



Banking on India

Transformation, reinvention and the future of India's banking industry

IBM Institute for Business Value

India's digital drive

India's banks are transforming. They are investing heavily in digital technologies to catch up with leading global competitors offering wide-ranging and sophisticated services. At the same time, current innovations, such as the IndiaStack, are creating a rapidly growing digital citizenry. These digital consumers are increasingly demanding that India's banks not only keep pace with global leading practices, but leapfrog far beyond them by developing new, uniquely Indian products, services and business models. By adopting new strategies that incorporate the principles of Digital Reinvention™, as well as embracing rapidly advancing technologies such as artificial intelligence (AI) and cognitive computing, India's banks can challenge global leaders to be among the strongest, most dynamic in the world.

Executive summary

India's banking industry is experiencing major disruption and change. Arguably, investment in new technology and commitment to fundamental transformation have never been higher.¹ At the same time, India's central government has set itself on a path to dramatically digitize India's population across areas including social-service provision, transfers and transactions, and formal banking.² Supported by government initiatives over the past three years, almost 300 million individuals have opened formal bank accounts for the first time.³ Consequently, from 2011 to 2015, the number of unbanked individuals in India was cut in half after an astonishing rise in formal banking adoption.⁴ Noting the country's incredible strides, the 2016 Global Microscope report, which assesses financial inclusion in emerging economies, puts India among its leaders in a third-place tie with the Philippines.⁵

The radical shift toward ubiquitous digitization provides both impetus and opportunity for India's banks. With a rapidly expanding digital economy, banks in India that have not invested significantly in digitization now have a massive incentive to do so, along with increasing government expectations that they adequately serve the growing digital community.⁶ At the same time, digitization provides opportunities to improve service, reduce cost, and build loyalty and commitment in an ever-more fickle banking customer base. And this experience is not unique to India.

Across global markets, as bankers recognize the threat of disruption, many are committing to strategies that would have been considered unthinkable in the banking industry as recently as a decade ago. Seeking insights about how banking leaders plan to leverage digital technologies in their new growth strategies, the IBM Institute for Business Value (IBV) in collaboration with Oxford Economics surveyed more than 2,000 banking leaders across 31 countries, including 150 from India.⁷



67%
of India's banking executives are directing their organizations to improve customer engagement and experience



57%
of India's banking executives are looking to improve employee productivity



53%
of India's banking executives are looking to grow revenues

The survey results reveal that as many as 43 percent of global banking executives expect banking functions to become highly commoditized in the near future. And more than half consider improving customer experience and engagement a major priority for their businesses. In addition, more than a third of global banking leaders have adjusted their banks' underlying strategies as a consequence of competition from the emergent fintech community (financial technology companies that are typically small, well-funded and agile). And as many as 93 percent say they are currently investing heavily in big data and analytics.

India's economy has also been a hotbed of financial services innovation over recent years. Numerous fintech startup businesses have formed, spanning the banking and financial markets industry. Prominent fintechs have become part of everyday life, with firms like Paytm, Bankbazaar, Profitbooks, Lendingkart and Citrus Pay offering services in areas ranging from payments, loans and transfers to accounting and payroll.⁸ In addition, mobile-only banks are rapidly maturing, including DBS Bank's digibank and SBI Digi Bank.⁹ India's banking sector has also witnessed industry convergence with businesses from other industries pursuing new banking opportunities, including Airtel Payment Bank and Airtel Money from the telecommunications industry and Ola Money from transportation.¹⁰

Digital India, the central government's initiative to proactively transform the country into a digitally empowered society, further supports rapid digitization of India's financial services.¹¹ With the support of government programs, the number of unbanked in India has decreased from 415 million in 2014 to 167 million in 2016.¹² The unexpected November 2016 demonetization announcement, which affected 86 percent of India's currency, also helped spur formalization of economic activity and a significant uptick in adoption of digital payments.¹³ The result has been a substantial increase in digital financial services. The value

of mobile banking transactions in India increased by almost five times between 2015 and 2016, for example.¹⁴ And the value of India's digital payments is expected to further grow by almost 20 percent each year through 2021.¹⁵

According to the IBV survey, India's banking executives are also becoming increasingly focused on employing big data and analytics tools. The survey also reveals that 67 percent of them are directing their organizations to improve engagement and experience of their customers, compared to only 51 percent of global banking executives. And other areas of banking transformation also rank highly among India's banking leaders. Fifty-seven percent are looking to improve employee productivity, 53 percent want to grow bank revenues and 47 percent are looking to improve the quality of business decision-making within their organizations.

Examples of India's banks pursuing these types of initiatives abound. IndusInd Bank, which offers commercial, transactional, and electronic products and services, is working to transform customer engagement through predictive analytics and real-time contextual marketing.¹⁶ And HDFC Bank, with a network of more than 4,000 branches in almost 2,500 cities and towns, is integrating customer experience across physical branches and digital channels to help improve customer satisfaction and commitment, as well as deepen and expand product and service acceptance.¹⁷

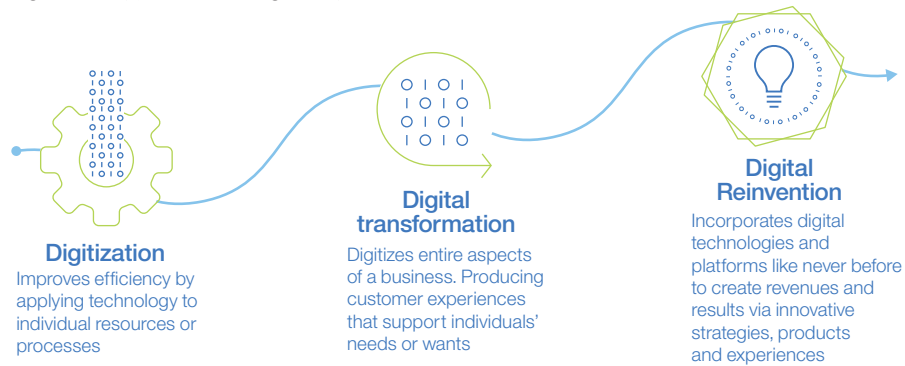
From remediation to reinvention

For numerous banks, past technology investments tended to be somewhat reactive and ad-hoc, such as introducing internet-based banking to augment physical branches. Accommodating digital mobility within a consistent omni-channel experience became essential once it was clear that an increasing proportion of customers were relying exclusively on portable devices.

Uncoordinated investment can only take organizations so far. The technical and experiential bar for banks is rising due to stronger competition from customer-centric born-digital banking entrants, as well as the emergence of a more holistic and disciplined approach to technology investments and business transformation by some leading traditional banking incumbents. And the bar is rising with an increasing sense of urgency.

Many successful organizations, including banks, are beginning to employ a new type of strategic approach to guide their information technology (IT) investments. If employment and use of digital technologies is conceptualized across a spectrum, advancements over recent decades can be assigned across three major areas (see Figure 1).

Figure 1
Digital maturity for India's banking industry



Source: IBM Institute for Business Value analysis

Digitization comprises the shift from analog technologies to digital technologies within specific activities or processes. Think about development of automatic teller machines (ATMs), for example, compared to going to a human teller to withdraw cash from a physical branch. Digital transformation refers to the process of combining various aspects of digital — digital functions, digital processes and other digitally enabled activities — to form something consistent and partially or fully cross-enterprise. Think about initiatives to obtain a single view of the customer across lines of business or initiatives to build a uniform cross-channel experience. Digital Reinvention, however, leads the process of digitization much further.

Digital Reinvention involves a reconsideration of strategy, operations and organization from the ground up — specifically from a customer-centric point of view. Consider all the emerging technologies that have permeated into business generally, and banking in particular, over the past 20 years: AI and cognitive computing; drones, bots and the Internet of Things (IoT); mobile; social; and new security-related technologies like blockchain. And, of course, there is cloud, an overarching technology that acts as a platform for all.

Employment of these technologies, integrated with redesigned processes, helps advance a fundamental rethinking of how businesses operate. And by placing customers at the beginning or center of strategic processes rather than at the end, where they have traditionally been relegated, businesses can launch a major redesign of their strategies, processes and operations from a customer-centric perspective (see Figure 2).

Figure 2

Rethinking traditional banking through Digital Reinvention



Source: IBM Institute for Business Value analysis

Many leading global banks are already embracing a Digital Reinvention philosophy. For example, Brazilian bank Itaú launched an initiative to create an integrated, unified view of each customer. The bank began by improving its data processing and deepening its Data Lake, a massive repository capable of high-performance data storage, processing and distribution. In addition, the bank created a team of data scientists, digital security specialists and digital channel experts to collaborate across the organization. In addition to better predicting customer needs, the team focuses on continually improving credit, risk, offer and fraud models, as well processes, products and channel performance. Armed with customer-centric data insights, Itaú can reconceive strategic initiatives and investments to further expand innovation, monetization and new business model execution.¹⁸

Taiwan-based commercial bank E.Sun has introduced service robots that use AI and cognitive computing capabilities to greet customers and answer questions. This shift toward digitization and cognitive technologies can help the bank continue to conceptualize new business, operating and organizational models to better serve customers.¹⁹

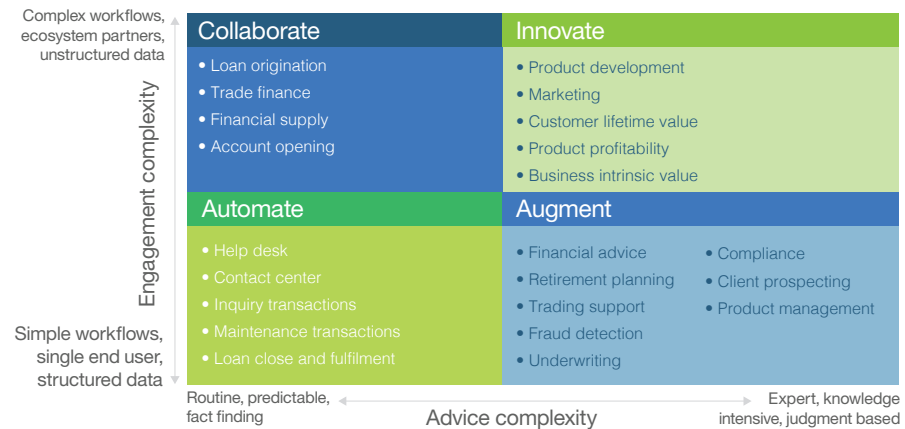
Artificial or essential?

Artificial intelligence and cognitive computing are redefining numerous areas of business, including banking. Processes and functions that involve large amounts of information, significant complexity and nuanced analysis are prime candidates for an AI-enabled revolution.

By dramatically expanding human capabilities and profoundly diminishing administrative complexity, cognitive systems can help improve processes, significantly reduce time delays, increase accuracy and reduce cost. And given the information-intensive nature of banking, multiple processes and functions are ripe for cognitive-enabled transformation (see Figure 3).

Figure 3

How cognitive computing can profoundly improve banking capabilities



Source: IBM Institute for Business Value analysis

Multiple global banks are already making AI-enabled cognitive capabilities central to their operations and strategies. Spain-based global bank BBVA is exploiting social media analytics to expand brand monitoring and improve risk management. BBVA has successfully deployed cognitive systems that analyze social media data to better understand customer needs and sentiment. News channels, blogs, forums, Facebook and Twitter are regularly checked and analyzed, with in-depth insights delivered in easy-to-understand reports.²⁰

U.K.-based global bank Barclays has embraced cognitive computing technologies to improve client experience, efficiency and scalability. Barclays is experimenting with AI-enabled conversational chatbots and voice biometrics that both simplify and improve security, and cognitive automation of back-office processes, positioning for accelerated innovation and improved customer engagement.²¹

Some of India's banks are also investing heavily in AI-enabled, digitally transformative technologies. One of India's largest private-sector banks, ICICI, is employing robotics to automate selected banking processes. Having automated more than 200 business processes across retail banking, agri-business, trade, foreign exchange, treasury and human resource management, ICICI is using AI-enabled technologies, including facial and voice recognition, natural language processing and machine learning. Given its success, ICICI plans to more than double the number of robots employed to more than 500 by the end of 2017.²²

And the nation's largest bank, State Bank of India (SBI), uses analytics solutions to achieve a single view of customer data, enabling it to better manage accounts and operations and make more informed and timely product-launch decisions. Analytics tools also support SBI with real-time visibility and early warnings for non-performing assets, which helps significantly in managing credit default risk.²³

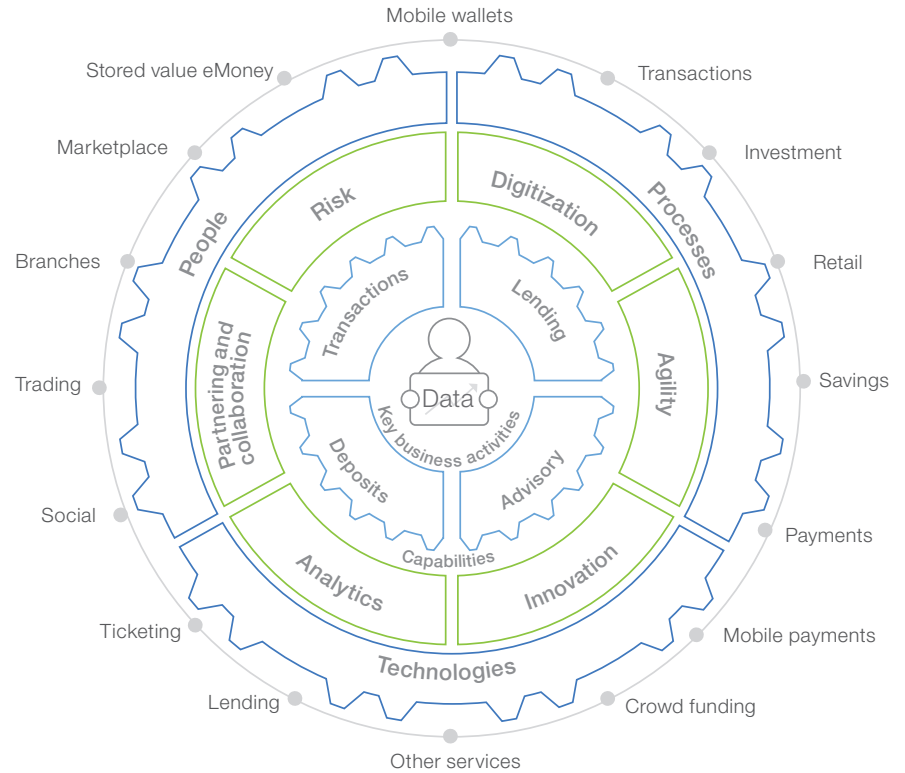
Banking on cognitive

A cognitive bank is enabled by AI and cognitive computing across all business functions and processes. From account opening to product marketing, from bond and equities trading to financial advisory, a cognitive bank, at its core, possesses cognitive capabilities. By employing AI-enabled capabilities so broadly, a cognitive bank can personalize customer engagement through its ability to exploit continually deeper insights, contextual understanding and real-time learning.

A cognitive bank also includes best-in-breed fintech or other providers' services synthesized seamlessly with its own proprietary systems and operations to the advantage of customers. A cognitive bank is able to orchestrate the various inputs and interests of powerful ecosystems of partners to meet customer needs.

Perhaps most important, by fundamentally redefining roles and re-engineering business operations, a cognitive bank enables advanced and enhanced actions and decision-making processes of dynamic learning across the organization (see Figure 4).

Figure 4
Deconstructing the cognitive bank



Source: IBM Institute for Business Value analysis

A number of India's banks are looking at the benefits of cognitive technology. For example, Yes Bank, one of India's largest private-sector banks, was one of the first institutions to publicly announce innovation in payments using blockchain and cognitive capabilities. The bank is embracing cognitive and blockchain to enhance the digital experience for partners, corporate clients and developers.²⁴

To the future and beyond

To compete successfully in the rapidly evolving Indian banking industry, banks need to monitor developments in technology and how innovative leaders at home and abroad are thinking, strategizing and investing. The industry is moving fast. The two strategies we have outlined are crucially important and deeply interlinked: Embracing Digital Reinvention and building a cognitive enterprise.

Making Digital Reinvention a reality

A four-step process can help India's banks achieve true Digital Reinvention and strategically position them within the disruptive environment ahead.

Step 1 — Envision new possibilities: Conduct envisioning sessions based on design thinking to produce a definitive reinvention blueprint. For example, through deep conversations and in-depth marketing analysis, develop a better understanding of customer needs, aspirations and desires; brainstorm new ideas to enhance engagement; and visualize unexpected customer scenarios. Incorporate external stakeholders in these sessions, including customers, to encourage thinking that goes beyond business-as-usual.

Step 2 — Create new pilots: Develop prototypes using agile development, test them with customers and get them to market quickly to promote feedback and iteration. Establish communities of interest to create safe environments to beta test innovations, and incorporate them as a central part of design and development processes.

Step 3 — Deepen new capabilities: Augment digital capabilities with strategic initiatives, and continue to build and deploy necessary applications aligned to the target Digital Reinvention operating model and ecosystem strategy. As pilots evolve, impediments around development will emerge, highlighting limitations in existing capabilities. Adopt a continuous, iterative strategy to address these limitations by building new or extending existing capabilities.

Step 4 — Orchestrate new ecosystems: Embrace a strategy based on holistic reinvention rather than a series of point solutions, maintaining a clear focus on deep needs, aspirations or desires of customers, clients (such as partners) and colleagues (such as service providers). Focus on ecosystems to expand and align a broader set of capabilities and help create and deliver on customer promises.

Key questions for India's banks around investments in Digital Reinvention:

- How can you determine if your digital strategy is ambitious enough to deal with future disruption?
- What has already been documented and advanced for your bank's digital initiative roadmap?
- How are you building the right digital talent?
- How do you plan to define and measure your organization's digital success?

Building a cognitive bank

To become a cognitive bank, we propose a three-phase strategy.

Phase 1 — Plan: Design a holistic cognitive strategy and business case, and establish appropriate enterprise-wide governance. Identify and prioritize opportunities to adopt cognitive computing. Define scope and obtain senior management commitment to start employing cognitive capabilities. Appoint cognitive champions across the organization, and formulate your cognitive intentions using design thinking. Explore cognitive computing solutions, and use data to create compelling customer experiences. Strive to offer the ideal experience for obtaining a mortgage loan, reallocating portfolio assets, or evaluating geopolitical and economic factors to make optimal investment decisions. Prototype and conduct pilots, test and validate with business users, encourage all-level involvement and refine with a view to improving stakeholder buy-in over time. Involve compliance officers in testing cognitive systems, and promote ongoing executive alignment. Communicate business value to sponsors at all levels. And communicate, communicate, communicate.

Phase 2 — Prepare: Invest in new human talent, not just banking experts. Adjust processes and policies. Assess likely impact of cognitive insights from once dormant (dark) data around both business processes and the broader organization. Make necessary changes to support cognitive implementations. Build and maintain a quality corpus of relevant data, conduct structured data strategy assessments and invest in digitizing systems of records. Establish cognitive-ready infrastructure, and address ongoing skills and technology needs to support cognitive systems. And if action is necessary, determine if it should involve growing internal skills or embracing external partners.

Phase 3 — Progress: Communicate your cognitive vision at all levels. Use change management principles to control, measure and communicate ongoing impact of enterprise and ecosystem transformation. Apply cognitive technologies – broadly. Execute a staged roll-out using agility principles, and establish metrics and key performance indicators. Measure outcomes, and measure and communicate value realized at different phases. Establish periodic review processes, and share new knowledge. Update functionality and training with content based on new learnings. Seek reusable knowledge, and create ways to share it enterprise- and ecosystem-wide.

Key questions for India's banks around investments in cognitive computing:

- How will you identify new and unique opportunities for AI and cognitive computing across your organization?
- How will you kick-off and map your cognitive journey?
- What preparations do you need to put in place to become a cognitive bank?
- How will you measure your cognitive success?

Unto the breach

India is a remarkable country with a rich history and enormous human and economic potential. India's banks, while once playing catch-up with global leading practices, have made major strides over the past ten years. India offers significant advantages, including the country's demographics and unique strategic opportunity afforded by the IndiaStack, a major API platform initiative through which every Indian citizen is tagged with unique digital identifiers.²⁵ With all this in their favor, India's banks are positioned not only to rank among the most innovative global banks, but possibly leap frog past them.

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