trading option and compare the vendors we've integrated with. When using their account, the customer realizes that the account is more than just a place to store your money; you can cover all of your financial needs with it. Another huge difference people will notice is the speed at which you can execute on many functions. Fidor has several products that can be applied for and completed in less than 60 seconds.

Q: What are the products you are planning to launch in the coming year?

A: We have a tremendous to-do list that we're working on and have a couple of priorities for the upcoming year. Our Fidor Smart Current Account is pretty well

> We believe that the branch experience of being told which products to use is far inferior to getting advice from a community of people who look out for one another.

developed for retail customers, but we're looking to improve the experience for our SME customers. Some general tweaks like payment processing, more credit and savings features, an expanded mobile app, and new APIs will make the account even more attractive for SMEs. We'd like to show off our range, and highlight more clearly that you can do business with Fidor as your primary business bank account. Additionally, we're exploring taking the first steps towards a banking "app store". While it's still in the conceptual phase, our approach already allows for easy integration of third parties, so why not create an experience for it? Our existing partners will receive better exposure and Fidor customers will be able to more quickly find solutions to their financial problems. We're also looking to introduce a new card scheme and update the community – so there's a lot to look forward to!

Q: What is your take on the blockchain technology, and are you looking at using it in any way?

A: We continue to look at blockchain technology with curiosity and we're exploring how we can use it in new, innovative ways (e.g. building a core banking system on top of it). We already partner with companies like Ripple and Bitcoin.de (the leading German bitcoin exchange) to offer innovative services on top of their cryptocurrency offerings.

Many banks are starting to look especially at the underlying technology of Bitcoin, especially the distributed ledger component, which is something that could impact the future of banking. Companies like MultiChainor Ethereum (among others) are tackling some tough problems to try and figure out how to best utilize these concepts in a practical manner, and it'll be exciting to see in which direction this technology ends up going.

Q: What about bitcoin banking?

A: We've talked to a lot of experts on this topic, and while many interesting ideas came from it, we concluded that there is no real demand for a "Bitcoin bank" at the moment neither from the consumer, nor from the entrepreneurial perspective – the industry still is in a phase where it needs to consolidate the business models, products, etc. Additionally, because Bitcoin ownership is determined by knowing a private key, a Bitcoin bank would essentially be in the business of data storage. The fact that specific Bitcoin are traced back to a specific owner is irreconcilable with the model of traditional banking - loaning out money and

> We're exploring taking the first steps towards a banking "app store". While it's still in the conceptual phase, our approach already allows for easy integration of third parties, so why not create an experience for it?

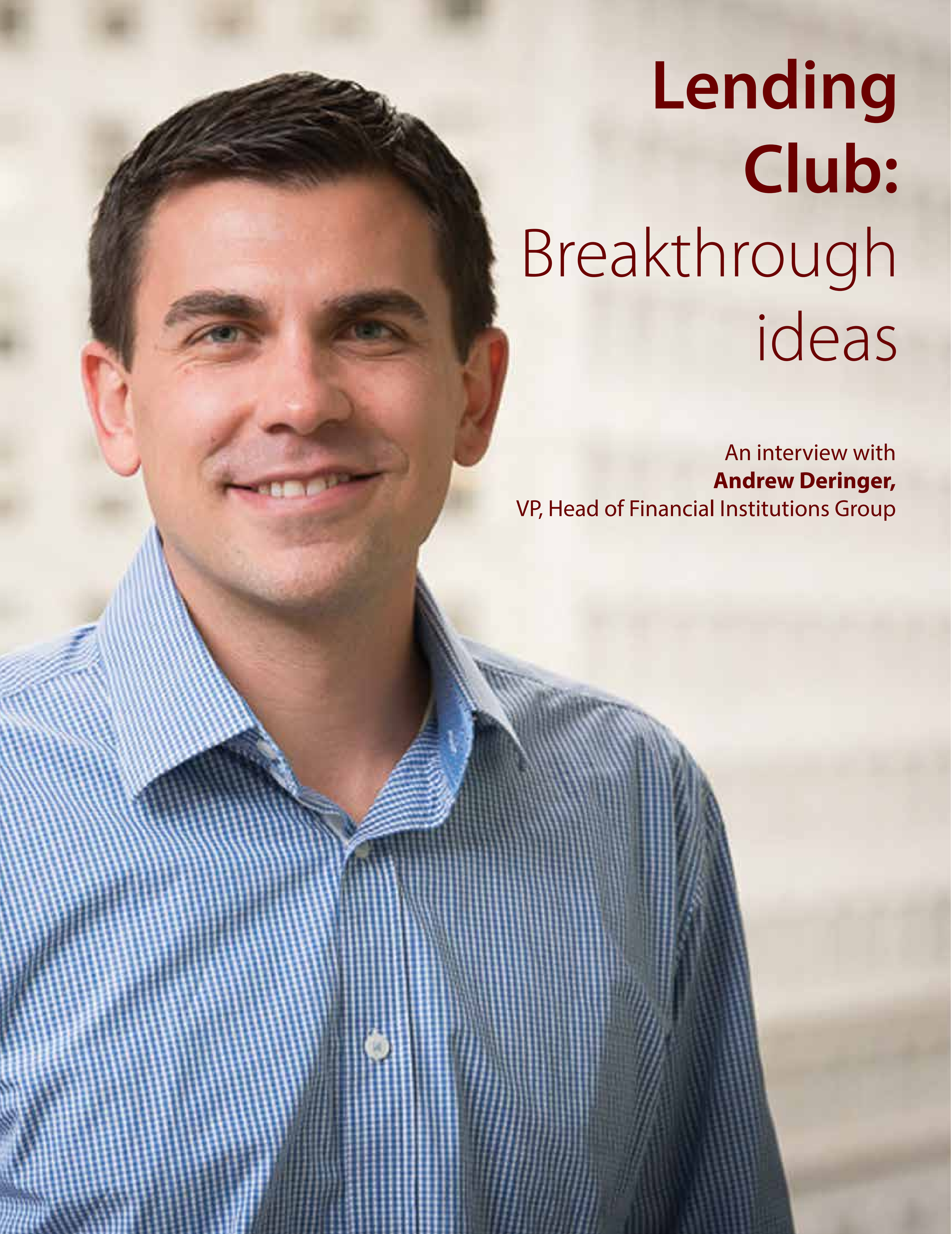
> While the general public is becoming increasingly informed about Bitcoin, it's still (unfortunately) a small, niche market.

paying interest on deposits. While the general public is becoming increasingly informed about Bitcoin, it's still (unfortunately) a small, niche market. As such, the ever-evolving wallets, marketplaces, and brokers seem to meet demand admirably. If we're talking about Bitcoin specifically, we'll have to see some key milestones met before a bank makes sense. It's something we'll keep our eye on though, and perhaps we'll be in a very different place a few years from now – though we think it probably will not be limited/focused on one specific currency. We feel it's important to be close to cryptocurrency development and that we keep an open mind. As a bank, however, we always have to keep our regulatory obligations in the back of our mind. Cryptocurrencies are a result of the digital lifestyle and as such it's important for us to understand the development happening around them.

Q: I'm sure this is a question you get a lot…but what is Fidor Bank's vision – from when it was started, to the present time, and going forward?

A: Fidor was built on the idea that the world needed better banking. We have no desire to be like the gigantic banks, because they don't do right by the customer. Fidor charges fair rates and doesn't try to sell the customer things they don't need. The motto is "banking with friends" encapsulates this feeling pretty well. Banking should leverage social networks and technology to better lives, not just turn a profit. We believe in asking a community versus being told by a financial advisor, financial literacy over intentional confusion, and openness over secrecy. Banking can and should be simple and fun.

> We believe in asking a community versus being told by a financial advisor, financial literacy over intentional confusion, and openness over secrecy. Banking can and should be simple and fun.



Lending Club: Breakthrough ideas

An interview with
Andrew Deringer,
VP, Head of Financial Institutions Group

Q: Congratulations Andrew, on winning the BAI-Finacle Most Innovative Non-Bank Financial Services Organization Award. Could you talk about what Lending Club is doing that makes its service truly innovative?

A: Lending Club leverages technology to deliver a frictionless, transparent, and highly efficient online marketplace that delivers lower rates to borrowers, solid returns to investors, and an overall better customer experience. On one side of the marketplace, investors get unprecedented access to consumer credit as an asset class and are empowered to diversify their investment across hundreds or thousands of loans. On the other side of our marketplace, credit worthy borrowers can find out if they are qualified for a loan within minutes of applying and are often eligible for a lower rate than what is available from other sources.

Q: So what brought on this idea?

A: In 2006, Renaud Laplanche, Lending Club's founder and CEO, looked closely at his credit card statement and realized that despite a great credit history, he would pay a 16.99% interest rate on a balance, while his deposits at the same bank were only earning 0.48% interest. This inspired him to do more research, and he began to understand just how inefficient the traditional banking industry can be. Renaud founded Lending Club on the premise that an online marketplace would offer a more cost-efficient and consumer-friendly way to allocate capital between savers and borrowers than the traditional banking system.

> Lending Club leverages technology to deliver a frictionless, transparent, and highly efficient online marketplace that delivers lower rates to borrowers, solid returns to investors, and an overall better customer experience.

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Q: Physical branches: Essential or redundant?

A: Consumer behavior is fundamentally changing in the U.S. and across the world as more consumers engage with their financial institutions online or through mobile devices. Lending Club's proprietary technology platform and online marketplace model capitalizes on this change in customer preferences. As a result, Lending Club eliminates costs related to a branch network and allows us to make credit more affordable. Furthermore, online product delivery broadens our reach into communities that have been historically underserved by traditional banks.

> Lending Club's low operating expenses, combined with banks' low cost of capital, reduces the cost of credit for consumers and businesses.

Q: The banking industry is transforming. Where do you see traditional banks placing themselves as the wave of change comes. And will you partner with traditional banks?

A: Lending Club has established partnerships with many banks over the last few years through which banks can buy loans from Lending Club's online marketplace or use Lending Club's online marketplace to offer co-branded loans to their customers. This can be particularly helpful in areas such as personal loans or small-balance commercial loans, which are often hindered by high underwriting and servicing costs. This partnership plays to each party's strengths – Lending Club's low operating expenses, combined with banks' low cost of capital, reduces the cost of credit for consumers and businesses. Further, Lending Club's online platform provides a solution to banks that want to offer loan products online, but find it difficult to do so because of legacy systems.

Q: Tell us about the Google partnership

A: The Google partnership allows Google to facilitate low-interest and no-fee financing to select Google for Work reseller partners. The program leverages Lending Club's platform so Lending Club services the loans and enables Google to purchase the loans, thus investing its own capital in its partner network to drive business growth.

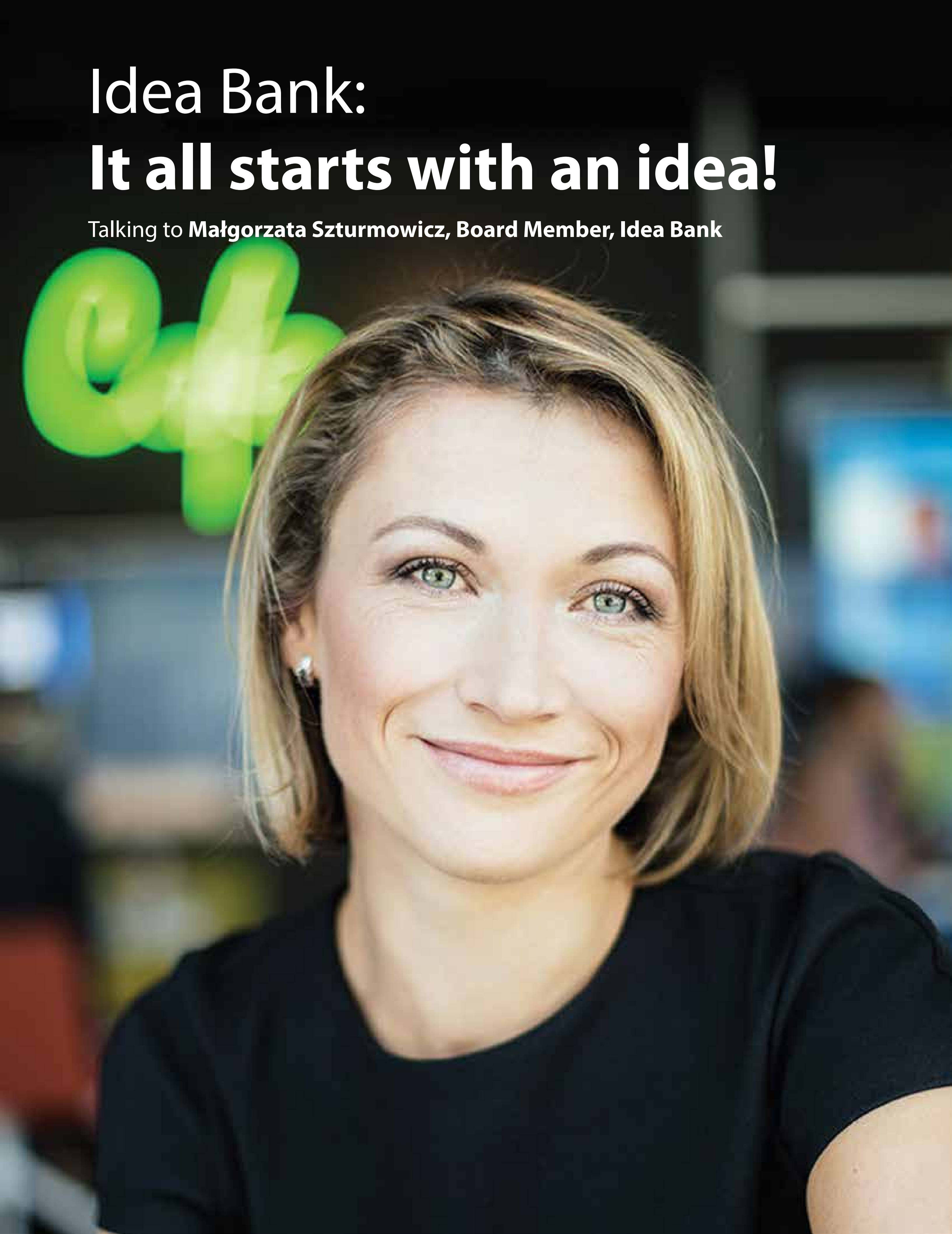
Q: How do you see it taking shape in the next two years? Is it about more customers, or introducing newer services? Add-ons?

A: Our goal is to make ourselves more useful to more people over time, and we're doing that through continuing to deliver a superb customer experience and expanding across different product lines such as small business loans and lines of credit, as well as through partnerships such as Union Bank, BancAlliance, Google and others. We think there's a huge opportunity to help people achieve their financial goals.

> Our goal is to make ourselves more useful to more people over time, and we're doing that through continuing to deliver a superb customer experience.

Idea Bank:
It all starts with an idea!

Talking to **Małgorzata Szturmowicz, Board Member, Idea Bank**



Q: What is the mobile ATM service all about? And what makes it click among your customers?

A: The Mobile ATM service enables Idea Bank's clients, mostly SME owners, to summon an ATM-laden vehicle via a smartphone app and use it to deposit their daily income whenever and wherever they find it most convenient. According to our research, one-third of

Polish SME owners use only cash transactions, and 80% deliver their income to the bank in person, wasting even an hour daily as a result. We decided to lift the burden of money transportation off entrepreneurs' shoulders and prove that cash-loving conservative clients are no excuse for the lack of innovative payments thinking.

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Q: The mobile ATM is such an innovative concept, what are the other innovations Idea Bank has introduced to its customers?

A: Delivering innovative business-management solutions lies at the roots of Idea Bank's corporate strategy. Only in the last couple of years we have managed to launch multiple different projects, all of them designed specifically to support entrepreneurs in their everyday duties. Be Proud, for instance, is an on-going program aimed at providing free marketing services to SME owners. Since its inception in 2013 we have conducted over 200 micro-campaigns, promoting our clients' businesses in the mainstream media. Idea Cloud is another breakthrough initiative of ours – it is the first banking cloud in Europe and the world's first transactional platform combining both accounts and banking functionalities. Equipped with many business-management apps, it helps entrepreneurs cut red tape by half. And let's not forget Idea Hubs, our new experimental branches fitted with co-working space, bookable conference rooms and all the necessary office facilities. Their success proves that innovative bank branches may still attract customers and teem with life.

Q: What are the products you are planning to launch in the coming year?

A: We have a very special project awaiting its launch in 2016. The World Bank estimates that Polish companies spend a minimum of two months a year just tending to social security- and tax-related matters. In order to change that ratio, we are looking to integrate our corporate e-banking system with the

Idea Cloud is another breakthrough initiative of ours – it is the first banking cloud in Europe and the world's first transactional platform combining both accounts and banking functionalities.

national administration system. When that happens, entrepreneurs will be able to carry out most of their administrative chores online – shortly after logging into their e-banking accounts. We will be the first bank ever to provide its clients with such a possibility.

Q: What is the vision of Idea Bank, and how do you see it shaping up in the future?

A: Idea Bank's brand awareness is on the up, and our innovative SME-targeted solutions contribute largely to the bank's increasing popularity. As a rising leader in servicing Polish entrepreneurs, we also aim at becoming their bank of first choice. A strong and highly recognized brand, Idea Bank will attract employees who take great pleasure (and pride) in driving innovation. It already does.

We are looking to integrate our corporate e-banking system with the national administration system. When that happens, entrepreneurs will be able to carry out most of their administrative chores online – shortly after logging into their e-banking accounts.

Marriage of Leadership and **Technology Driving Global Financial Services Innovation**

Innovation in retail financial services is alive and well as leaders in every region of the world recognize the need for change to better serve customers by building innovative cultures.

The financial services world changed forever following the financial crisis, but not just because of the economic environment. Sure, the economy had an impact on the way regulatory requirements were established but the real driver of change has been the consumer. Faced with increasing expectations, changing behavior and advancing technology, some leading financial institutions have successfully recognized this evolution and responded with innovation like nothing we have seen in this industry in decades.

Since 2011, the BAI-Infosys Finacle Global Banking Innovation Awards have recognized innovation excellence in a variety of categories. In the course of evaluating hundreds of nominations from financial institutions in every region of the world, we have come to better understand the reasons why leading financial services companies want to make innovation a priority and the approaches they use that enable them to do so successfully.

To begin with, financial services innovation is truly a global phenomenon, and we see this clearly in the nominations we have studied over the years. Innovation leadership, however, does tend to vary by region. In Europe and Asia, for example, innovation leadership typically comes from traditional banks while, in the U.S., the most impactful innovation is more likely to be spurred by venture capital-funded startups and fintech companies.

Different regulatory environments and dependence on multiple legacy systems no doubt explain much of this difference. That said, we see that financial services leaders across the globe are building cultures and capabilities to overcome a variety of barriers they encounter in developing new products and services to improve the financial lives of their customers.

Within this global context, we have uncovered a few surprising trends. For example, we might expect that the largest financial institutions in any region would be the most advanced in delivering on innovation strategies; after all, they command the most resources. But that has manifestly not been the case. Time and time again, it is the smaller regional-based banks that have delivered the strongest results in innovation, perhaps because they devote the time and energy to developing game-changing products. For example, CaixaBank in Spain; Fidor Bank in Germany; and Hong Kong-based Bank of East Asia, all have built sustained cultures that support experimentation and innovation in new and different ways. We have also seen an abundance of successful innovation in regions you might not expect, including Idea Bank SA (Poland), Deniz Bank (Turkey) and Hana Bank (South Korea).

So, what motivates these banks to innovate and what is their secret to successful execution? Ed Carrell, managing director, head of commercial transformation for London-based Barclays and one of the judges for

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the 2015 Global Banking Innovation Awards, says the evolution of digital technology and the sudden rise of fintech firms have delivered a high-impact wake-up call to banks. "Suddenly, there is a recognition that the competitive environment, consumer preferences and economics have changed, and those who don't adapt and re-invent will be left behind. The economics have changed and it is critical that the incumbents evolve to new business models quickly."

> Suddenly, there is a recognition that the competitive environment, consumer preferences and economics have changed, and those who don't adapt and re-invent will be left behind. The economics have changed and it is critical that the incumbents evolve to new business models quickly.

A similar view is expressed by Gurhan Cam, senior vice president of Digital Generation Banking at Istanbul, Turkey-based DenizBank: "Innovation is basically the business of solving problems, which is huge for financial institutions because the main value of banks lies in their customer relationships. As customer needs change, we need to reshape the bank to meet those needs. Innovation is simply important for survival."

The successful innovators are those institutions that can harness the resources needed to develop new products and services and then direct those resources with intensity to deliver the desired results. For Slawomir Lachowski, CEO of Warsaw, Poland-based FM Bank PBP SA, which developed a digital-only bank known as Bank SMART, the innovation process starts with "entrepreneurship and values; it's the interaction between co-workers and teammates, how they work together to design and build products. It's important to continue searching for new things."

Along similar lines, Ricardo Campos, senior director, Electronic Banking, at Warsaw-based Bank Millennium, says innovation "has to be something that is within the company, part of the routine. You must create a culture that has no fear of failure so that employees can keep trying new things – if something new doesn't work a second time, we move on. "However, Todd Roberts, senior vice president of Products & Payments at Toronto, Canada-based CIBC, cautions against innovation for innovation's sake: "Innovation doesn't stand alone; it has to be in service of what your clients need and what the marketplace needs."

I couldn't agree more. In the pursuit of innovation, it's critical that financial services leaders focus on meeting customer needs and solving customer problems rather than becoming enamored with a new technology. It

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Innovation doesn't stand alone; it has to be in service of what your clients need and what the marketplace needs.

can't be about the shiny new toy; the only way to drive customer acquisition, retention and satisfaction and build shareholder value is to focus on the customer.

As for trends in actual products and services, digitization and mobile technology have been important drivers of innovation in the award nominations since the beginning. This year, we observed three important trends:

Processes and technologies to enable the omnichannel experience: Financial services companies are rationalizing and consolidating disparate

Unifying the customer experience across all direct banking channels has resulted in a competitive advantage for these institutions because they have differentiated products and services for their customers.

channels that possess unique and inconsistent interfaces that can be confusing to customers and are costly to maintain. Functions are being streamlined in order to provide consistent customer support across various platforms. Unifying the customer experience across all direct banking channels has resulted in a competitive advantage for these institutions because they have differentiated products and services for their customers, as well as increased efficiency and improved engagement with the employees who serve customers across these channels.

Customized banking through Application Programing Interfaces (APIs): Banks are turning to APIs for customizable product offerings for targeted segments, enabling them to provide their customers with a more personalized banking experience. While the API marketplaces and app stores are emerging across the global banking ecosystem, there are four types of stores that appear to most influence the market: 1) public app stores that are used by banks and nonbanks to deploy mobile apps built for banking customers; 2) vendor app stores that are either cloud-based or bricks-and-mortar; 3) enterprise app stores for employees offering personal banking, business services, and third-party consumer apps; and 4) banking app stores for customers.

Integration with revolutionary technology: Some financial services companies focus on incremental innovation, including small, gradual improvements to existing products. The major advantage of this

More aggressive innovators are placing bigger bets on radical innovative approaches that capitalize on today's changing environment.

approach is the immediacy of the changes, which presents lower execution risk and usually protects customer loyalty and brand position. However, in an increasingly competitive marketplace with changing customer preferences, more aggressive innovators are placing bigger bets on radical innovative approaches that capitalize on today's changing environment.

The evolution of the Internet of Things (IoT) and the development of other new capabilities have presented many opportunities for financial services companies to develop services that can improve the global and multichannel experience of customers. For example, banks have started using robots in branches to enhance the customer experience using advanced technology combined with a different kind of personal touch. Robots can serve customers using state-of-the-art multi-lingual speech and voice/face recognition technologies, accumulate customer interaction data to analyze and discover customer needs and improve branch security by monitoring customers with facial recognition and behavioral analytics. Customer response has been positive, with some segments even preferring this delivery over other traditional approaches.

The lesson from all this is that customer needs are always evolving and banks must try to meet those needs.

The lesson from all this is that customer needs are always evolving and that banks must, as well as they try, to meet those needs. As CIBC's Roberts says, "You must always be looking at the next thing to please the customer year after year. We need to come to terms with the fact that while our product lifecycles used to be one product per quarter, we now need to sharpen up products every quarter and that is just the new world we're living in."

Author: Debbie Bianucci
President and CEO of BAI, Publisher of BAI Banking Strategies & BAI Banking Strategies Daily.

How CIOs are 'Banking' on **Digital Strategies**

Published in CXOToday.

Rajashekara V. Maiya,
Associate Vice President & Head – Finacle Product Strategy & Pre-sales, Infosys discusses the major shifts in the banking scenario where CIOs need to effectively bank on digital strategies to remain profitable. An excerpt.

Today most banks are turning to 'digital' technologies and practices, as they are looking to change their services from being transactional to relationship-based. That's because every bank is focusing on enhanced customer experience. Likewise, banking CIOs are increasingly realizing that digital technologies are disrupting the way consumers interact with banks, and the way businesses are run.

Q: What major tech shifts are you noticing in India's banking sector? How different is it from the global banking scenario?

A: We are witnessing rapid technology changes globally, in the form of mobility, big data, social, wearables, cloud, blockchain and much more.These technologies are disrupting the way consumers interact with banks, and the way businesses are run. This evolution will continue to forever change the way we bank, for e.g. if we just take a look at mobility – by 2017 an estimated 1 billion people will use mobile banking globally. Mobile payments are expected to cross USD 1 trillion by 2015 and USD 2 trillion by 2017.

Five years ago, most of us would not have cared about blockchain technology, virtual currencies and distributed ledgers. Even though we have only USD 3.5 billion worth of Bitcoins in circulation, the impact this technology will have in redefining the financial industry is immense. It's therefore not a surprise that many large banks like JP Morgan, State Street, UBS, Royal Bank of Scotland, Credit Suisse, BBVA, Commonwealth Bank of Australia, Goldman Sachs and Barclays have come together to design business models around this. Even governments are taking interest. Recently, the U.K. government announced that it would commit £10 million to support research in digital currency technology. What it means for banking is that we will continue to see decentralization of controls, and power will continue to shift to consumers. We all have to start thinking about the mobile first world. The segment of one is truly arrived. We have to find ways to offer mass personalization – every product and services needs to be contextualized to the consumer's unique circumstances.

The above mentioned global tech shifts are equally applicable to Indian banking sector as well. However, the intensity, diversity and sophistication varies considering the demographic profile, urbanization, underbanked financial landscape, mobile penetration, and coverage of Aadhaar.

Q: Do you see the role of the CIO changing in the banking sector? If yes, kindly explain.

A: Yes, we envisage that in addition to the current role, the CIO will have to wear the business hat to leverage the global tech shifts to deliver customer experience, differentiated products & services. They will have to wear different hats of business, marketing, customer, partner and regulator and use that experience to build the IT landscape.

Q: Is Internet and mobile banking replacing traditional banking? Please comment with an example.

A: In Indian context, the sheer number of underserved banking population necessitates the need for providing financial services through alternate channels. There are 14 ATMs per 100000 adults in India, compared to more than 100 in advanced economies. Similarly, there are 12 commercial bank branches per 100000 adults compared to more than 40 in advanced economies. Fortunately, for India the digital revolution has helped the mobile and internet reach masses at lower costs.
This is an opportunity for banks to reach out to the underbanked. If you observe the growth story of many of the Indian private sector banks, they demonstrate the advantages of using Internet and Mobile banking, in addition to traditional channels. ICICI bank is a classic example of leveraging the alternate channels to achieve growth and scale.

Q: How is social media paying off for Indian banks?

A: India is one of the fastest growing when it comes to adoption of social media. Number of internet users grew at 33 percent in 2014 to 232 million, we are the second largest market for Facebook with ~120 million users, largest users of WhatsApp with over 80 million active consumers, and fastest growing Twitter user base. With this trend, customers are demanding banking based on social media. We have seen many banks getting on to this bandwagon and offering sophisticated social media based banking around Facebook, Hashtag, Twitter and WhatsApp.

While it is still to be assessed from a ROI perspective, for banks it is a way to attract and retain customers, while reducing cost from physical infrastructure point of view.

Q: Are banks in India leveraging big data to increase revenues? If so, in what ways?

A: The IT transformation that Indian Banks have carried out in past one decade has demonstrated that there is no equivalent globally for such transformation. Total deposits grew by 4.8 times, assets by 6.6 times, interest income by 9.5 times and net worth by 4.5 times. However, employee strength has grown by only 5%. This is an incredible transformation of an industry.

Now that the transformation is behind these banks, it is time for banks to leverage the data across users, branches, customers, partners, products to generate online real-time insights to increase revenues. They can leverage the data to conduct customer analytics, product analytics, fraud intelligence, risk management and regulatory reporting. It can also be used for 'right sell', reduce NPAs, proactive and preventive maintenance.

Q: What should be the key focus for banking CIOs in the coming years?

A: The CIO will have to invest in leveraging the data for analytics, using cloud effectively, trying to convert the organization into a truly digital in every aspect, use automation to improve efficiency, leverage network effect by investing on Internet of Things (IoT). And create a zero distance to customers, partners, employees and regulators by effectively investing in technology.

Infosys Finacle Client Innovation Awards

Now in its second year, the Infosys Finacle client innovation awards recognize banks that leverage Finacle solutions to deliver breakthrough innovations in banking products, customer service, processes and distribution channels.

Categories

- Product Innovation
- Channels/Distribution Innovation
- Customer Service Innovation
- Process Innovation
- Innovative Custom Components
- Project Management

Nominations received

104

Judgement criteria

- Degree of innovativeness (35% weightage)
- Benefits reaped (40% weightage)
- Complexity of the initiative (25% weightage)

The 2015 edition at Finacle Forum

"The awards recognize banks that have accelerated innovation, created leading products, and enhanced customer experience by leveraging Finacle solutions. This year, we received an overwhelming response and participation, which highlights how our clients are embracing breakthrough innovations quickly to take advantage of global technology shifts and deliver differentiated products and services, based on customers' unique requirements."

- Michael Reh, EVP and CEO (designate), EdgeVerve

The Winners

Product Innovation

Winner:

- ICICI Bank for 'Pockets' – A digital wallet that offers exciting features such as bill splitting, money transfer through WhatsApp/Facebook, and tap and pay.

Runners-up:

- Punjab National Bank for 'PNB Saksham' – A deposit product that offers periodic payouts to enable regular income.

- Sampath Bank for 'Sampath Cardless Cash' – A product that enables cash withdrawal through ATMs without using the ATM card.

Customer Service Innovation

- **Winner:** ICICI Bank for 'iWear' - This next-generation app for all smartwatches offers transactional and informational services for simplified banking, and allows the customer to stay connected with his/her bank account at all times.

- **Runner-up:** The Cosmos Co-op. Bank Ltd. for "Integrating Tally accounting software with internet banking" - The Cosmos Co-op. Bank Ltd. observed that most of their corporate customers used Tally as their accounting software. Recognizing this, the bank developed an application for automating direct payments through Tally using the bank's internet banking gateway.

Channel/Distribution Innovation

- **Winners:**
  - Standard Bank for "Smart App" - A smartphone app for Android and iOS devices, to be deployed across African operations to deliver smart digital experiences.

• ICICI Bank for 'Twitter Banking' - #icicibankpay is the first social media platform, in India and Asia, to provide money transfer facility through Twitter.

- **Runner-up:**
  Discover Financial Services for "Renewing core for transforming direct banking business" - Discover Financial Services estimates that they will realize a 65 percent decrease in its servicing cost-per-account with this transformation.

Innovative Customs Component Developed

- **Winner:** Bank of India for "Instant remittance from foreign countries" - Bank of India operates in 17 countries worldwide. The bank developed an innovative custom component to support customers across international locations to send remittance in INR to Indian (domestic) accounts through transfer, NEFT or RTGS payment modes.

- **Runner-up:** Bank Sohar for "Better Effective FX Position Management of Bank at Treasury" - Bank Sohar was confronted with the challenge of assisting customers to automate their dividends payment process and online monitoring. The bank leveraged Finacle Treasury solution to help achieve this by creating a unique custom component.

Process Innovation

- **Winner:** Andhra Bank for "e-KYC" - Andhra Bank launched e-KYC to streamline the account opening procedure. The time taken to open an account is now less than two minutes.

- **Runners-up:**
  • Ernakulam District Co-operative Bank for "Automated Loan Account Opening" - Ernakulam

District Co-operative Bank has implemented automatic loan account opening via Finacle. The bank created a customized workflow to empower them to open a new account within 10 seconds.

• RBL Bank for "Inward Clearance from CTS Application" - The new Cheque Truncation System (CTS) at RBL Bank has been integrated with the Finacle signature verification to automate the cheque clearing process completely. This has helped the bank to increase efficiency and reduce manual dependencies.

Innovation in Project Management for Multi-country Transformation

- **Winner:** ING Bank for "Simplifying Multi-country Transformations" – ING has embarked on a massive exercise to transform its commercial banking operations in 28 countries, spread across three continents. Ireland was the first country to go-live, with nearly 85 percent of the project's requirements were delivered using the out-of-the box capabilities of Finacle.

Innovation in Project Management for Migration

- **Winner:** ICICI Bank for "Renewing Core to Accelerate Innovation" - ICICI Bank was recognized for managing one of the largest core banking migrations in the region flawlessly. The bank deployed multiple innovative program management practices to manage the migration within a window of 16 hours.

- **Runner-up:** State Bank of India for "Multi-country Migration" - SBI was recognized for the project management practices deployed to achieve upgrade of Finacle core banking solution across 20 countries in 19 months, leveraging agile implementation framework.

Innovation in Project Management for Single Country Transformation

- **Winners:**

  • Housing Bank of Trade and Finance (HBTF) for "Transforming Legacy to Leadership" - The bank was recognized for its successful transformation to standardize several outdated manual processes with Finacle core banking, CRM & e-banking solutions.

  • Bancolombia for 'Legacy Transformation' - Bancolombia is replacing its 30 years old legacy systems with Finacle. This includes the data migration of few hundred thousand mortgage loans running in Cobol and DB2 System and integration of Finacle with 36 legacy systems in different technologies using SOA approach. In addition to mortgages, the bank is also upgrading trade finance solution with Finacle.

- **Runner-up:** Emirates NBD for "Core Banking Transformation to Power Inorganic Growth" - As part of their growth plan, Emirates NBD Group acquired the Egypt operations of BNP Paribas. In line with the unified business and technology strategy for the group, the bank decided to upgrade all legacy systems to the standards of the Emirates NBD Group with the Finacle universal banking solution. The award recognized Emirates NBD's program management capabilities to manage this complex migration.

From Here to There:
The journey to becoming a truly digital bank

2015. The year when banking continued to unbundle at the hands of nimble, innovation, technology-led players big and small, taking away a share of the most profitable businesses. Analysts predict this unbundling will impact 32 percent of revenues and 7-9 percent of the industry's profit by 2020; they also say that up to 73 percent of deposits and 29 percent of the payments and cards business will be under threat from non-banking providers. As we head into 2016, our view is that conventional banking institutions must direct their focus at protecting their turf from this onslaught. The only way they can win against their digital rivals is by playing the same game. This is the time for banks to evolve their selective digitization initiatives to a holistic strategy that will turn the enterprise fully, truly digital.

As we head into 2016, our view is that conventional banking institutions must direct their focus at protecting their turf from this onslaught. The only way they can win against their digital rivals is by playing the same game.

But what makes a truly digital bank? We believe it is the following four characteristics.

Customer experience above all

With digitally empowered customers taking active control of banking relationships and financial decisions, they clearly expect their banks to support them in their goals. The other expectation of course, is a banking

With digitally empowered customers taking active control of banking relationships and financial decisions, they clearly expect their banks to support them in their goals.

experience that is second to none. Truly digital banks therefore need to view every aspect of their business, from processes, to products to strategies, through the customer and customer experience prism.

There's a crying need to accelerate the embracement of customer-centricity as well as broaden its area of impact to cover the business model, products, processes, channels, etc. A truly digital bank will leverage technologies like gamification and virtual reality to drive experience, and will also collaborate with others to produce the most-customer centric ideas. What's more, these banks will look beyond their own customers, at even the needs of their customers' customers.

Insight makes the difference

Banks' treasure trove of data is now overflowing thanks to digital. What they do with this wealth of information will make the difference between being merely digitally-enabled and truly digital. The latter type of bank will employ advanced analytics technologies to turn the data lying both within and outside the enterprise into fine-grained, real-time insights into every aspect of the business. The truly digital bank will develop a deep understanding of customers (values, expectations and preferences), and not just their demographics, which it will use to personalize the banking experience and products and services for an individual customer, throughout his or her life stages.

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Automation for experience

To ensure a frictionless experience amidst constant increase in transaction volume, a truly digital bank will automate operations as far as possible. This will also enable it to beat costs, expand the business, and relieve the workforce of mundane repetitive tasks. But that's not all.

The truly digital bank has to revisit its approach to automation considering that the world is rapidly tuning in to the Internet of Everything, and there's a parallel emergence of autonomous machines. When intelligent machines act autonomously, and even take decisions in certain cases – think robo-advisors – the digital bank will need to find ways to influence these devices.

The truly digital bank has to revisit its approach to automation considering that the world is rapidly tuning in to the Internet of Everything, and there's a parallel emergence of autonomous machines.

Last but not least, with technologies like Blockchain promising to automate financial transactions and usher in smart contracts, it is imperative that the truly digital bank build the necessary capabilities to sustain in this extremely digitized environment.

Ecosystem as universal bank

The truly digital bank has to operate in a significantly distributed, decentralized and disintermediated environment. In line with this trend, truly digital banking will also share the same characteristics, and come to be delivered not by individual universal banks, but by a diverse ecosystem of providers, who will together fulfill every financial need of the customer. This is already very evident in payments.

The ecosystem will allow the truly digital bank to interface with other networks and services to both extend the reach of its business and acquire new capabilities.

The ecosystem will allow the truly digital bank to interface with other networks and services to both extend the reach of its business and acquire new capabilities. This will mark the dawn of an era of open banking, reliant on APIs, apps and developer/partner ecosystems. The partner ecosystem will draw on the providers of financial and non-financial services both, and give rise to new collaborative, co-opetitive and co-creative alignments.

It is important to note that collaboration and openness, which are still optional today, will become mandatory in future as more and more regulators follow in the footsteps of the European PSD 2 to insist on the usage of APIs by banks.

The vast majority of banks have already set out on the journey to digitization, although they may still be some distance away from being truly digital. We have tried to understand and categorize the various stages of evolution by adopting the five classifications of industries in BCG's Strategy Palette, namely, Renewal (be viable), Classical (be big), Adaptive (be fast), Shaping (be the orchestrator) and Visionary (be first). Accordingly, we theoretically map the conventional, traditional bank to the Renewal stage of evolution at one extreme, and the truly digital bank to the Visionary stage at the other, with all the others being pegged somewhere along the continuum in between.

However it is not so easy to classify banks in such absolute terms in practice, because most banks have digitally evolved some parts of their business more than others. What we mean by this is that a largely conventional bank in Renewal mode might have upgraded its channels for agility with the latest digital technologies such that only that part of the bank would be in the Adaptive stage. Such limitations notwithstanding, we believe this classification would serve as a useful guide for banks on a journey destined towards a truly digital (Visionary) state. In our view, there are 18 important markers, which will indicate how far a bank has progressed in this journey. These are discussed briefly below:

- **Business model:** The Renewal bank is focused on staying viable. It acts conventionally and incrementally. Most of its IT spending goes towards maintaining the status quo. Consistent with this, the Renewal bank's business model is also conventional, and largely reliant on basic products and services. Customers are unlikely to get more sophisticated solutions from such banks. An Adaptive bank, on the other hand, is focused on reacting quickly to the changes around it. So, it will have an agile business model that includes owned products and services as well as outsourced offerings from external parties. When a customer comes asking for a specific solution that's not on the menu, the Adaptive bank will make it available by tapping its partnerships and alliances. A Visionary bank – by which we mean "a truly digital bank" – will have a disruptive business model, and will possibly own no products and services, but

A Visionary bank – by which we mean "a truly digital bank" – will have a disruptive business model, and will possibly own no products and services, but instead aggregate a vast number of offerings from both financial and non-financial institutions.

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The Renewal bank differentiates itself on core functionality, including pricing, because its focus is on retaining existing customers.

instead aggregate a vast number of offerings from both financial and non-financial institutions, much like companies like AirBnb and Alibaba have done in the hospitality and retail businesses respectively.

- **User experience:** User experience would be touchpoint-centric in a Renewal bank, whereas an Adaptive bank would have progressed ahead to an omnichannel strategy to offer a seamless experience across all touchpoints. The Visionary bank would be ahead of all, offering brand-centric differentiation, and a ubiquitous experience benchmarked against the best that any company from any industry – be it Apple, Tesla, Amazon or some other – has to offer.

- **Touchpoints:** The Renewal bank is still largely dependent on physical touchpoints, but an Adaptive one believes in "virtual first and physical second" for transactions, and "anytime, anywhere" when it comes to the delivery of banking services. Fast forward to a truly digital Visionary bank and what you will get is a bank that is predominantly virtual, and available for business everywhere and every time.

- **Organization structure:** Line of Business silos, with their own budgets and P&L targets, are a common sight in the Renewal bank, whose organization structure is not conducive to a holistic, unified, enterprise-wide approach to business. Adaptive banks have more agile structures, organized along customer segments so as to fulfill all their needs in one place. But the Visionary bank has its sights set on creating a simple, virtual organization that appears ubiquitous to every customer. It not only caters to a traditional banking need for deposits, loans, etc. but also brings together many other financial and non-financial capabilities in a unified, seamless, and consistent manner.

- **Products and services:** Customers of a bank in the Renewal stage are forced to buy what is available with the bank. Adaptive bank customers have it better because they are allowed to take what they need. Customers of the Visionary bank will have no constraints, because they will be allowed to make what they want, entirely digitally and independently, in a do-it-yourself mode.

- **Differentiation:** The Renewal bank differentiates itself on core functionality, including pricing, because its focus is on retaining existing customers. The Adaptive bank looks slightly ahead, at increasing reach and convenience, at enhancing experience through incentives and other means, and also at improving the basics like functionality, efficiency, etc. For the Visionary bank, everything boils down to customer convenience and experience. Hence, it will differentiate itself using a "right-selling index", aiming to deliver the right product at the right place and time to the right customer.

For a Visionary bank nothing short of highly agile, fully automated processes will do.

- **Business processes:** Legacy processes – semi-automated, silo-based, inflexible and expensive to change – rule in Renewal banks. The business processes of an Adaptive bank would be cross-functional, and somewhat automated and vertically integrated across the ecosystem. For a Visionary bank nothing short of highly agile, fully automated processes will do. The level of automation will be such as to eliminate the need for cash, paper and people in most transaction processes.

- **Marketing and sales:** Who hasn't been bombarded by an overload of largely irrelevant marketing offers by their banks? That's what happens to the customers of a Renewal bank, which does not have the benefit of analytics to plan and target campaigns for maximum efficiency and effect. The Adaptive bank however, is able to run digital marketing campaigns in real or near-real time; it employs analytics to deliver contextual content in an integrated manner. Marketing at the Visionary bank will be tailored to the likes, needs and preferences of a segment of one. Massive data, including social, and advanced analytics will come into play to deliver messages and campaigns that reflect true customer understanding.

- **Advisory:** Financial advice from the Renewal bank is more informational than insightful, localized, and reactive in nature. Adaptive banks will leverage their significant digital capabilities to provide proactive advice, backed by personal financial management tools of illustration. The truly digital Visionary bank will step it up to employ technologies including gamification and social, to provide proactive, contextualized advisory services, complete with a social component of what others with similar needs and profiles are going for.

- **Customer acquisition and fulfillment:** The Renewal bank acquires customers the traditional way, and to some extent, online. Because manual processes are involved, there is a lag between request and fulfillment. A simpler online acquisition process takes care of most day-to-day requirements at the Adaptive bank. However, for more complex needs, a combination of traditional and digital methods may be employed. The Visionary bank is, but of course, fully digital in the way it acquires customers or meets their requests. User experience is the same at all touchpoints; services are provided proactively and often in real-time; and most requests, including for onboarding, are fulfilled in a matter of minutes.

- **Delivery of services:** Because service requests, even those accepted online, are delivered via back-office/centralized processes in a Renewal bank, there is an inevitable time lag between the two events. Adaptive banks, by virtue of their automated and online services, are able to respond immediately with suggestions and solutions or voice/video/chat support to any request or complaint. Visionary banks, on the other hand, will obviate the need for external intervention to a large extent by enabling self-service in almost everything. Because processes will be built on a deep understanding of customer needs and behavior, even remote support will be required very rarely.

- **Leveraging of technology trends:** Emerging technologies like the Internet of Things will probably not feature in the plans of the Renewal bank. Being

Marketing at the Visionary bank will be tailored to the likes, needs and preferences of a segment of one.

The Visionary bank is, but of course, fully digital in the way it acquires customers or meets their requests.

the first to adopt new trends, the Adaptive bank will probably leverage the IoT in areas such as trade financing to automate transactions, tracking and decisioning. In contrast, the IoT will be integral to the Visionary bank, which will incorporate it seamlessly into business processes to enable automation and great experience.

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- **Payments:** Where Renewal banks will deal with real currencies and traditional payment methods rife with silos and transactional cost and delay, Adaptive banks will switch to contactless payments, virtual currencies and digital methods of payment, wearable payment devices, automation and straight through processing to enable real-time payments at relatively low cost. The Visionary bank will do all this and more. It would enable the use of cryptographic currencies and purely device to device funding; it would employ biometric authentication; and it would bypass traditional payment networks and systems to provide services at really low cost.

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- **Security:** Because there is no access to real-time fraud data or cross-channel intelligence, the Renewal bank is forced to manage fraud by line of business. Its response is invariably reactive, occurring after the event has passed. The Adaptive bank manages fraud across channels and business lines. It will have at least some analytics-driven fraud prevention capability, and should the worst happen, will try to make the remedial process as painless for the customer as possible. The Visionary bank will try to prevent fraud in the first place by employing very advanced analytics. This is critical because the Visionary bank is very open by nature and therefore greatly exposed to risk from its ecosystem. We believe this bank will resort to automation, advanced biometrics, pattern analysis and data sharing across the banking network, to reinforce security while protecting the quality of customer experience.

- **Architecture:** Architecture in the Renewal bank is typically legacy – rigid, trapped in silos, and snarled like spaghetti. Information flows quickly and back and forth in the Adaptive bank, whose interfaces are adequate enough to eliminate the need for point-to-point integration. A truly digital Visionary bank will have a collaborative and open architecture based on APIs and industry standards, to draw the participation of an entire ecosystem of providers.

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- **Service registry and composition:** This is an important marker on the road to digitization. The service registry and composition of a Renewal bank will have coarse-grained services that are non-standard/ bank-specific, and only a few critical functions shall be available as APIs for testing. The Adaptive bank will have an established shared services technology layer, standardized APIs, and a combination of fine- and coarse-grained services. In the Visionary bank, all services, registries and compositions will be fine-grained and to industry standards, to support its intention to be part and parcel of the API economy and larger ecosystem.

- **Data and analytics:** Data is a challenge for the Renewal bank, which has to deal with its fragmented nature, poor quality and the lack of standardized data models of analysis. Adaptive banks have data of better quality, a standardized data repository and model, and while they may continue to use data based on lines of business, they also employ social data to perform customer-oriented analytics. With insights being one of their defining characteristics, the Visionary, truly digital banks will access data from all sources, have data available in-memory, use cognitive and prescriptive analytics, and work with the ecosystem to make sure they have the right information across all customers.

- **Deployment and infrastructure:** Most banks in the Renewal stage have on-premise, fixed stacks, and tightly coupled legacy infrastructure that is both hard and expensive to maintain. Adaptive banks leverage Software as a Service to some extent, as they do private and public clouds and flexible stacks. At the Visionary bank, everything is a service – be it software, infrastructure, process or platform. Nothing is owned and everything is on the cloud.

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As mentioned at the beginning of this discussion, it is hard to pin a bank down to any one category in entirety. Most banks are on a journey where they've made more progress on some fronts than others. But they should all unite in their goal to become a Visionary, truly digital bank at the end.

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A glimpse of **Italy and France**

ITALY

Italy. France. The mecca of art, culture and all things stylish. Home to two important banking markets in the Continent. Having been affected by the Financial Crisis of 2007-08 to different degrees – Italy more than France – both countries are now on the slow road to recovery. Like everywhere else, the banking industries in Italy and France are undergoing rapid change, both evolutionary and disruptive, thanks to digitalization. As banks try to grapple with the attendant challenges and opportunities, they are turning to technology, from advanced mobility to analytics, to take them through. This is opening up new opportunities for technology vendors to offer next-generation solutions to Italian and French banks, which are still quite reliant on legacy and proprietary IT solutions.

Economic prospects look up after a long time

Italy is the 9th largest economy in the world. The services sector dominates, accounting for nearly 75% of GDP and 65% of the total workforce. This is followed by manufacturing, which largely specializes in high quality and luxury goods and employs nearly a third of the workforce. Agriculture makes up the rest of the economy and generates nearly 4% of employment.

The global recession had a significant impact on the Italian economy. In 2009, GDP dipped by 5.5%, one of the largest drops in the country's history. The road to recovery has not been all smooth, with the economy actually contracting for three years until 2014. But all factors seem to be looking up with the Italian services sector registering one of its fastest growth rates in over 5 years at the end of 2015. This, coupled with a faster rate of growth in manufacturing, indicates prospects of a slightly stronger economic performance in 2016. The country's GDP is expected to grow by 1.4% in 2016 and 2017.

Banking – a time for consolidation and reform

Banking reform is broadly seen as a critical component of any plan to get the national economy on track. With over 650 banks, many see a favorable case for consolidation to overcome excessive fragmentation, enhance governance and boost lending and profitability. A key development in this area has been the initiative to reform voting rules at cooperative lenders known as "Popolari". The initiative seeks to overhaul the current system, which gives all banking shareholders one vote regardless of the size of their stake, and consolidate the banking sector. Over the next year, the 10 largest cooperative lenders will become joint stock companies thus setting the stage for mergers and acquisitions.

Although the Italian economy is picking up, banks continue to suffer from worsening asset quality. At the end of Dec 2014, impaired loans were nearly 18% of the total, almost triple the ratio in 2007. The biggest causes of non-performing loans (NPL) include the large exposure of banks to corporate, particularly SME, borrowers and a conservative policy on defining and

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writing off NPLs. Regulators are stepping in to acquire some part of the industry's bad business loans.

UniCredit, Intesa Sanpaolo, Banca Monte dei Paschi di Siena, UBI and Banco Popolare are some of the big players in the Italian banking scene. The country also has a growing and healthy Fintech culture. The country's first official Fintech community was launched early last year and at that time counted 78 startups in the banking and financial services space.

Banks have been conservative in their technology policy so far

The Italian banking ecosystem is still largely characterized by solutions that are proprietary and mainframe-based. One reason for this is most banks still prefer to take a rather conservative position on technology given the difficult journey they have had from the crisis to a possible recovery. Another reason for the technological aspirations in Italian banking being relatively moderate is the market itself, which is less complex, in terms of product offerings, statutory mandates etc., than other comparable markets like Spain and the United Kingdom. And finally, most Italian banks are still not fully comfortable with the onsite/offshore model that typically drives most banking transformations. They still prefer to outsource their technology needs to partners with a significant presence in the country, who can speak the local language and have established credentials in the Italian banking industry.

But now, they are taking interest in next-generation technologies

There are three areas of interest that are currently driving technology decisions in the Italian banking industry – going digital, going mobile and reducing operational costs. Even so, the general preference continues to be for replacing banking systems modularly based on Line of Business rather than pursuing large scale core transformation. The market also does not seem to be quite ready for a full foray into the Cloud paradigm with most efforts currently concentrating on physically hosting applications. But concepts like analytics especially in the area of marketing, open APIs, and Linux are rapidly gaining traction among banking leaders in Italy.

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FRANCE

The economy suffers growth pangs

France is the 5th largest economy in the world with the services sector contributing 70% to GDP. The country also has a strong manufacturing sector and is a recognized global leader in automobiles, aerospace, and railways, besides cosmetics and luxury goods. The French economy endured the economic crisis relatively better than some of its peers in the region. But since then, recovery has been rather slow and GDP growth has remained stagnant over the years. The country faces some significant challenges in terms of rising unemployment rates and the state of its public

France is a very mature banking market with around 380 banks and a banking penetration rate of 99%.

finances. The French economy is forecast to grow at 1.3% in 2016 and 1.6% in 2017 on the back of falling oil prices and continuing monetary stimulus programs. But government tax revenues, consumer purchasing power and unemployment are among the challenges that have to be addressed before the country can get onto a sustainable growth trajectory.

Banking is mature and stable

France is a very mature banking market with around 380 banks and a banking penetration rate of 99%. Most banks in France follow a universal banking model that extends across segments like retail banking, corporate banking, investment banking and capital markets, and asset management. The French banking industry is dominated by five vertically integrated universal banks and their subsidiaries that control over 80% of all assets. These are BNP Paribas, Société Générale, and three banks, namely Crédit Agricole, Crédit Mutuel-CIC and BPCE, which are structured as cooperatives.

According to a recent report, most large French banks are expected to perform well on a range of metrics primarily on the strength of their diversified business models and robust balance sheets. The fact that most major French banks operate across multiple revenue businesses, like wealth management, insurance etc., is expected to enable them to deliver competitive risk-adjusted returns. In the coming year, French banks are expected to report improvements in capitalization and profitability.

Banks have a legacy of technology

Most of the large banks in France still rely extensively on legacy systems operating on UNIX and mainframe-based solutions that have largely been developed in-house. Just like Italy, the French banking industry tends to prefer technology partners who know the local language and have established local credentials.

But now, they're going digital

As a mature banking ecosystem, there is naturally a lot of interest in digitalization within the French banking industry. The growing Fintech phenomenon is also expected to pose a real threat to traditional banks with one report indicating that new players will account for 40-60% of the retail banking market over the next decade. A majority of banks already have a concrete digitalization strategy in place with multi-channel customer relationship management, Big Data and Analytics topping investment priorities. Modular transformation and payments also rate high in the overall digital strategy of most banking players. Concepts like Cloud are still to gain any meaningful traction as yet but the focus on Linux continues to expand.

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6 ways banks can offer **better services to the digital customer**

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Customers demand digital banking because the conventional banking model does not deliver the experience they have become accustomed to from other services industries like retail.

Banking has always been a data-driven technology-centric business. So, progressive banks globally understand the promise of big data analytics. They endorse its potential to transform business aspects like risk management, customer engagement and operations. Most banks already use these technologies in areas like customer segmentation or fraud management.

Customers demand digital banking because the conventional banking model does not deliver the experience they have become accustomed to from other services industries like retail.

Here are 6 ways banks can effectively cater to the digital customer:

Personalizing for the segment of one: Eight percent of Asian banking customers are willing to change financial service providers in favor of a better proposition. At the same time, 70 percent of all global banking customers are willing to provide more information if it leads to greater personalization.

Banks need to leverage every customer data from a new addition to the family or the need for a new car

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when personalizing the banking experience. Advanced analytics can combine customer data from various sources to help banks segment customers based on their values, expectations and needs, rather than by broad demographics.

Big data product-matching algorithms can then help deliver products that are aligned with customer preferences, significantly increasing the probability of success.

As more and more customers take to online and social platforms to air their opinions, banks can leverage these unstructured informal data sources to extract significant business value. There is a huge opportunity to drive continuous product and service improvements based on customers' stated sentiments. Sentiment analysis can also help banks structure loyalty programs on the basis of topical moods among customers. Banks can even use it to build a better understanding of the competition's customers and develop more targeted, productive acquisition strategies.

Managing loyalty and attrition: In most banks, attrition is detected only when the customer issues a notice for termination of services. But most customer departures are the result of a sequence of escalations that lead to the proverbial last straw. Conventional customer management systems are simply not equipped to track detailed relationships.

But with the complex event processing capabilities of big data, banks will be able to track the escalation in real-time. That said an early warning system is only one half of the solution for successful customer retention.

Analytics can help match acceptability and profitability across a range of possible retention offers and even recommend the ideal channel of delivery.

The other is the creation of a mutually acceptable retention offer. Here again, analytics can help match acceptability and profitability across a range of possible retention offers and even recommend the ideal channel of delivery.

Streamlining marketing and campaign management: Most marketing programs in banking take a shotgun approach of delivering intrusive, irrelevant offers to customers, wasting precious bank resources along the way. But a US bank was able to achieve a mammoth 600 percent increase in marketing ROI as well as a 20 percent cost reduction by leveraging the power of analytics. Analytics can transform the marketing function by enabling banks to deliver offerings that are tailored to a specific customer's financial needs. It also makes it possible to determine pricing based on the likely future value of the customer. Using cross-channel analytics, banks can even identify the customer's preferred channel for receiving the offer. Event-trigger engines can proactively alert banks to marketing opportunities as and when they occur.

Empowering employees with analytics: Customers are increasingly turning to digital channels for their routine banking interactions. It is therefore imperative for banks to enlist every employee in the battle for wallet share. The first step to realizing this strategy is to ensure that all staff members, including call center agents, are analytics enabled.

A leading Indian private bank has done this successfully to increase sales productivity by a factor of five. Once every employee has access to detailed transactional and behavioral information about customers, every interaction becomes an opportunity to cross- and up-sell products.

In order to successfully embed analytics as a culture, banks need to deploy easy-to-use predictive tools that are integrated with existing business intelligence and reporting systems. Visualization tools and technologies will also play a critical role in the process of ensuring that every employee is analytics enabled. These solutions will enable the staff to quickly convert complex data patterns into visual and intuitive cues that are easy to interpret and action.

Fraud and AML: According to the RBI, the Indian banking system lost Rs 8,646 crore to fraud in 2012, a 325 percent surge over 2009. Earlier this year, the Central Bank also imposed huge fines on three Public Sector Banks for violating KYC and AML norms. The challenge will only get tougher as digital channels proliferate and transaction volumes rise exponentially. Traditional detection and control systems will not be able to cope with the volume of data that each transaction generates.

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Advanced analytics can help banks scan transactions in real-time to flag suspicious patterns. With the new technologies, it is even possible to monitor cross-channel behavior for deviations from the norm.

To improve the quality of surveillance, AML solutions must be integrated with KYC and watch list screening systems. Banks should also optimize their KYC and client on-boarding processes so that neither risk management nor customer experience is compromised. Over the long term, the focus must be on building an enterprise platform that offers a unified view of KYC, client on-boarding and AML and enables more proactive approach to fraud management.

Compliance and risk: When it comes to compliance, analytics is almost a mandate. Regulatory stipulations are becoming so demanding that the conventional 'check the box' approach to compliance is no longer workable. In fact, in 2011 the RBI mandated an automated data flow (ADF) approach to ensure 100 percent accuracy with zero manual intervention.

This zero tolerance approach combined with the increasing complexity of reporting norms has made analytics indispensable to the compliance function. Analytics technologies will help banks combine structured and unstructured data to generate actionable intelligence that enables the proactive management and mitigation of regulatory risk. Compliance officers will be able to leverage analytics to develop a unified enterprise-wide perspective of risk and impact by connecting the dots across different layers of compliance and risk management. To extract maximum value from compliance analytics, banks will have to standardize compliance processes across business lines and geographies and adopt a source-once-use-multiple-times strategy to standardize compliance data across different sources.

Overall, investments in big data analytics technologies will help banks drive transformation across the spectrum of banking processes and functions. So far, the industry's approach to big data analytics has been rather piecemeal, with multiple solutions being deployed across different functions and departments. The strategic long-term view should be to build a dedicated self-service enterprise-centric analytics platform that accommodates every use case and workload. It is also important to understand that analytics is a dynamic entity that will evolve over time. As it gains traction within enterprises, the scope and sophistication of use cases will also expand. That's where open source solutions have the advantage over proprietary platforms. As analytic aspirations grow, the cost of regularly upgrading the capabilities of a proprietary solution can turn out to be prohibitively high.

Once every employee has access to detailed transactional and behavioral information about customers, every interaction becomes an opportunity to cross- and up-sell products.

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Study Reveals Future of Banking is Disruption Through Co-opetition

Findings from the annual Efma-Infosys Innovation in Retail Banking study

The financial services sector currently ranks second on a list of industries that are deemed to be ripe for disruption. An increasing number of scrappy FinTech startups, funded by a rising wave of investments, are enthusiastically leading the charge. They, along with other marquee tech companies, are dominating the threat landscape for traditional banks.

Quite understandably, the incumbents are worried.

This year's edition of the annual Efma-Infosys Innovation in Retail Banking study aims to take a closer look at the perceived impact footprint of startup companies on different aspects of the banking business.

The core business of banking - providing a current account with associated payment services - still seems to be relatively secure. The most notable incursions into this space include MYBank, a branchless bank backed by the Alibaba brand, and Number26, a smartphone-only bank operating off the banking license of established German financial services company, Wirecard. In recent times, the U.K. has turned up a bevy of mobile-only challenger banks including Atom, Starling, Lintel, Open Bank and Mondo. In addition to this activity, there is the "bank-lite" movement, represented by Anytime in France and Nubank in Brazil, based on a limited service model but positioned as a better alternative to conventional banking.

The financial services sector currently ranks second on a list of industries that are deemed to be ripe for disruption.

Understanding the impact of startups

The study maps the perceived impact of new players on three broad banking functions - products (payments, lending, savings and investment), ancillary services (personal financial management, loyalty and rewards) and support services (digital marketing and credit scoring). A clear majority of banks expect to see the biggest impact in payments and digital marketing. Around 40 percent of banks believe that startups will have a high impact on personal financial management and loyalty and rewards. Most do not expect new entrants to have much of an impact in areas like savings and investments, lending and credit scoring.

But FinTech activities currently span the entire continuum of banking activities including those perceived as less prone to disruption. Companies like Vaamo, an online robo-advisory, and Digit, a Google Ventures-backed savings tool, are already shaking up the savings and investments market. In lending, startups like Affirm, an online consumer lending service from a PayPal founder, and Activehours, a smartphone app to streamline payday advances, are tapping into segments that have been largely underserved thus far.

Irrespective of immediate impact, startups are infusing new ideas and technologies into every aspect of the banking business. In some cases, they are directly competing with conventional banks. In others, they

Around 40 percent of banks believe that startups will have a high impact on personal financial management and loyalty and rewards.

are launching products and services that could even help banks access new opportunities, segments and markets.

The future is co-opetitive

The bottom line seems to be that a strategy of co-opetition, rather than confrontation, could prove to be more beneficial to the industry as a whole. In general, conventional banks do seem to value the prospect of co-opetition in one form or another. Just over 40 percent of banks in the study are willing to work with startups as business partners, while a similar proportion express interest in working with them as suppliers. Most banks also believe that partnering with startups can help them accelerate their innovation cycles as well as deliver more impactful innovations.

Just over 40 percent of banks in the study are willing to work with startups as business partners, while a similar proportion express interest in working with them as suppliers.

More importantly, nearly a third of all banks say they already have a high level of experience in working with startups in the areas of payments and digital marketing. A significant majority also expects to increase involvement in the near future.

Models of engagement

Thus far, there have been two models for building partnerships between banks and Fintechs - accelerators/ incubators and corporate venturing.

Nearly a fifth of all banks in the annual Efma-Infosys retail banking study already have incubators, either in-house (Sberbank in Russia), or with external partners (Barclays, DBS and Citigroup).

Accelerators/Incubators: Nearly a fifth of all banks in the annual Efma-Infosys retail banking study already have incubators, either in-house (Sberbank in Russia), or with external partners (Barclays, DBS and Citigroup).

Sberbank, the largest bank in Russia, has created both a FinTech Venture Fund as well as an internal incubator to support the development of digital initiatives within the bank. Barclays, in partnership with Techstars, launched its first accelerator program in London in 2014, its second in New York in 2015 and plans to have a network of these hubs across North America, Europe, Africa and Asia by 2016. DBS partnered with Nest, a local incubator, to launch its first accelerator in Hong Kong earlier this year. Citigroup launched its first one in Israel in 2013. Since then the program has been expanded significantly in partnership with Plug and Play Tech Center, a global investor and technology accelerator.

Corporate Venturing: According to the research, only 10 percent of banks already have dedicated corporate venture funds to invest in startups. Some banks are looking beyond investment at straightforward acquisition to fuel their digital aspirations. BBVA is a good example of this model, having acquired not only direct banking startup Simple, but also a user experience and design company called Spring Studio.

According to the research, only 10 percent of banks already have dedicated corporate venture funds to invest in startups.

Citigroup pioneered the corporate venturing model with the launch of Citi Ventures in Silicon Valley in 2010. Since then the company has gone on to make more FinTech investments than any other major bank in the U.S. Spanish bank Santander launched a $100 million fund in 2014 with the stated objective of supporting FinTech companies worldwide.

Beyond these two primary models, there have also been some unique partnerships between banks and startups. Towards the end of last year, TD Bank partnered with Moven to launch a startups app in Canada. In May this year, Metrobank tied up with an online P2P marketplace pioneer to offer loans through the platform.

Clearly, there can be multiple models for partnered co-opetition between banks and FinTech startups. But even though the industry is broadly positive about the idea, there are still some additional nuances to be considered. For instance, banks in high income countries have a much more positive outlook to working with startups than those in low income markets. Similarly, smaller local banks are less likely to partner with startups than are large banking groups. Overall, there is enough evidence to conclude that co-opetition between FinTechs and banks is going to be a significant near-term trend in the financial services industry.

Stimulating co-opetition

Despite the encouraging signs for co-opetition, the structure of traditional banks and technology startups do not make for the most compatible partnerships. For instance, half of the banks in the study cite startups' lesser grasp of regulation and security as a huge challenge. From the point of view of a traditional bank, and the challenge of cultural integration with a startup would seem insurmountable.

But these are challenges that must be overcome if the inevitable disruption of the financial services industry is to be well orchestrated. There are benefits that both startups and traditional institutions can derive from a concerted partnership. Startups will be able to tap into the decades of industry expertise that reside within traditional banks to drive innovation closer to the core of banking. Conversely, traditional banks will have the opportunity to reenergize their organizations by assimilating the cultural components that make startups so consistently innovative.

There are benefits that both startups and traditional institutions can derive from a concerted partnership.

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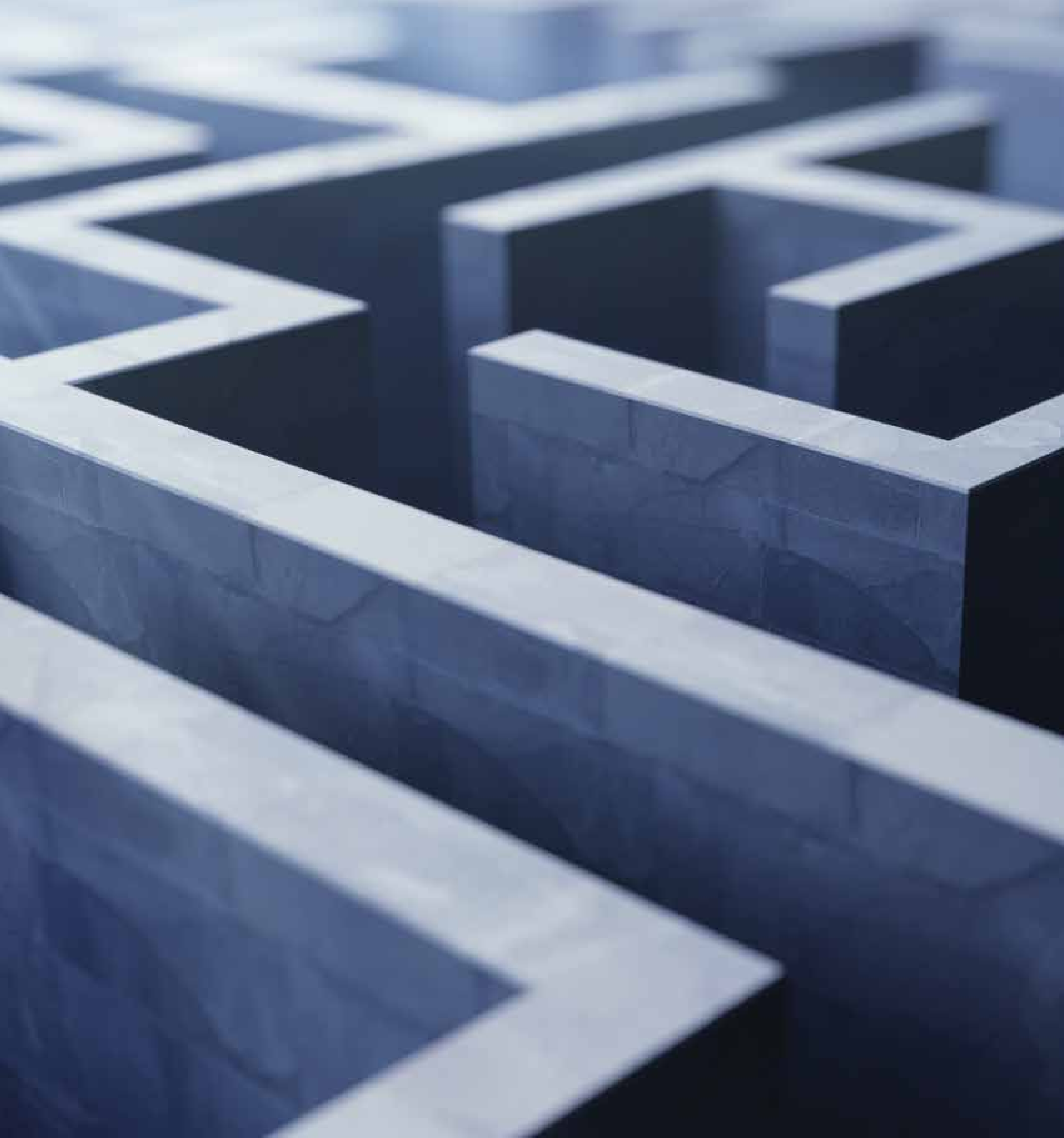
ING Bank - Simplifying Large Scale Transformations



Profile

The ING Group is a true Tier 1 global financial institution with a strong European base and retail and commercial banking operations across the world. It serves a customer base of over 32 million, comprising individuals, families, small businesses, large corporations, institutions and governments, through a global network that spans 40 countries and employs more than 53,000 people. It is the 9th largest European bank by market capitalization and the 26th most valuable brand in the world, according to the most recent ranking by The Brand Finance Banking 500. ING is also currently the number one 'diversified financials' company in the Dow Jones Sustainability Index.

Overview

Commercial Banking is one of the most ambitious programs at The ING Group. In early 2013, ING in partnership with Infosys Finacle embarked on a massive exercise to transform its commercial banking operations in 28 countries, spread across 3 continents. ING had chosen Finacle as the Global Account Management System that would provide the foundation for all current, savings and deposit account processing in its banking network spanning Europe, Asia and the US. The transformation involved the implementation of Finacle Enterprise version 11.0 deposit modules along with the integration framework and modularization capabilities. The project represented the first full-fledged implementation of Finacle 11E in Linux and in Oracle VMware that relied extensively on methodologies like Agile and Proof of Usability.

Key Business Drivers

The technology landscape at ING featured multiple legacy components that not only impeded scalability but were also driving up maintenance costs. The general lack of standardization also created multiple operational challenges for the bank including drawn-out time-to-market for new product launches.

ING wanted to standardize all offerings and solutions around the key program objectives of maximizing customer-centricity and operational efficiency. The plan was to leverage the robust account management modules and the multi-entity feature of Finacle to unify multi-country operations under one entity with a unified database. Apart from delivering significant savings in infrastructure, this approach would also unify the commercial banking product portfolio across different markets and enable ING to accelerate time-to-market for new products.

Implementation

For Team Infosys Finacle, the ING commercial banking transformation program was the **first full-fledged agile implementation** to use a 'fail fast, recover and leap forward' philosophy that enabled a fortnightly sprint cycle for delivery. This was also the first project to extensively and successfully use the **Proof of Usability (PoU)** model.

In early 2013, ING in partnership with Infosys Finacle embarked on a massive exercise to transform its commercial banking operations in 28 countries, spread across 3 continents.

Proof of Usability (PoU): The Proof of Usability model has been extensively applied to define the boundaries of scope and to enable more meticulous requirements gathering. Under this model, ING would share its future/end-state business cases for the account management engine. Team Infosys Finacle would then configure these use cases to demonstrate the applicability as well as the best practices of solution processing in Finacle. By creating business process maps, for actual business use cases, in ARIS tool and Finacle-configured products, ING wanted to standardize all offerings and solutions around the key program objectives of maximizing customer centricity and operational efficiency.

Team Infosys was able to build a more effective client engagement model right from Day One of the project. This execution-led approach was instrumental in enhancing client confidence in Finacle's capabilities and features. This also meant that the client's team was introduced early on to Finacle, which brought more clarity and transparency to subsequent interactions to define and control requirements.

The PoU model not only ensured that requirement line items were perfectly aligned with Finacle capabilities but also helped minimize the number of gaps required. By applying the 3D principle of 'Do, Defer, Drop', Team Infosys Finacle was able to crash the customization phase by 25% in terms of person days.

Agile Methodology: The ING transformation program started in the traditional waterfall model but switched to the Agile model after three months of project execution. The approach combined Agile best practices like Scrum, iterative delivery and test-driven development with Infosys Agile concepts of risk management, function point estimation and CMMI process model.

Based on the incremental development principle, the project's overall delivery requirements were broken down into sets of work items that would be completed in two-week sprint cycles. This meant that the team had two weeks for each phase of the development process, such as requirement analysis and design, coding and testing, and system and integration testing. The initial focus was on implementing basic out-of-the-box functionalities. This was followed by an incremental building process that added or enhanced functionalities based on their relevance to the business case being executed in that particular sprint cycle.

Adopting a Frequent Visual Process (FVP) model for sprint delivery ensured that codes could be tested independently and the progress of the customization phase could be visually depicted. The Agile model not only helped the project team to maintain an atomic and componentized delivery schedule but also resulted in a more flexible and nimble approach to talent management.

Business and Operational Benefits

By using the PoU model to tightly align requirements with capabilities, the team was able to significantly reduce the time, cost and effort of customization. Nearly 85% of the project's requirements were delivered using the out-of-the box capabilities of Finacle. This meant that the Total Cost of Ownership of the transformation could be significantly reduced without compromising the delivery of any of the stated business requirements.

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Post-transformation, product managers will be empowered to take new and innovative products to market in a matter of days rather than the months it used to take with the previous legacy systems. The time taken to open an account is expected to drop from two days to ten minutes. ING CB will also be able to offer white label and intraday liquidity services to their corporate and FI customers, neither of which was possible with the previous system.

Nearly 85% of the project's requirements were delivered using the out-of-the box capabilities of Finacle.

The automation and simplification of processes as part of the transformation will not only result in enhanced customer satisfaction but also increased operational efficiencies. Back office productivity, for instance, is expected to significantly improve with the automation of the customer query and dispute resolution systems. Reconciliation between nostro, nostro mirror and internal accounts, which used to be an extremely time consuming process, will also be completely streamlined.

Following the go-live of the transformed commercial banking model in Ireland, ING has also been able to launch the transformed bank for Payments & Cash Management (PCM). This represents a major milestone in the target operating model for its commercial banking business as it involves the consolidation of new client services, operations, finance and the agile methodology team. This also marks the centralization of the first of ING's many commercial banking markets into the harmonized product catalog operated by the bank's product management.

A joint effort by ING Bank's product management, IT blueprint experts and finance produced a full payment finance control model. This model consists of a clear booking pattern per transactions type throughout both the IT systems and the ledger that is required for reconciliation, inquiries and investigations.

In Summary

The ING Commercial Banking Business transformation program has started with Ireland as the first country to go-live. The project involves 28 country rollouts and the replacement of different legacy systems in different countries, and is expected to be completed by 2018. One of the key challenges of the transformation was to ensure buy-in from all stakeholders for standardizing requirements without diluting business functionality. By harnessing development concepts like Proof of Usability and Agile, Team Infosys Finacle has been able to deliver the transformation in a time and cost efficient way, while enabling the functionalities required for The ING Group to innovate and grow their commercial banking business.

The time taken to open an account is expected to drop from two days to ten minutes.

3 Lessons Banks Can Learn **From the Singapore Fintech Ecosystem**

The Fintech movement continued to grow in both pace and scale in 2015. In the first three quarters of the year, global Fintech investments were already double that of the total investments made in 2014. Another indicator of the growing Fintech phenomenon is the increasing interest among major cities across the globe to become the Fintech capital of the world. We start this series on Fintech ecosystem with a look at Singapore, a major financial center in the Asia Pacific region that is also rapidly becoming a key hub for Fintech investments and innovations. Other country's ecosystems and banks could learn from Singapore to design an integrated regulatory framework to foster a culture of innovation.

Why Singapore?

Singapore is a relatively nascent Fintech market with over 90% Fintechs still in the seed or early growth stage (Figure 1), however, Singapore is a vibrant financial services center with headquarters of around 200 banks. The country made it to the top 10 in the Global Startup Ecosystem rankings in 2015. Moreover, the Monetary Authority of Singapore (MAS) has taken an extra step to became the first central bank to fund the Fintech sector with a $167 million scheme to promote innovation.

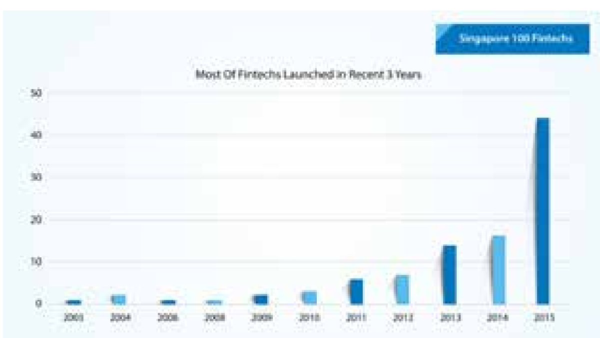

Figure 1. Fintech Demographics - Singapore and Global

Apart from being a leading financial center and technology hub, Singapore also boasts of one of the widest telecommunications and ICT networks in the world. Besides, it is ideally positioned to serve as a gateway to other much larger markets in the region including ASEAN, India, China, Japan and Australia. Taken together, all these broad strokes paint a picture of a country that seems to be primed to evolve into a global Fintech hub. But there are many more factors that have to come together to create a perfect Fintech ecosystem. In this article, we assess Singapore as a potential Fintech leader from the perspective of five foundational pillars (Figure 2).

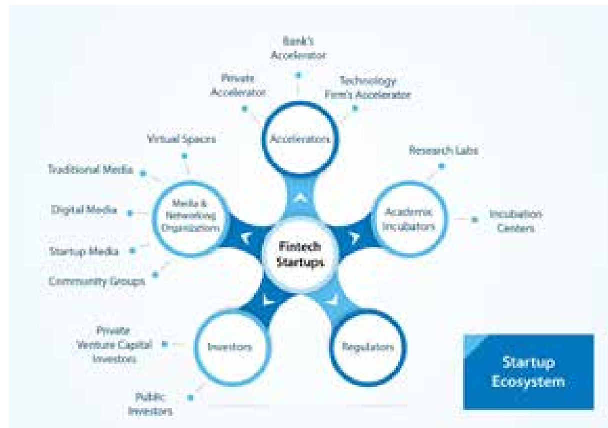

Figure 2: Five Foundational Pillars of Fintech Ecosystem

A Closer Look at Singapore Fintech Ecosystem

Accelerators play a critical role among the five foundational pillars, not only in the development phase of startups but also in providing the funding for growth and expansion in the ecosystem. Singapore has a robust and representative accelerator network that includes a full range of profiles:

- *Private Accelerators,* for instance, Startup boot camp Fintech Singapore, Singapore Fintech Consortium, Singapore Fintech Startups, and Plug and Play Singapore.

Taken together, all these broad strokes paint a picture of a country that seems to be primed to evolve into a global Fintech hub.

NTUitive, the innovation and enterprise company from NTU has already established four technology accelerators to help startups commercialize their offerings.

- *Banking and Technology Industry Accelerators,* for instance, the newly set up DBS Innovation Group and DBS Accelerator. Recently, UOB launched a new accelerator in a joint venture with Infocomm Investments, a wholly owned subsidiary of the Infocomm Development Authority of Singapore. OCBC Bank is also starting a fintech unit, joining its peers in trying to crack the fintech space.

Academic Incubators constitute a vital cog in Fintech ecosystem in driving research, developing skills and fostering entrepreneurship.

- The Institute of Innovation and Entrepreneurship, from the Singapore Management University (SMU), offers a range of training and networking events and a full-fledged incubation program that helps entrepreneurs take their ideas to market.

- SimKee Boon Institute for Financial Economics (SKBI) from SMU also plays a key role in networking Fintech ecsosystems, by connectinglocal Fintechs with the financial industry, the Singapore government, and networking with overseas ecosystems.

- NTUitive, the innovation and enterprise company from NTU has already established four technology accelerators to help startups commercialize their offerings.

- NUS Enterprise, from the National University of Singapore, offers a comprehensive incubator cum accelerator program called NUS Start-Up Runway apart from running a variety of entrepreneurship outreach and development programs.

Media and Event Organizer is a healthy and vibrant media and events industry to promote thought leadership and serve as a link between all ecosystem stakeholders, for instance, Tech in Asia, FST Media, and especially e27, a publisher and event organizer focusing on technology startups.

Regulator - MAS – in Singapore has also created a new Fintech and Innovation Group (FTIG) in 2015 to work with the financial services and technology communities to develop policies and strategies that will promote Fintech innovation. FTIG comprises of three sub-departments:

- Payments & Technology Solutions Office
- Technology Infrastructure Office, and
- Technology Innovation Lab

Three Unique Lessons Learnt from the Singapore Fintech Ecosystem

Like other mature financial markets, for instance, New York and London, Singapore clearly has the infrastructure in place to become a thriving Fintech ecosystem. However, the Singapore model of development also delivers three unique lessons for other ecosystems seeking to build Fintech credentials.

1. *Define a clear regulatory agenda to integrate* with the Fintech ecosystem: Together with the setting up of FTIG, the MAS has defined a broad regulatory framework that fosters Fintech innovation. One of the key elements of this framework is the decision to allow startups to take innovative ideas to market without their formal endorsement as long as the risks are diligently assessed and managed. The

regulator also allows banks adopt a "sandbox" pilot approach to launch innovations so that risks can be controlled and contained. The most impressive aspect though is the regulator's emphasis on co-creating rules and guidelines in consultation with industry stakeholders, for instance, joint-hosting hackathon activities with accelerators.

The most impressive aspect though is the regulator's emphasis on co-creating rules and guidelines in consultation with industry stakeholders, for instance, joint-hosting hackathon activities with accelerators.

2. *Leverage unique local factors to accelerate innovation:* Every region has its unique characteristics and it is imperative for the broad innovation agenda to embrace these local nuances. Singapore is renowned as a global wealth management center. The startup ecosystem was quick to capitalize on this by being one of the earliest in the world to create wealth management innovations like Robo Advisors and digital PFM tools (Figure 3).

   DBS launched the DBS Home Connect App to redefine the home buying experience, by leveraging well-established e-government database. Local banks and international banks in Singapore are also keen to further investigate blockchain to achieve better operational efficiency Singapore is positioned as a major banking back-office hub in APAC.

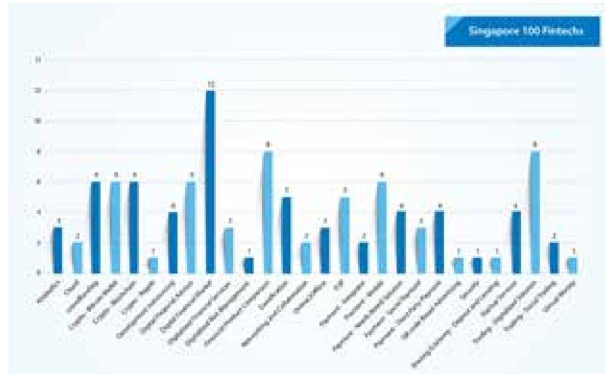

Figure 3: Functional Category (Num) - Singapore 100 Fintechs

3. *Fostering a culture of innovation:* It is important to see innovation as a culture rather than an app or a technology. The key benchmark of DBS Innovation Group is not to develop apps, but to incubate different ideas, integrate with external ecosystems, and importantly, change the corporate culture from inside – so that "everybody from DBS can innovate". Creating a culture of innovation will help expand the focus of innovation beyond big and disruptive changes to smaller, incremental changes that also make a significant difference.

Conclusion

A combination of economic, demographic and technological factors is shifting the epicenter of financial innovation from the west to the east. Singapore - already home to 10 of the 15 most funded Fintech startups in Southeast Asia - is ideally poised to reshape Fintech innovation in its region. Other Fintech ecosystems could learn from Singapore on how to leverage its traditional position as a major global financial center and its emerging status as a dynamic startup ecosystem to become a serious challenger for the title of global Fintech hub.

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Disruptive Technologies:
Ignore at your peril!

These times belong to the disruptive. Every industry from retail to payments to car services is being challenged by tech-powered companies riding in on lean, mean and innovative business models, and this challenge will only grow.

This realization is not lost on the banking industry.

Half of the American millennials interviewed in the three year long Millennial Disruption Index (MDI) study believe technology startups will transform the way banks go about their business. Three out of four say a new financial services offering from large tech companies like Google, Apple, PayPal, Amazon or Square would excite them more than something from their bank.

Half of the American millennials interviewed in the three year long Millennial Disruption Index (MDI) study believe technology startups will transform the way banks go about their business.

In the seventh edition of the annual Innovation in Retail Banking Study presented jointly by Efma and Infosys, 72 percent of responding banks rate the threat of disruption to the industry as high or greater. These responses closely echo the sentiments of the MDI respondents by stating that the greatest challenge will come, not from other banks, but from the likes of Google and Apple. Start-up companies are now perceived as the next big threat, beating out telcos who were in the second spot in last year's study.

Mobility, advanced analytics and big data are perceived to be the top two disruptive technologies, scoring high or very high in importance by 59 and 57 percent of participants respectively. Banks believe that mobility's impact will be felt almost universally within retail banking, and this is reflected in the way they are approaching innovation investments.

Mobile is king

It's easy to see why banks would want to invest heavily in mobile advancements. A prominent consulting and advisory services firm predicts that the number of mobile banking users will double to 1.8 billion worldwide by 2019. Mobile is already the largest channel in terms of transaction volume, and is poised for very rapid adoption by new customers. A number of studies have reported that mobile banking is one of the biggest reasons for customers switching banks.

Mobile innovation is also the favorite playground for disruptors – a point that the Efma-Infosys 2015 report underscores, with the majority of innovation case examples involving some element of mobile innovation. For these reasons, implementing a sound mobile innovation strategy is taking higher priority on the banking industry agenda.

Advanced analytics, perceived to be nearly as disruptive as mobility, will drive innovation in areas like credit scoring and personal financial management.

Of the various technologies included in the report, more than 50 of survey respondents ranked customer intelligence, social intelligence and real-time analytics as important or very important.

A number of banks have already adopted analytics with great success. Among these are India's Kotak Mahindra, which uses customer intelligence analytics to identify dormant accounts to be targeted for revival, and South Africa's Nedbank, which uses a social media analytics tool to scour discussions on various channels and provides the bank's social call center with tools

In this year's survey, open APIs were voted the third most disruptive technology, deemed important/very important by 53 percent of respondents.

to help manage all types of customer conversations. A great example of how real-time analytics can be deployed to improve marketing comes from mBank of Poland, where a real-time marketing platform complete with a web analytics tool, real time engine, and "self-adjusting" context marketing processes a variety of data to dispense advice-like offers and communication in real-time.

Emergence of open APIs

Some years ago, a leading IT industry analyst firm exhorted banks to provide services via APIs, instead of applications. In this year's survey, open APIs were voted the third most disruptive technology, deemed important/very important by 53 percent of respondents.

Open APIs are ushering in a new approach to innovation at banks by enabling third party developers to innovate on their platforms at the edges, without compromising the security of core systems. APIs are also opening up opportunities for "co-opetition" partnerships, as banks can unbundle some of their functions and allow fintech start-ups to build applications on them. Germany's Fidor Bank believes APIs enable them to onboard customers faster and find specialist partners in niche FinTech areas. They also feel that bank APIs offer startups with innovative products but limited financial resources, a mechanism to seamlessly integrate with crowdfunding platforms and other apps.

The use of open APIs is likely to receive a boost from initiatives like the Open Bank Project, which offers an open-source API for banks that developers can use to create applications and services using transaction data.

Finally, the Internet of Things came in fourth on the most disruptive technologies list in the survey. As the IoT envisioned connecting humans, machines and devices in unprecedented ways, it created a new set of possibilities for various industries, including banking. But while banking on connected systems and devices has been discussed, there has been limited tangible progress. On the other hand, startups are innovating with wearables and connected devices, especially in the realm of payments, and beacon technology is opening up significant opportunities for connecting with in-store customers. Banks must capitalize on such opportunities or risk losing out to competition.

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Disruptive Technologies: Ignore at your peril!

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