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Asia Financial Institutions

Digital Banking in Asia

Winning approaches in a new
generation of financial services

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Foreword

Digital banking has become an irresistible business trend. McKinsey research in personal financial services shows that Asian consumers are becoming more and more comfortable with using mobile and Internet channels for banking services, with their use increasing on average more than 35 percent in the past three years. Correspondingly, we have noted a drop in branch usage of 27 percent across Asia. At a few leading banks, nearly 20 percent of key product purchases are now completed online; across Asia, on average about 25 percent of prepurchase decision-making and 40 percent of postpurchase servicing is conducted through mobile or Internet devices.
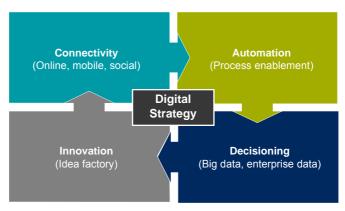
Most bankers in Asia agree that this is a big opportunity. The big question is, how do you do it? What are the winning approaches? Digital-banking concepts are in their early stages in Asia and there are few very profitable models at scale yet. But some helpful lessons are emerging.

There are a variety of ways to approach digital banking. For leading banks, there are mainly four interconnected, mutually reinforcing elements: connectivity, automation, innovation, and decisioning. Connectivity refers to how can banks use rapidly growing social networks to build loyalty and competition-disrupting offerings. Automation refers to how to harness digitalization in process re-design for a better customer experience and more effective use of resources. Innovation refers to how should banks continue to renew themselves, given the rapid pace of change in the industry. Decisioning refers to how big data can be used to make better, faster, and more accurate decisions regarding customer purchase choices as well as banks' decisions on issues such as risk. Exhibit 1 illustrates a simple framework to guide banks' thinking.

True digital banking amounts to much more than the provision of financial services through mobile and Internet channels. The technology so widely adopted by consumers has powerful capabilities—including greater bandwidth, advanced data security, and stronger privacy protection—that offer new opportunities for banks. Digital banking signifies completely new propositions: not only new products and services but also the possibility of a more sophisticated, digitally enabled sales force and cost savings through end-to-end process digitization.

Digital Banking in Asia: Winning approaches in a new generation of financial services presents McKinsey's latest thinking on digital banking. Our insights come directly from experience serving clients across Asia; in this volume, we

Exhibit 1: Digital as an interconnected and mutually reinforcing set of 4 elements

have focused on the essential dimensions critical to building a digital bank. Here you will find discussions on:

- Propositions for capturing new customer segments and serving them rapidly
- How digitization can quickly increase revenue and enable cost reduction
- Managing multiple channels and the cross-channel customer experience in the new digital environment
- The IT requirements for enabling digital banking
- Organizational changes that can help break barriers and rally institutions for digital transformation

We hope you will find this volume helpful as your institution embarks on the digital-banking journey.

Joydeep Sengupta,
partner

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Chapter 1
Digital banking in Asia: Are you ready for your next generation of customers?

Joe Chen, Senthil Durairaj, Vinayak HV, and Kenny Lam

Executive summary:

- *About 40 percent of Asian mass affluent customers now prefer online or mobile banking; among those under 40 years of age, around half prefer digital banking. Digital-banking consumers number 670 million today in Asia and are expected to become 1.7 billion by 2020.*

- *Online consumer sales in Asia has exceeded 20 percent in some categories, including electronics. In banking, some leaders are experiencing online sales in this proportion for key products.*

- *The disruption caused by digitization can create or destroy significant value for banks, depending on their starting positions and how well they respond to shifting consumer behavior and other trends. Experience is showing that 30 to 50 percent of net profit is at risk.*

- *Banks can create significant value in digital banking using a range of approaches, from digitally enabling their current model, allowing higher salesforce productivity, to adopting disruptive new propositions, such as new consumer concepts for targeted segments.*

A generation of digital-banking customers is rising across Asia, hundreds of millions strong. This generation will be the most populous and wealthiest generation in Asian history. Its constituents will want to manage their money and make payments through mobile and online channels, anytime,

anywhere. They will want full digital access to the latest offerings and a more personalized set of products and services.

Shifting consumer behavior

As has been evident for the past decade, Asian consumers have flocked to digital technologies, with adoption rates for some devices, especially mobile phones, outstripping Western rates. ATM usage has skyrocketed in Asia, and across age segments the "consumer decision journey" has increasingly moved online. The pattern for most purchases now is that they are researched online and concluded in the branch, but we are beginning to see online purchasing as well. A significant constraint on the progress of this trend is the state of regulation in many countries, which require purchases to be finalized by customers signing documents in branches, in the presence of branch employees. Meanwhile, larger numbers of Asian consumers, especially younger ones, are expressing a preference for interacting through nonbranch channels. This is significant for Asia, where even older customers can be first-time bank users, cautious of physically surrendering their money, and traditionally reassured by a brick-and-mortar establishment.

The story will only accelerate as a young digitally savvy generation matures. This will be the disruptive generation when it comes to banking trends. They have already taken to mobile technology and are comfortable with making payments digitally. Four shifts in consumer behavior signal that the time of the premier digital bank is approaching:

- **Increasing digital usage across Asia.** This includes higher penetration of mobile, Internet, and smartphones across markets. The increase in technology usage is changing consumer behavior, including buying behavior, with social networking, peer reviewing of products, and online research becoming the norm. Digital payments are becoming significant in Asia, and the evidence of the digital disruption is mounting in industry after industry.

- **Channel-preference shift.** Channel preferences in banking have shifted significantly among younger and wealthier segments toward nonbranch channels. About 40 percent of Asian mass affluent customers now prefer online or mobile banking; among those under 40 years of age, around half prefer digital banking. The Internet is making headway in the generally older affluent and mass-affluent segments, where ATM usage is the norm; for younger generations of Asians, on the other hand, the Internet has become a preferred channel.

- **Multichannel consumer decision journey.** The path toward purchase—from awareness to research, subscription, and maintenance—has already become a multichannel journey for Asian consumers. In the awareness stage and especially the research stage, most buyers are consulting multiple channels and returning to multichannel usage in maintaining their products after purchase. Evidence from Europe indicates that banks will be able to boost flagging customer loyalty and increase share of wallet by offering an integrated and seamless customer experience across channels.

- **Digital sales.** With the right regulatory environment, more sales of deposits and loans are expected to shift to direct channels, in line with shifting consumer preferences and behavior trends in e-commerce, similar to what has occurred in more mature Western markets (Exhibit 1).

Implications for banks

McKinsey analysis has demonstrated that the advent of digital banking will create as well as destroy significant value, with 30 to 50 percent impact on profits or losses, depending on the bank's starting point and how it responds to these digital trends (Exhibit 2).

Exhibit 1: More sales of banking products are expected through direct channels, in keeping with e-commerce trends.

Online business-to-consumer sales in Asia
$ billion

29% p.a.

Year	Value
2007	41
2008	48
2009	54
2010	75
2011	111
2012	149

Online share of total retail market
%

	2007	2008	2009	2010	2011	2012
Asia	1.6	1.6	1.8	2.2	2.8	3.5
United States	4.6	5.1	5.9	6.4	6.8	7.2

Online share of total category sales in Asia
%, 2012

Category	%
Consumer electronics and video-game hardware	21.2
Apparel	17.6
Consumer appliances	12.0
Media products	7.1
Food and drink	5.4
Beauty and personal care	3.3
Consumer health care	2.9
Housewares and home furnishings	2.9

SOURCE: Euromonitor; Forrester Research

Channel-based segmentation to identify consumer readiness in Asian markets makes it plain that most consumers are already using or are interested in using alternative channels, including ATM, online, mobile, and phone banking. Yet few Asian players have developed low-cost comprehensive service offerings focusing on self-directed customers.

Given these trends, we estimate that while the digital-banking opportunity in Asia is small today it will likely grow rapidly, at twice the rate of other bank revenue pools, especially as the number of Asian consumers coming on line rises (Exhibit 3).

Getting the bank ready

As technology adoption continues to reshape consumer habits as well as business models, the consequent rapid change in the dynamics of several industries has become a top-of-mind theme for banks across Asia. Our conversations with Asian players reveal that many are struggling with the implications of this trend and the choices it demands. Banks can minimize the potential value-destroying effect of the coming digital disruption by fostering digital awareness in their top leadership and by building a digital strategy that is integrated into their overall strategy, regardless of the bank's starting point.

Exhibit 2: Disruptive technologies will emerge as both an opportunity and a threat to banks.

Impact from digital
% of net profit

Digitization is a threat to traditional banking models but can also be an opportunity for banks that respond

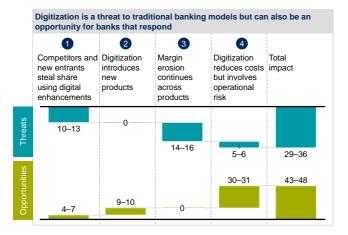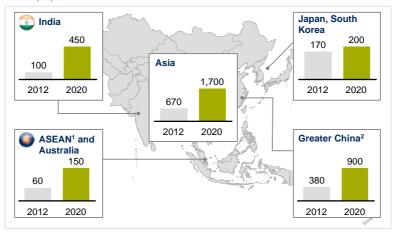|	1 Competitors and new entrants steal share using digital enhancements	2 Digitization introduces new products	3 Margin erosion continues across products	4 Digitization reduces costs but involves operational risk	Total impact
Threats	10–13	0	14–16	5–6	29–36
Opportunities	4–7	9–10	0	30–31	43–48

Exhibit 3: In Asia, the number of potential digital-banking consumers could rise to approximately 1.7 billion by 2020.

Millions of people

India

450

100

2012 2020

Asia

1,700

670

2012 2020

Japan, South Korea

200

170

2012 2020

ASEAN[1] and Australia

150

60

2012 2020

Greater China[2]

900

380

2012 2020

1 Association of Southeast Asian Nations; data for the following ASEAN countries only have been included: Indonesia, Malaysia, Singapore, the Philippines, and Vietnam
2 Data include China, Hong Kong, and Taiwan

Market and competitive factors will determine whether the bank's digital strategy will involve creating new digital customer propositions now or digitally enabling the current model for the time being (Exhibit 4).

Pursuing digital enablement of the current business model
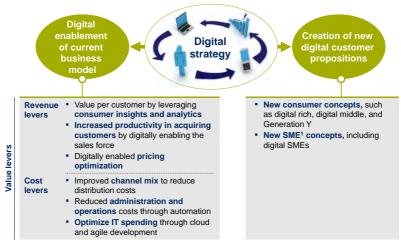
Banks can support the digital adaptation of the present business model in a number of ways. These include a few important cost levers: improving the channel mix to reduce distribution costs, reducing administration and operating costs through automation, and optimizing IT spending through use of the cloud and agile development.[1] Revenue levers use technology to increase effectiveness across a few elements of the sales process:

- **Improved value per customer through consumer insights and analytics.** Banks can use analytics for microtargeting by aggregating data to form a single, enriched customer view. A robust analytics engine can

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1 See chapter 5, "Making the digital bank work end to end: Digitizing the operating processes," and chapter 6, "Gearing the IT engine for digital banking."

Exhibit 4: Banks can create value through digital using a discrete set of levers.

Value levers	**Revenue levers**	▪ Value per customer by leveraging **consumer insights and analytics** ▪ **Increased productivity in acquiring customers** by digitally enabling the sales force ▪ Digitally enabled **pricing optimization**
	Cost levers	▪ Improved **channel mix** to reduce distribution costs ▪ Reduced **administration and operations** costs through automation ▪ **Optimize IT spending** through cloud and agile development

▪ **New consumer concepts,** such as digital rich, digital middle, and Generation Y
▪ **New SME[1] concepts,** including digital SMEs

1 Small and medium-size enterprise.

generate "next product to buy" offers and present customers with prefilled application forms.[2]

- **Manage consumer interactions across multiple channels.** Banks must integrate across channels: this entails generating digital demand with smart tools, intuitive product choices, and use of direct channels for customer self-service.[3]

- **Increase frontline productivity and multichannel productivity for fulfillment.** Deliver leads to sales staff through mobile devices; calculate and customize offers, including using digitally enabled pricing optimization; and provide payment solutions and technology-enabled rewards.[4]

2 See chapter 4, "Unlocking customer value with advanced data and analytics."

3 See chapter 2, "Managing the multichannel journey."

4 See chapter 3, "Digital sales enablement: How to turbocharge performance and customer satisfaction."

Creating new digital customer propositions

Ultimately, banks will need to adopt new propositions that serve their savviest, digital-friendly customer segments. The preferences of these constituents will eventually become the new normal. Whether the move to a fully digital-banking model is made sooner or later will depend on the nature of the bank's business today and the degree to which early movers and nonbank attackers are threatening the bank's customer base. Several banks have already launched digitally focused models competing in the same market as their owner, as well as independent banks competing in other countries than their owner, with varying levels of success.

We have identified a number of consumer segments whose constituents are educated, increasingly digitally aware, and already involved in multichannel banking:

- **Digital rich.** These affluent consumers have an undergraduate college education or above and constitute the professional talent of leading Asian companies or multinational corporations. Some members of this group are also second-generation entrepreneurs, who are more educated and computer literate than their pioneering parents.

- **Digital middle.** These upper-mass and mass-affluent consumers have at least a college education and provide the professional and middle-managerial talent in Asian and multinational companies. The group also includes service entrepreneurs.

- **Generation Y.** Asia's future digital-banking customers are now 15 to 30 years old; they are students and young professionals, some in their first jobs, and they are exceedingly digitally savvy. They will form the preponderance of the base for the digital bank of the rapidly approaching future.

- **Digital SMEs.** The number of small and medium-size enterprises (SMEs) that are using the Internet and other forms of digital technology will only increase across Asia. These nontraditional SMEs will eventually become the norm and will be looking to use a digital-banking platform designed to serve their needs.[5]

Each of these segments has unique characteristics that must be considered when developing the offer. The fundamental ingoing thesis is that significant unmet needs can be addressed through an innovative digital proposition.

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5   See chapter 8, "Organizing your bank to capture digital opportunities."

Strategic positioning

Channels and offerings

To position itself strategically in its market, each bank will need to find a value proposition targeted to the segment the digital bank is trying to address.

A digital bank could enter the market with a simplified core offering of four or five relatively simple products and have one or two "hook" products such as a competitively priced deposit or strong trading platform. Banks may want to present customers with an "Apple-like" experience, offering an intuitive interface and a no-defect and no-customer-leakage culture, with real-time processing capability and a test-and-learn environment.

In addition, banks can offer a personalized Web experience, so that customers can receive recommended products based on their digital data (such as browsing behavior). A social and mobile-centric dimension could make sense for some banks, in which the latest digital technologies and platforms would be used to enhance their reach and offering. Banks could also offer customers "immediate satisfaction" on their Web sites, with rich content management, paperless real-time transacting ability, and self-directed analytics.

For some banks, integrated multichannel access will become a core feature of their value proposition, including a light physical presence and agents to enhance the customer experience, as well as to promote trust and branding. Compelling cross-category offerings can be developed, for example, which might blur the line between retail banking and retailing. The digital bank can and should be a highly creative space, fostering affinity and loyalty with fun ways to engage younger customers (such as selectively "gamifying" aspects of the banking experience). A cross-partner ecosystem allowing for creative collaboration and the formation of heterogeneous communities and integrated applications will be important for the maturing social-media generation. The point is that digital creativity will become an attractive customer proposition as digital adoption increases across customer segments.

Three strategic archetypes

In our experience, banks have positioned themselves to take advantage of the digital opportunity with three main archetypes. Banks have chosen these models according to the conditions governing their market, including where their market is along the digital-development curve and the vulnerability of their base to competitive pressures:

- **Branch-centric, product-focused model.** A follower strategy in digital. Most incumbent banks have retained branch- and product-centricity because the traditional universal-banking value proposition is strongest for them. Their sales and servicing model remains branch-based, with direct channels used as a complement and mostly for servicing. This model represents the follower strategy in digital and relies on a broader customer base across all segments and higher price premiums for value.

- **Multichannel client-centric model.** A leader strategy in digital. This intermediate model is still branch-centric, but it deploys sophisticated online and mobile offerings. Direct channels are used as the major servicing channels; for most banks that have developed this model, direct acquires a growing relevance for sales. This strategy is the aspirational model for digital banking: it derives value from a higher market share of tech-savvy customer segments but without price loss; it offers higher cross-selling success and higher share of wallet with lower cost to serve.

- **Self-directed digital-centric model.** A shaper strategy in digital. Some highly innovative European banks have adopted this very low-cost but comprehensive service offering focusing on more self-directed customers. The model relies on innovative direct channels for sales and uses a complementary light "showcase" physical presence for customer acquisition. Of the three archetypes, it has the lowest cost base for acquiring and serving customers. It is the model used by leading digital banks today, and its prevalence will expand as more countries move along the digital-development arc. The model represents the attacker acquisition strategy and has taken a disproportionate share of Generation Y and tech-savvy customers to date.

The time to move is now, but in which direction?

The evidence that increasing use of technology is changing consumer behavior is everywhere in Asia. One of the observed changes that is affecting banking is that the consumer decision journey has become increasingly multichannel. While Asian countries may be at different stages of evolution toward complete digital-banking readiness, most consumers in Asian markets are already using or interested in using alternative channels to interact with banks. We estimate that the number of potential digital-banking consumers in Asia will grow to approximately 1.7 billion by 2020.

The digital future for banks, which will soon be confronted by that rising tide of maturing digitally savvy Generation Y customers, will come in the form of

the end-to-end digital bank. But right now, competitive pressures and market forces demand a near-term digital strategy. This could involve creating those new digital customer propositions sooner rather than later, by which the bank will digitally remake its traditional banking offerings, channels, and processes. However, the "no regrets" move for most banks is a less radical shift, in the digital enablement of the current business model. In this near-term strategy, technology is deployed to reduce costs and increase effectiveness across elements of the sales process.

Top managers are giving thoughtful attention to getting the digital strategy right in the here and now, since they are aware of digital's disruptive potential. Our analysis of the impact suggests that, depending on the starting point, digitization can create or destroy value of 30 to 50 percent of total profit or loss. Already, three basic strategic approaches along a continuum from branch-based to digital-centric models have emerged. Most incumbents have understandably retained a branch-based approach—a prudent follower strategy that takes account of the preferences of and investment in the existing customer base. The impetus for the end-to-end digital bank that is now being pioneered by innovative attackers will, however, only become stronger as the young digital generation gets older and wealthier. Satisfying their expectations will eventually become the inescapable market paradigm.

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Chapter 2
Managing the multichannel journey

Kenny Lam

Executive summary:

- *Historically, banks have approached channel management from the perspective of how channels can best serve the bank. To withstand pressure from new players, banks must approach channels as their customers do.*

- *With the proliferation of digital technology and mobile devices, the consumer decision journey has changed. Consumers now move freely among channels, often turning to multiple channels throughout the journey.*

- *To become leaders in digital, Asian banks must rethink their strategy for managing multichannel and address several areas: customer experience, branch formats, and data and analytics.*

- *Banks that successfully manage multichannel will capture the loyalty of new and emerging customer segments in developed and developing Asia.*

A great deal of confusion surrounds the term digital banking. Often, digital banking is equated with Internet banking. Although digital in nature, Internet banking is a channel for conducting transactions. In contrast, digital banking touches all of a bank's channels—from the branch to the ATM, direct sales force, call center, Internet, and mobile. This distinction is important, particularly as consumer behavior continues to evolve and become increasingly multifaceted.

The extent to which the Internet and mobile devices have altered the consumer decision journey is well documented. Today's consumer may first learn of a banking product through social media, research it on a mobile device, visit a branch to purchase the product, use a laptop and the Internet to conduct transactions, and address service questions with a call-center representative. A consumer's interaction with a product is no longer an isolated event limited to a single channel. Nor does the consumer decision journey follow a simple linear path.

Digital banking, therefore, is not limited to enabling mobile, developing a striking application, or building a robust Internet-banking platform. To succeed in digital banking, Asian banks must strategically manage multichannel and take the following three measures: create a seamless customer experience, rethink the branch, and use data strategically.

Create a seamless customer experience

Our research shows that more consumers are moving away from branches to digital channels. McKinsey's 2012 personal-finance survey of Asia showed that among consumers in developed Asia, branch and telephone use declined by approximately 27 percent, and Internet and mobile use rose by about 36 percent since 2007. The shift is even more significant in the pre- and post-purchase phases of the consumer decision journey, where consumers increasingly rely on digital channels for research, transactions, and service. Although a growing number of consumers navigate multiple channels, they do so instinctively and continue to think of the decision journey as one experience.

Banks, on the other hand, think about channels with respect to roles. When faced with the question of how to manage multichannel, banks consider the role they want a channel to fulfill and then assign the channel that specific role. For instance, a bank may view its direct sales force as its sole channel for selling credit cards and mortgages and its call center as the channel for troubleshooting Internet-banking problems and answering basic product questions. Consumers think differently. They turn to channels that are familiar to them and convenient at that moment, rather than consciously selecting a channel for its prescribed function. And we believe that to succeed in digital, banks must create a seamless multichannel experience that mimics the consumer's actual process.

The customer experience can be influenced by a number of factors, many of which are intangible and driven by perception or emotion. Traditionally, banks have focused on the functional factors that affect a customer's experience, such as products, online tools, and discounts tailored to the customer's needs.

However, our research suggests that since the economic crisis, consumers place greater importance on intangible factors such as trust, value, and service.

To create a seamless customer experience across channels, banks must focus on the customer and the intangible factors that influence him or her. Banks that succeed in digital employ a unified interface across all channels, so that a customer's preferences and activities transfer across mediums. The customer experience—including sales-conversion opportunities and service interactions—is highly personalized. Communications with customers are one-to-one and happen in real time, regardless of the channel. A central Internet-banking platform ensures functionality remains reliable regardless of the customer's preferred device. These measures can help create a unified and consistent experience for customers, who in turn feel trust in and loyalty to the bank.

This example from a Taiwanese bank illustrates how to create a seamless customer experience. A customer has a question, and so he visits the bank's Web site to do some research. Having reviewed the customer's recent online activity in the bank's system, the relationship manager (RM) calls the customer to follow up. When the customer arrives home from work later that evening, he realizes he needs further clarification on product conditions. His RM has left for the day, so the customer's call is automatically rerouted to the bank's call center. At the call center, the agent assigned to this customer speaks with him, investigates the question, and because she cannot answer it, she sends the details in an e-mail to the RM. The next morning, the RM calls the customer with the answer. While the customer's question has traversed the bank's channels, the experience feels unified and natural to him. The bank's staff, on the other hand, turns to its centralized data and analytics system to address the customer's individual needs in real time. And the bank is able to better serve this customer by drawing on the data and insights it has gathered across channels.

Rethink branch formats

While research suggests that consumers are moving away from branches, banks still own a significant number of them. Asian banks in particular were founded and expanded on the branch model. For many banks, the question of how to strategically manage branches is complicated by the fact that a majority of consumers still purchase products and open accounts in the branches. China, India, and Indonesia, for example, have been branch-based societies for many years. Still, some of the most innovative banks are rethinking how they use physical channels, and we believe they are correct to do so.

Our research shows that rather than reducing branches, banks are transforming them into centers. Focused on serving specific customer segments, the centers are strategically located in the micromarkets where these customers live and work. The centers tend to be modeled on three formats:

- **Wealth-management center.** This physical channel caters to affluent customers who need high-touch services beyond retail banking, such as estate planning, investment management, and legal and tax advice. For many banks, one-to-one interactions with high-net-worth individuals yield the most product sales. To serve this segment, a bank must redesign the branch's physical space and alter its organization to include more specialized RMs.

- **SMB center.** This center delivers business-focused products and services to private-business owners. Services include professional advisory on topics such as financing and capital-raising strategies, supplier and vendor management, and cash management. In some cases, these customers may also need asset- and wealth-management services. Some banks are uniting asset- and wealth-management services and SMB services at one physical center.

- **Digital showcase center.** A few innovators are transforming branches into centers that showcase their mobile and digital capabilities. While these centers tend to have a nonbanking, tech-driven look and feel, they fulfill the bank's need for a physical presence to attract customers. At the same time, they serve as a testing ground for those customers who are increasingly reliant on mobile but not completely proficient in its functionality. Particularly prevalent in highly populated areas, such as Hong Kong and Singapore, showcase centers feature multiple screens and devices where customers can test, play, and learn with support from staff. This format, however, is yet to be proven as economically sustainable.

By analyzing its customers, a bank can determine which center format is best suited to the needs of its specific customer segments. A number of banks are employing all three formats in carefully selected micromarkets. The question for Asian banks becomes how many branches they should transform, which types of centers should be used and in what combination, and which specific geographic areas they should target.

Use data strategically

The evolution of the consumer journey from one physical channel to multiple channels has come with challenges. However, the explosion of digital channels

presents an important opportunity—new sources of highly informative, external data on consumers.

Customers who rely on one or two channels exclusively provide a bank with some basic data about themselves, such as a customer profile, account balance, and transaction records. The bank's understanding of these customers is limited to the structured data it can gather from internal systems. In contrast, customers who use multiple channels—and digital channels in particular—give banks unstructured, external data on their Web behaviors. Banks employing this kind of data must pay scrupulous attention to local privacy laws and customer consent and preferences.

Where available, external data from digital channels can offer banks a significant opportunity. Banks that invest in data and advanced analytics can personalize customer-relationship management across channels. They can use it to build individual product offerings, cross-sell, improve loyalty and reduce churn, identify new customers, structure pricing, inform customer-service models, and manage risk. Additionally, they can use this data to map and identify attractive micromarkets. By zeroing in on the geographic location of specific customer segments, banks can determine whether their footprint makes sense. These insights can help banks rethink branch formats, transform existing branches, and manage resources.[1]

□   □   □

Digital banking is about more than enabling digital channels. Banks that successfully manage multichannel by creating a seamless customer experience, rethinking branch formats, and using data strategically will be able to withstand competition and pressure from new technology players. They will also be better positioned to capture the loyalty of emerging and new customer segments. A subsidiary of an established European bank offers a case in point. By following these measures, the subsidiary acquired more new customers with substantially fewer branches than its parent company over a three-year period.

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1   For more on this subject, see chapter 4, "Unlocking customer value with advanced data and analytics."

Chapter 3
Digital sales enablement: How to turbocharge performance and customer satisfaction

Kirti Avasarala and Ananya Tripathi

Executive summary:

- *The convergence of consumer needs, technology advances, and sales-force familiarity with technology in Asia is opening up new digital-based sales approaches.*

- *Digital enablement has the potential to significantly boost sales performance and improve customer experience.*

- *To ensure success, implementation should be business-led, with rapid technology prototyping, and backed by a comprehensive sales-force adoption plan.*

Consumer needs, rapid technology evolution, and increasing customer and sales-force familiarity with technology are converging in a way that is making digital sales enablement a tangible opportunity. By digital sales enablement, we mean harnessing the full range of capabilities brought by digital devices and communications and by Internet-based content to support the sales process. Early movers in Asia are already seeing marked improvements in sales-force capabilities and performance, an increase in customer-satisfaction levels, and higher financial performance.

Digital enablement of the sales force and sales process can present challenges, however, and to effectively implement such a transformation, companies must focus on three steps. They must ensure that the program is business-led and that

it is undertaken through an incremental, fast-turnaround prototyping approach that incorporates feedback from the field. They must also back the program with initiatives to transform the mind-sets and behaviors of the sales force.

Why embrace digital sales enablement?

The digital evolution of the Asian financial-services sector is at an inflection point. Consumers are increasingly favoring a digital-technology-based approach when they set about choosing financial products: they conduct online searches, read peer reviews online, and compare product features on aggregator sites. In addition, technology is becoming increasingly accessible to consumers and the sales force with the decline in cost of mobile devices, ever-broadening access to the Internet, and the enhanced ability of software providers to rapidly develop and deploy applications. Finally, many on the sales force are already familiar with technology as part of their private and professional lives. Together, these trends are providing the right environment for a digital transformation of the sales function in the financial-services sector in Asia.

What are the areas that financial-services companies should prioritize? An analysis of the sales funnel in the banking and financial-services sectors points to five areas that can offer the most attractive gains from digital sales enablement.

The first is lead generation, addressing two of the time-honored challenges that face sales staff: identifying which customers to meet and coping with shortages of new-customer prospects. Continuing expansion of digital-data availability and of social media is opening up major new areas of opportunity for lead generation.

The second area is provision of new digital-based tools to enable salespeople to provide customers with a higher-quality and differentiated sales experience that includes interactive functionality. Demand for such higher-quality sales approaches is increasingly coming from better-informed customers. They demand a more professional, needs-based sale, rather than the relationship-based sale that financial players have traditionally provided. A digital-based approach that includes interactive functionality can meet this need. Digital-based tools can also help raise the quality of interactions with customers uniformly across the sales force. Our research shows that a large part of the variation between top-quartile and bottom-quartile salespeople (representing a performance variation of between 100 percent and 300 percent) is driven by variability in the quality of the sales process.

The third area is streamlining fulfillment. Financial players face an ongoing need to reduce the time and effort wasted on manual processes associated with the sales process, which can frequently lead to sales leakage. Examples include cases of the same data being collected several times, the time-consuming process of having customers fill out and return paper forms, and the need for repeated meetings with clients.

The last two areas that financial-services companies should prioritize are capability building among the sales force and performance management. With high attrition in sales forces (in many cases above 50 percent per year), technology provides a scalable and sustainable method for capability building. In addition, digital sales enablement helps financial companies to not only better manage the real-time performance of their sales force by creating transparency into what they are doing, but also monitor all the digital sales enablement modules.

Defining a digital sales enablement program

To implement digital sales enablement and to capture the greatest range of benefits, we believe that an approach that comprises six "modules" is required. The first five modules cover the areas that offer the most attractive gains through digital sales enablement; the sixth module links up the new digital sales approaches to the institution's legacy structures.

Lead generation and management

Using big-data approaches and tapping into social media (where privacy and all relevant laws permit), financial players can combine rich, internally available data such as customer-transaction histories and profile information and external data to divide their customers into microsegments. They can then provide their sales force with simple, targeted next-product-to-buy leads.

Such digital enablement makes it possible for the salesperson each morning to log on to his or her device to find a set of customer leads (allocated to him by geographic mapping) that have been triggered through back-end customer analytics (for example, analyses of transactions at the bank or a life event such as marriage) with a clear recommendation on what should be the most relevant product pitch (Exhibit 1). Our experience shows that there is an up to twofold difference in conversion efficiency between a high-quality lead such as these compared with a cold lead.
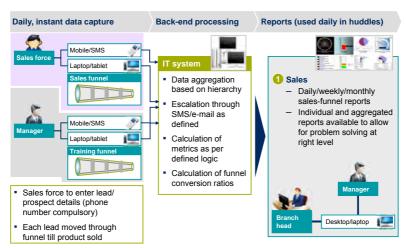
Exhibit 1: Digital enablement enhances lead generation and management.

| Daily, instant data capture | Back-end processing | Reports (used daily in huddles) |

Sales force
- Mobile/SMS
- Laptop/tablet
- **Sales funnel**

Manager
- Mobile/SMS
- Laptop/tablet
- **Training funnel**

- Sales force to enter lead/prospect details (phone number compulsory)
- Each lead moved through funnel till product sold

IT system
- Data aggregation based on hierarchy
- Escalation through SMS/e-mail as defined
- Calculation of metrics as per defined logic
- Calculation of funnel conversion ratios

1 Sales
- Daily/weekly/monthly sales-funnel reports
- Individual and aggregated reports available to allow for problem solving at right level

Manager

Branch head — Desktop/laptop

Interactive sales tools

Digital technology can help boost sales performance by enforcing a standardized and higher-quality sales process to meet consumers' more sophisticated needs, and to help to level out variations in the performance of salespeople (Exhibit 2). This module includes user-intuitive sales processes, such as a fact finder and graphical financial-goal-management tool. These can be supported by videos, product comparisons, and interactive fact displays to address frequently asked questions.

A financial-services player in Germany that implemented such a user-intuitive digital sales approach saw substantial improvements: its number of satisfied customers increased by 300 percent, while sales-force productivity increased by 40 percent overall, as the gap between top- and bottom-quartile performers narrowed. Another company saw more than 70 percent of customers awarding a maximum score on a feedback scoring metric for their satisfaction with a new digital sales process and also saw a 25 percent increase in the average value of products sold.

Exhibit 2: Interactive sales tools can help level out sales performance.

- **Standardized process leads to lower dependence on quality and attrition of sales force,** therefore reducing variability in conversion
- **Guided structure** ensures holistic approach (customer data, assessment, solutions, product offer, closing)
- **Reduces need for extensive sales-force training**
- Guided **customization of solutions** based on insurer's expertise, agent, and customer preferences
- **Automatic processing** of data (including customer report) and product applications

Digital fulfillment

Putting in place a digital process that minimizes manual data entry and the need for paper and is highly automated (to facilitate straight-through processing as much as possible) can help to ensure quick fulfillment. By speeding up the process, it can help to plug the leakages that can occur between sale and closure. Using mobile phones enabled with point-of-sale capabilities, a life-insurance player in Vietnam has made it possible for its agents to sign contracts with customers in 24 hours, a time frame that before the use of this technology was not possible. Similarly, a life insurer in India has invested in making its sales process paperless and guarantees a four-hour turnaround time to the customer for policy issuance.

Performance management

To capture the value of all the modules of digital sales enablement, players should invest in a performance-management system designed to monitor the activities related to the modules and related digitally enabled activities. This system can help players enforce discipline in the sales force, as well as keep track of the inputs and corresponding outputs and therefore tightly monitor the sales funnel. Such a performance-management system can have varying levels of sophistication, based on performance thresholds and deep analytics. These can range from basic sales-funnel reports to triggers and alert escalations (for example, sending a short-message-service alert to supervisors if a salesperson

has delayed meeting a customer). Finance companies have seen improvements in sales performance of as much as 20 or 30 percent within a year following the implementation of this approach.

Capabilities and connectivity

Technology opens up a range of opportunities to carry out sales-force capability building, with the added benefit that the instruments used can be made available on demand. Such opportunities include the creation of relevant games, videos, e-lessons, and testing. When teaching best-practice sales processes, successful companies often award a certificate to employees who do well, which provides additional motivation. Likewise, putting in place a collaboration and connectivity platform across the sales force can also help to build employee motivation and opens up an opportunity for the sales force to share its successes and best practices.

Multichannel integration

As finance companies move to digital enablement of their sales operations, it is essential that they carefully manage the integration between their traditional manual or physical routines and the new digitally enabled ones. For example, the boundaries between the digital and physical world are blurring as customers are increasingly researching online and then purchasing offline. Financial-services players' sales and service processes must change to accommodate this trend.

One bank that responded to the change in sales landscape is an Indian bank, which created a seamless multichannel account-opening process tailored to customers who like to take advantage of both digital and physical tools and products. In the course of one day, a new customer can interact with the bank across all of its channels—online, mobile, call center, and in-person relationship manager—and open his or her account. The customer logs in basic details to apply for the account online, confirms the transaction through a one-time password provided over his or her mobile phone, receives a call from the call center within five minutes to confirm the product purchase, and the next day, a bank sales person comes to the customer's office or residence to collect the necessary documents and close the transaction. The bank is seeing a significant uptick in sales since the launch of this process, especially in the metropolitan areas.

Challenges in the way of digital sales enablement

When undertaking a digital sales transformation, players frequently encounter a number of common pitfalls.

Financial-services companies often define the transformation as a technology-led undertaking. By doing this, they tend to set the project on the wrong course, because the program frequently ends up focused on issues that are not aligned with the business's priorities, and it is not designed with the ability to generate impact. Embarking on a technology-led course also often fails to win the buy-in of the business side of the organization, which is ultimately responsible for driving the transformation.

The technology mind-set can sometimes lead companies to take a "big-bang approach" to digital sales transformation, attempting to achieve transformation across all modules and implement all technology interventions in one stroke. Such initiatives tend to run into delays and budget overruns, which, in turn, extend the time it takes for the organization to see any real impact. In the absence of evidence of any business value being captured, organizations then lose patience with the transformation. Taking a big-bang approach also often sets a timeline that precludes incorporating feedback from the field into the design of the solutions, which leads to problems at the implementation stage.

In addition, many companies do not focus enough on capability building and on encouraging mind-set and behavior shifts in the sales force. Any change in an organization's way of operating tends to meet resistance in the sales force. It is therefore important for companies to focus on the incentives and mandates supported by the change story in order to motivate the sales force to adopt the new, digital way of selling products. Many companies still fail to do this.

Finally, companies often continue to maintain two "ecosystems"—a manual one alongside a new digital one—that do not talk to each other. This leads to leakages on the ground. Financial companies therefore need to ensure that the physical and digital worlds merge seamlessly and that there are no break points. For example, companies must have a single system in place through which management can view all sales irrespective of whether they are done physically or using a digital device.

Steps to ensure successful implementation

Any digital sales transformation is only as strong as its weakest link. To avoid the pitfalls we have just described, financial-services players should follow three steps that will help them to capture the full value creation made possible by digital sales enablement.

Make it a business-led design

Players should undertake a business-led diagnostic to identify break points in their sales funnel, and then prioritize the issues that need to be solved by technology. Analyzing the entire sales funnel helps to identify opportunities across customer-facing, sales-management, and back-end-operations processes. To ensure proper linkage between design and execution, the design process should be supported by a dedicated business team that owns the end-to-end design as well as the implementation of the digital sales transformation.

Undertake rapid technology prototypes

For technology development to be both rapid and effective in actually solving business issues on the ground, it is imperative to adopt an approach that creates simple prototypes that users find intuitive and test them early in the field so that feedback can be gathered. This approach ensures that the technology-development cycle is relatively short, and that, because the field sales force is involved early in the testing process, the technology is tailored to on-the-ground business realities. This approach also builds greater ownership among field sales personnel and leads to greater adoption.

Develop a comprehensive sales-force adoption plan

Identifying business issues and designing and refining the technology based on field inputs are important steps. But they are only half the battle. Driving adoption of the digital transformation in the field in ways that ensure the changes will be sustainable is a major undertaking. It requires a significant investment of effort in changing mind-sets and behaviors and includes "push" and "pull" measures—pushes from management and incentives to motivate the sales force to pull.

To carry through the changes, companies must define a "Why do we need to change?" story that appeals to the sales-force personnel at an individual level and makes them want to be part of the transformation. Companies should appoint a group of advocates for the change program in the sales force, and should have a plan in place to communicate success stories coming out of the transformation. In addition, there needs to be a clear capability-building plan that is driven down from the supervisory layers.

To underpin the transformation initiative and make sure its importance is clear to the sales force, a system of incentives and requirements must be established—one that is noticeably different from what has come before, otherwise the initiative may be dismissed as just another head-office proposal that should be ignored.

In conclusion, successful implementation depends on financial-services companies being able to sustain the requirements of the five areas we outlined at

Exhibit 3: Players can feel confident about their digital sales transformation if they can check off all the statements below.

Business-led approach:
- The business team led the design of the technology solution   [   ]
- There is a dedicated business team accountable for driving
  end-to-end transformation   [   ]

Rapid prototyping:
- There are sprint-like iterations and pilots planned for the digital sales
  enablement (with each sprint lasting no longer than 6–8 weeks)   [   ]
- End-user beta testing and end-user feedback incorporation is an
  integral part of the program   [   ]

Adoption plan:
- There is a clear change story that will appeal to the sales force   [   ]
- There are a sufficient number of end-user advocates for the program
  and success stories to motivate the sales force   [   ]
- There is a well-defined capability-building plan that is led by supervisors   [   ]
- The incentive system offers more attractive rewards to salespeople that
  become digitally enabled than those who hold on to the old system   [   ]
- There are clear statements of the requirements for change and of
  the consequences for salespeople who are unwilling to change   [   ]

the beginning of this article. Exhibit 3 provides a checklist that players can use to gauge their level of confidence about whether their digital sales-transformation initiative is on track for success.

□   □   □

While the digital sales-transformation journey has just begun in Asia, changing consumer behavior, technological evolution, and the positive business impact felt by early movers mean that it is now only a matter of time before financial players of all types are forced to rethink their sales models. Those that are willing to invest and move forward with a sales transformation stand to gain an advantage. But as players implement changes, they should continuously check their program against the pitfalls identified above to ensure that they achieve and sustain a successful transformation.

Kirti Avasarala and *Ananya Tripathi* are consultants in McKinsey's Mumbai office.

Chapter 4
Unlocking customer value with advanced data and analytics

Christian Roland, Gunjan Soni, and Ian St-Maurice

Executive summary:

- *Advanced data and analytics (ADA) is increasingly important to value creation in retail banking.*

- *Banks that have used ADA have identified opportunities across the value chain, from smarter targeting of customers and sharper risk assessment to better predictions of customer traffic in branches and call centers.*

- *Many Asian banks are in the early stages of ADA use; across countries and industries, we see significant benefits for early movers.*

- *We examine five characteristics of ADA that successful banks in Asia have applied.*

Advanced data and analytics (ADA) has become core to value creation in the retail-banking value chain. Banks worldwide are applying ADA to everything from optimizing marketing spending to making better decisions on risk, ensuring more efficient customer targeting and improving service levels in branches or call centers. For many banks, one of the main applications of ADA has helped unlock the value of customer relationships through better acquisition, development, and retention.

In the United States and Europe, more and more banks are experimenting with ADA to kick-start lagging revenue growth. We urge senior leadership of Asian banks to consider doing the same in the face of slowing revenue growth and

increased competition in many markets across the region. We think banks that fail to pursue ADA might miss an early-mover advantage. In fact, some Asian banks are already developing ADA capabilities through investments in data infrastructure and statistical tools, as well as through hiring analytics experts.
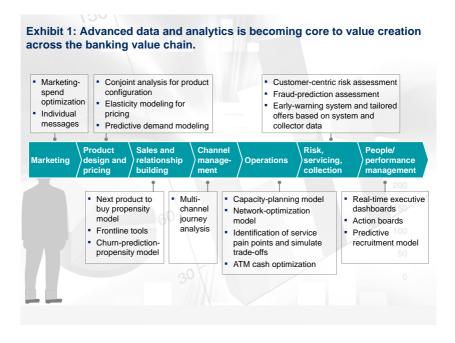
Most Asian banks are lagging behind on ADA and face big challenges. For example, good customer data was scarce until the recent development of credit bureaus in the region. Perhaps the biggest factor inhibiting the widespread use of ADA is the tremendous growth in consumption and in the middle class. Bank executives felt no urgency to develop their analytical muscle as volumes and market share kept growing. Those days are mostly past in this era of slower growth. Banking executives have an incentive now to squeeze more from their customer base, and ADA offers that opportunity.

Some Asian banking executives are skeptical about the difference between ADA and the customer-relationship-management (CRM) tools that many banks have invested in over the past 10 to 20 years. ADA employs additional data and statistical techniques to derive customer insights. And those insights are not just in the marketing and sales arena but also across the value chain (Exhibit 1). Banks in Asia and elsewhere that have employed ADA have been able to identify opportunities to increase credit balances, raise cross-sell rates, and greatly improve the yields of their call-center operations. In addition, some banks have started to use advanced analytics to predict foot traffic in their branches, enabling them to match staffing accordingly or to predict daily cash demand for ATMs.

In this article, we focus on how to maximize the impact of ADA in customer relationships, including identifying the customers that are most likely to purchase a certain product, and on how banks can get started on their journey. As noted, ADA is useful across the banking value chain, but we have chosen to focus on customer relationships because this area has the most immediate impact. Squeezed profit margins argue for investment in ADA now. And we see that early movers have captured an outsize share in countries outside Asia and other industries. Additionally, Asian bankers should keep in mind that multinational banks have an advantage in ADA because they can apply ideas from elsewhere and use them to attack in the region.

Making the case for ADA

Many financial-services companies and other consumer-facing businesses outside Asia are successfully using ADA to unlock customer value. But some Asian bankers are asking how ADA differs from CRM before they invest in this approach.

Exhibit 1: Advanced data and analytics is becoming core to value creation across the banking value chain.

- Marketing-spend optimization
- Individual messages

- Conjoint analysis for product configuration
- Elasticity modeling for pricing
- Predictive demand modeling

- Customer-centric risk assessment
- Fraud-prediction assessment
- Early-warning system and tailored offers based on system and collector data

| Marketing | Product design and pricing | Sales and relationship building | Channel manage-ment | Operations | Risk, servicing, collection | People/ performance management |

- Next product to buy propensity model
- Frontline tools
- Churn-prediction-propensity model

- Multi-channel journey analysis

- Capacity-planning model
- Network-optimization model
- Identification of service pain points and simulate trade-offs
- ATM cash optimization

- Real-time executive dashboards
- Action boards
- Predictive recruitment model

For many banks, CRM was about an IT solution as a repository for all relevant customer data. Some banks went further and applied heuristics for customer campaigns based on the bank's data. Classic applications of CRM in banking include cross-selling to existing customers and proactive and reactive churn programs. ADA pushes this further, for example, by using sophisticated next-product-to-buy algorithms based on Bayesian models to ensure that cross-sell offers are done with the right product at the right time. Some ADA techniques are possible today thanks to advances in computing power and a lower cost of data storage. While ADA builds on CRM, it differs from it in four areas:

- **Using new forms of data.** Today, banks mainly use internal structured data like balances, transactions, product holdings, and customer demographics. In the future, banks will use both internal and external data (such as from loyalty programs of partners), as well as structured and unstructured data (for instance, call-center records). Additionally, increased use of social networks creates more marketing and sales opportunities (where privacy laws and other regulations permit).

- **Employing statistical models instead of heuristics.** Many banks now use heuristics for their campaigns. For example, based on the experience of

their salespeople, they may assume that one customer segment, say, urban males between 28 and 35 years old with an income of $1,500 to $3,000 a month, are more likely to buy a certain product. So, in a sense, banks are using experience-based decision rules with simple demographics and information. In the ADA world, banks are employing a hypothesis-driven approach to create hundreds and, in some cases, thousands of new variables (such as the velocity of balance changes or a concentration of locations of withdrawals) that they then test with statistical models to enhance their ability to locate the most attractive microsegments. The result can be a doubling or tripling—or even more—of product-purchase hit rates.

- **Speeding up response time.** ADA decreases response time by identifying and computing in real time the variables that matter to make tailored offers. Using this, banks are now able to make almost instantaneous offers to customers when they call or when they visit specially designed landing pages on Web sites.

- **Increasing the level of tailoring and personalization.** While marketers have long talked about personalized offerings and interactions, ADA allows banks to embrace these, using better computing power and more sophisticated models. This is a step change from marketing to relatively large subsegments such as "affluent rate hunters" or "young families."

Getting started in ADA

Large full-service retail banks across Asia have access to transaction-level data and could use them for cross-selling life insurance, mortgages, and other financial products that are intrinsically linked to changes in life stage. For the most part, retail banks in Asia find themselves unable to pursue this approach aggressively because the data tend to sit in product-based silos (for example, the credit-card group uses only credit data, or life insurance looks at only its own data). Although the data could be of immense value to the insurance and secured-credit departments, there are few organizational incentives for cross-silo data sharing. Still, some Asian banks are breaking down these barriers to get the full power of ADA.

One Asian bank used ADA to assess its credit-card business. The bank faced an increasingly competitive unsecured-credit landscape and sought to understand how it could promote market-share growth. The bank was in a privileged position—it had access to more data from more people in more products than most of its competitors. Until then, however, opportunity assessments had only used data from within the credit-card department. Using ADA, the bank worked to create a 360-degree view of customers, aiming to delve deeply into their

behaviors across all product and service categories. The approach effectively tripled the amount of information used to identify business opportunities through the integration of insights across silos and pointed to an opportunity to more than double net receivables.

Our research and client experience suggest that Asian banks that succeed in applying ADA share five characteristics.

Clarity on the source of value

It is easy to get excited about the potential of ADA. However, ADA is not a panacea for the problems of an organization. Each project should start with an articulation of the business need, how analytics could help address the issue better than today's tools do, and the expected impact. Executives should avoid falling into the trap of considering ADA as a technology or pure data initiative. There are multiple examples of large investments in infrastructure with little to show for them because they focused on technology rather than impact, building large infrastructures that aim to do it all. These systems take significant time and resources to build and often don't perform as well as more targeted solutions that are focused on the biggest sources of value, which will differ from bank to bank.

As mentioned earlier, ADA has used cases across the banking value chain—some banks have prioritized enhancing their risk models with new forms of data, while others have focused on using analytics to enhance branch service levels by predicting customer footfalls per hour for each branch. On the customer side, the source of value can also differ widely. For example, one bank has prioritized payroll and unsecured consumer lending as penetration rates in the customer base were significantly below the level of peers. Other banks have focused on identifying customers that are willing to buy insurance products.

An integrated data strategy

Once banks determine the source of value, they should identify the required data and how to obtain them. In our experience, banks use only a limited amount of the available data, typically working with internal structured data like demographic information, product-holding information, channel usage, and transactions. Banks should try to look at the full range of what's available, including structured and unstructured data, as well as internal and external data, to develop a 360-degree view of the customer.

Examples of internal unstructured data include call records and behavior in the bank's channels. Telecommunications companies, for example, are analyzing internal unstructured data like call records to reduce customer churn. This

includes monitoring call records for phrases by call-center agents such as, "Sorry, I can't help you with that," which are early indicators of churn.

A much bigger data universe opens up for banks that look at external data. This can include information on property ownership and credit scores. As part of their data strategy, banks should also assess if it is worthwhile to partner with retailers and telecommunications companies to get access to information from sources such as loyalty programs. If data sharing is possible, this can help banks better identify customer life stages and assess true customer value. For example, a universal bank in Latin America created a joint venture with a local supermarket, giving it access to data from a customer-loyalty program. The data set included 1 million customers, 700 million transactions, and more than 100,000 products. Access to the data permitted, among other things, the creation of a risk model that could be used for prescreening and selective preapproval of credit products. Some Asian banks have turned to direct-marketing vendors, such as Yellow Umbrella of India, for similar data.

An approach for modeling insights

Once the business problem, sources of value, and required data are defined, banks must choose the analytical methods to crack the problem. Many banks are starting to explore the use of "Amazon type" next-product-to-buy (NPTB) algorithms.

Typically, the NPTB recommendations for retailers are based on basket analysis. For a book retailer, the basket could contain all book purchases in the last year. The decision logic then is, "Customers who are reading Book A also read Book B." For grocery retailers, a basket may consist of all the purchases in one trip. The decision logic then is, "Customers who are buying Product A and B together in one trip." In banking, the definition of a basket needs to be changed to apply the concept; here it would contain a collection of customer-specific data that could include sociodemographics, product portfolio, and transaction behavior. The decision rule then consists of a product recommendation and certain criteria that need to be fulfilled.

In our experience, the results of the modeling can be enhanced by creating new variables based on business insights and adding them into the NPTB models. A large social-media player in Asia, for instance, was assessing how to identify customers for account upgrading. One hypothesis it had was that people who were rapidly increasing their usage of the site would be more likely to want to upgrade. To identify these subscribers, a new variable was created that measured how much each subscriber was increasing his or her account activity over a four-week period. This was found to be highly predictive of the take-up rate for upgrade offers. Similar triggers can be identified in financial services—for

example, observing a spike in withdrawals could be an indicator of higher need for liquidity, which could be used to target individuals for personal loans.

The ability to move from insights to frontline delivery

Generating the insights is not enough—the front line needs to use them. Banks must ensure that the insights flow, without leakage, from analysis to campaign design, target-list creation, contact with the customer, and then to closure. The process is easier said than done, as the leads that emerge from analytics can be lost little by little during the multiple required handoffs.

To reduce the chance of this happening, we recommend that banks begin with small pilots and scale up over time. Too often, we see banks biting off more than they can chew by building large, fully automated systems that take a lot of time and resources before the value of ADA to the institution can be proved.

A way to make change happen

Once the technical elements of ADA are in place, banks must address how to motivate the front line to properly use this new resource. We have seen three big challenges arise.

First, how can banks encourage product groups to collaborate and share data? Second, in the target-setting and budgeting process, if customer value is managed at the overall bank level, how can different product groups be motivated to cooperate, since each will want to maximize its own business? And third, sometimes the most valuable product to offer to a customer might be one that salespeople don't believe in or are not well trained to sell: How can you motivate them to buy in and try recommending these products so that the value of the insights is maximized? Some banks are trying to address this situation by running ADA training academies for frontline staff and, in some cases, offering certification (for example, blue-, yellow-, and black-belt levels of achievement) that can be earned by not only attending training but also successfully completing real business projects. Still, training may not be enough if the incentives to cooperate aren't present. At one bank, although different ADA product recommendations were visible to the call-center service team, frontline staff would still pitch personal loans because the related business unit was sponsoring an incentive-laden campaign.

As is the case in all change-management situations, there's not an easy answer. At the highest level, all these issues require a shift of mind-set. In retail banking, analytics are too often equated with reporting. So it's critical to identify what we call the bilinguals—those employees who can speak both

the language of ADA and of the businesses they support. Then, a choice must be made about where to put these people. Should they be embedded in the businesses to get them closer to the P&L or aggregated in analytics teams to ensure better sharing of best practices and ideas, as well as "analytical economies of scale"?

□   □   □

Several Asian banks have aggressively pursued ADA, and others are starting to experiment. In other industries, early movers in ADA have achieved higher revenue and profit growth than competitors. Banks that are seeking a competitive advantage should seize the opportunity that ADA presents.

Christian Roland is a partner in McKinsey's Bangkok office, Gunjan Soni is a partner in the Mumbai office, and Ian St-Maurice is a senior expert in the Hong Kong office.

Chapter 5
Making the digital bank work end to end: Digitizing the operating processes

Robert Feeney, Andy Holley, and Sasi Sunkara

Executive summary:

- *Tech-savvy digital-banking customers expect a flawless experience, so banks must move toward end-to-end process optimization with them in mind.*

- *Banks do not have to pioneer this process; they can learn from other industries and then incorporate valuable lessons into their own change programs.*

- *More than 600 processes are executed at a bank, and they can be realigned to deliver a seamless digital and multichannel customer experience, reduce value leakage, and increase efficiency.*

- *Governance and performance-management tools are also critical components of a digital transformation.*

- *Rapid-process digitization allows banks to surmount the barriers and complexities of their lagging operating models and meet the challenges of a digital-banking future.*

The need for transformed operations in Asian banking is not simply a matter of keeping up with Western peers; rather, it derives from the expectations of a growing number of customers in Asia for a digital-banking experience. The pressures are encouraging Asian banks to move sooner rather than later. However, the digital bank puts heavy demands on banks' operating models.

Digitization of processes, end to end, is both an essential enabler of banks' digital customer propositions and a significant driver of value in and of itself. Process digitization is different from pure automation in that it not only creates cost efficiencies but also value, by responding to customer demand for new and better products and services. A new approach that focuses on value is taking shape, based on the following actions:

- **Creating a customer-centric experience** from the start, by focusing on customer satisfaction with the right products as well as on engaging, best-in-class customer interfaces

- **Developing tailored, multichannel capabilities** to serve the bank's existing and aspirational customer base, with a state-of-the-art self-service experience that is seamlessly integrated with higher-touch channels such as video, chat, and face-to-face contact

- **Offering a simpler product** set rather than trying to provide everything; provide the solutions that people want as transparently and simply as possible

- **Simplifying end-to-end processes**, by identifying and optimizing the processes with the most potential while ensuring that customer needs are put above all else.

By pursuing these principles in a tailored way, banks can transform their operating models to support their customers' digital-banking expectations. The value at stake in getting process digitization right is significant. Not only are the opportunities for creating cost efficiencies and scalability great, but better service of the customer base will lift revenue and reduce leakage for the bank. The digital bank of the future will succeed only by meeting the needs of a rising generation of digitally savvy consumers who will set the parameters for the next banking experience.

Toward a high-functioning, customer-centric operating model

Digital-banking customers expect a flawless experience, so banks must begin their journey toward end-to-end process optimization with customer centricity. Much is expected of the new model, which has to accommodate continuous innovation in products and services, multichannel distribution, and digital product fulfillment. It also has to enable closely targeted cross-selling and upselling opportunities as well as manage risk and governance.

Four powerful levers

Leading companies in other industries have successfully developed just such innovative operating models, applying four powerful levers: *automation, lean, offshoring and outsourcing,* and *centralization*. The transformations accomplished in the manufacturing sector, which not long ago was regarded as a technological laggard, are exemplary. Jumbo airliners are now assembled in three weeks. Automakers are increasingly using lean approaches to drive down defect rates to historic lows. In many industries, infrastructure and back-office functions such as human resources and finance are now completely outsourced to low-cost locations. The employees of business services such as call centers are increasingly being centralized in strategic hubs.

In banking, these same approaches have begun to take hold as leading banks start on the transformation journey—especially when it comes to standardizing productivity to best-practice levels. Even taking into account the differences between banking and manufacturing, banks can learn a lot from these early innovators as they transform their own future operating models.

To meet rising customer expectations of a complete digital-banking experience, banks will have to bypass incremental improvement approaches. Asian banks in both mature and emerging markets will have to accelerate their digital transformations to serve new tech-savvy customers, whose experience with other digitally enabled industries has led to an expectation that banks will deliver a full suite of services in a state-of-the-art digital format.

Optimizing the model along the four levers

A targeted end-to-end process optimization can achieve significant and lasting savings as part of a systematic transformation of the bank's operating processes. The approach begins with defining how these processes function today and where they need to go in the future. The improvement levers that can deliver this transformation—automation, lean, offshoring and outsourcing, and centralization—have been evolving year to year, improving with the quickening pace of digital-technology innovation. Banks do not have to pioneer the application of these levers; they simply need to learn from others. They can tap into how the levers have been used in other industries and then incorporate this into in their own change programs. By drawing on these valuable examples, the risks of implementation are minimized. Banks can therefore capture the full value of a concerted change program, and can avoid the tendency to employ only one or two levers.

Enormous opportunity remains for a comprehensive approach

An idea of the total value available for capture through a transformed operating model can be seen in the success banks have had after applying only one or two of the transformative levers. Despite the partial approach, these banking leaders have created measureable value in optimizing operations. But full value in operations will only be attained through a holistic approach that addresses all the levers. The value potential in these improvements is very high in Asia, especially emerging Asia, where banks lag well behind their leading Western counterparts in automating banking processes.

Banks in mature Asian markets have invested more in refining their operating models over the past few years, yet much remains to be done to follow through on the promise of a fully digitized customer experience.

- Only 5 percent of processes are fully automated.

- Only 25 percent of processes are technology enabled.

- Only 20 percent (or less) of the processes have been designed using lean best practices.

- Half of all processes usually remain untouched.

- Most processes are still too complex, requiring unnecessary handoffs across siloed departments and functions, and are clearly not designed for customer and business impact.

The disguised example below demonstrates the great potential for automation that remains even after several optimizing programs have been completed (Exhibit 1).
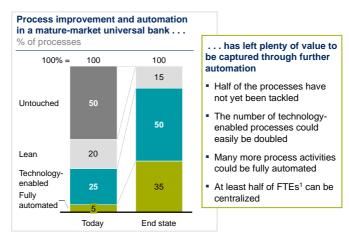
A cost focus on process improvement

Based on our global work with leading banks, we estimate that all 600-plus processes executed at a bank can be optimized and realigned to deliver a seamless digital and multichannel customer experience, reduce value leakage, and increase efficiency (Exhibit 2).

McKinsey's experience in the field suggests the potential to automate 75 percent of all processes. This potential extends even to back-office centers that have already undergone multiple waves of lean-transformation, process-enablement technology investments, and even includes the offshoring of selected processes. Most streamlining efforts are made in isolation; the processes that are "leaned

Exhibit 1: While banks have been making great strides in transforming their operating models, significant opportunity remains in automation.

Process improvement and automation in a mature-market universal bank . . .
% of processes

100% =	100	100
		15
Untouched	50	
		50
Lean	20	
Technology-enabled	25	35
Fully automated	5	
	Today	End state

. . . has left plenty of value to be captured through further automation

- Half of the processes have not yet been tackled
- The number of technology-enabled processes could easily be doubled
- Many more process activities could be fully automated
- At least half of FTEs[1] can be centralized

1 Full-time equivalents.

LARGE UNIVERSAL BANK

Exhibit 2: A typical universal-bank operating model usually comes with a set of more than 600 bank-wide end-to-end processes.

[#] Number of processes

Customer-centric processes ~500

	Retail (incl. wealth)	Wholesale	Commercial	Insurance
Customer-facing sales	• Apply for current account • Apply for an unsecured loan **45**	• Launch a banking product • Originate/structure a transaction **20**	• Apply for current account • Apply for LIBOR[4] loan **20**	• Buy a new home policy • Buy life-protection, critical illness coverage **10**
Customer-facing service	• Make a general enquiry • Deposit withdraw money **110**	• Execute and service a market trade (by product) • Make a payment **45**	• Make a BACS[5] payment • Close/settle a loan account **85**	• Make a claim on a policy • Change coverage details **70**
Bank-initiated support	• Process inbound CHAPS[1] payment • Apply charges/fees, interest-rate changes **40**	• Reconcile position • Manage a loan portfolio **20[3]**	• Issue periodic letters • Manage interbank agency arrangements **20[3]**	• Handle commissions to intermediaries • Make recoveries from third parties **40**

Enterprise functions ~100

	Utility functions[2]	Finance	Risk	IT	HR
Internal functions	• Print and send outgoing mail • Manage static data **15**	• Manage general accounting • Generate management reports **20**	• Model credit risk • Model market risk **30**	• Design technology solution • Develop IT strategy **20**	• Manage vacancies • Manage payroll administration **10**

1 Clearing house automated payments system.
2 Processes performed by operations encompass customer journeys across divisions as well as a number of cross-bank utilities.
3 A number of operational-planning processes can be shared between commercial and wholesale divisions.
4 London interbank offered rate.
5 Bankers automated clearing system.

out," automated, and even offshored in piecemeal approaches are themselves tied to a constellation of further processes that depend on manual intervention to a significant degree. This dependence often nullifies the positive effects of the enhancements.

The value potential in process optimization for banks in Asia's emerging markets is especially high. Most emerging-market banks, benefiting from lower labor costs, have not felt as much pressure to optimize their operating models. However, rising complexity and a shortage of talent are adding to the cost of growing. Many emerging-market banks are therefore beginning to rethink their operating models, with an eye on scalability, efficiency, complexity, and flexibility. These banks are now looking to grow in size but also to enhance their ability to serve their most attractive customer segments. These customers have become much more mobile and technology savvy and are expecting an instant, "anytime, anywhere" experience from their banks.

By bringing a cost focus to process optimization, a manageable number of the highest-cost processes can be identified for streamlining. Exhibit 3 shows that 50 percent of costs at a large universal bank were found to be residing in 30 processes; 20 of the processes were highly compatible with rapid automation, including account openings, mortgages, lending, and customer inquiries. By delivering 40 percent efficiency in these important end-to-end processes, a targeted change program reduced total costs by an estimated 15 to 20 percent. At the same time, the program was designed to significantly improve customer service: customer onboarding times were reduced by 99 percent and dramatic improvements were seen in the error rates in customer applications. The bank ran a 12-week, end-to-end process-redesign pilot and rolled out a full program in six months.
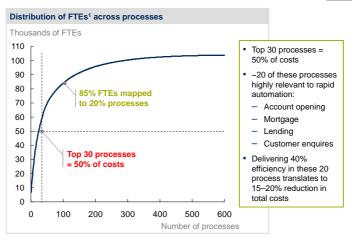
Rapid-process digitization

A systematic, holistic approach to a process redesign for the digital future allows Asian banks to create a tailored mix of automation, lean transformation, centralization, or even outsourcing and offshoring, to be applied to each process in a four-part program.

1. **Zero-based process redesign.** This approach allows banks to reinvent processes based on world-class templates and lean archetypes for bank-process architecture. It can be driven bottom-up or top-down, depending on the organizational appetite for technology transformation.

Exhibit 3: By identifying and optimizing the most important E2E processes, banks can quickly capture significant cost savings.

LARGE
UNIVERSAL
BANK

Distribution of FTEs[1] across processes

Thousands of FTEs

85% FTEs mapped to 20% processes

Top 30 processes = 50% of costs

Number of processes

- Top 30 processes = 50% of costs
- ~20 of these processes highly relevant to rapid automation:
  – Account opening
  – Mortgage
  – Lending
  – Customer enquires
- Delivering 40% efficiency in these 20 process translates to 15–20% reduction in total costs

1 Full-time equivalents.

2. **Lean-management best practices.** Banks can apply well-established lean-management processes in which management is retrained for performance management and continuous improvement. Areas to focus on include day-to-day flexibility and removing waste and rigidity, but the scope can be narrowed to emphasize core elements such as performance management.

3. **Rapid technology development.** "Agile scrum" development enables the creation of technology building blocks in an intensive, iterative process. A work-cell team translates concepts into hand-drawn outlines in hours. Within days, these become wireframe mock-ups approved by business; a working prototype is then created and subjected to a daily cycle of review, revision, and feedback.

4. **Operating-model build-out.** The build-out of the improvements is managed through a dedicated center of excellence. The scope can be adjusted by process and by the extent of the organization redesign; in an accelerated approach, the build-out can be preset within the development cycle.

The approaches to rapid-process digitization can take two forms: balanced and accelerated. The balanced approach is more comprehensive and methodical, requiring more organization-wide buy-in, while the accelerated approach is more focused and intensive, making greater use of disruptive technologies.

Agile delivery capabilities are of critical importance: this approach is smart by design and is not intended to happen "automatically." Governance and performance-management tools are also critical, as they are in any transformation: for transformative ways of working to stick, performance has to be managed for the new norm at the outset, across all organizational silos.

Target state

Rapid-process digitization is relevant to nearly half of a bank's cost base. It works process by process and can lead to lower costs, higher productivity, faster delivery times, and reduced customer leakage. As it proceeds, rapid-process digitization transforms the operating model—processes are consolidated, functionalized, and outsourced or offshored as needed.

- **Channels, including branches, call centers, ATMs, and Internet.** Channels are optimized to enable efficient downstream processing, including electronic data capture in all branches and programs implemented to encourage migration to digital channels.

- **Business (retail, commercial).** Business is focused on product strategy, sales, and distribution (for example, branches that are focused only on sales, with all fulfillment done in operations).

- **Operations.** Operational processes are managed end to end, with more than 600 processes defined and categorized into automated and partly automated; lean management is also applied, with tailored metrics and management models.

- **IT.** All infrastructure functions are centralized, including operations, IT, finance, risk, human resources, procurement, and fraud; processes are configured into cross-business utilities (for example, payments and complaint management).

- **Other infrastructure, including human resources and finance.** Offshore locations are leveraged where relevant and work-flow tools dynamically allocate work across the footprint.

This approach creates the desired customer experience and substantially reduces customer-value leakage. In mature markets, we have seen this approach improve productivity by 30 to 90 percent, measured in both cost and time to deliver, in almost half of a bank's total cost base. In emerging markets, the impact can be even greater. The approach improves overall risk management and management transparency by optimizing and clarifying the underlying methods for each process. It also enables a more fundamental transformation of the operating model, including consolidation, offshoring, or even outsourcing processes.

☐   ☐   ☐

Rapid-process digitization allows banks to surmount the barriers and complexities of their lagging operating models and meet the challenges of a digital-banking future. The approach delivers dramatic performance improvements quickly: in our experience, great value can be realized in a matter of months or even weeks. The benefits are indeed many, since the approach is comprehensive. Even when an accelerated program is adopted, the choice of focus is based on a complete understanding of the total process landscape.

The levers for achieving the next-generation banking experience are in place, well understood, and more straightforward than many bankers would think. Most important, the next generation of high-value customers will expect their bank to offer a seamless digital experience. If they don't find it at their bank, they will look for it elsewhere.

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Chapter 6
Gearing the IT engine for digital banking

Andy Holley, Robin Loh, and Parker Shi

Executive summary:

- *For businesses to perform optimally, IT infrastructure and applications must be aligned.*

- *A recent study of Asian banking's IT terrain demonstrated a divergence in IT efficiency and value delivery; it also showed emerging-market banks outperformed their developed-market peers.*

- *Winners positioned IT strategically, ensuring CIOs are present in the boardroom, focusing on effective operating practice, and emphasizing strong vendor management.*

- *As consumer sophistication grows and expectations shift, it will only become more important to have a robust IT engine.*

- *Asian banks should embrace five fundamental capabilities, including a business-technology organization and next-generation infrastructure, to remain competitive—or even leapfrog more advanced players.*

- *Innovative risk management means creating the basis for competitive advantage by leveraging unconventional data or using a methodological approach to leveraging qualitative data.*

For banks to deliver on the promises of digital banking without adding needless complexity and cost, their IT operating models must be transformed in line with global best practices. IT infrastructure and applications must be strategically aligned to enhance business performance. The experience of

Asian banks in doing this has not been essentially different from that of their Western counterparts.

A recent McKinsey benchmarking study of IT in Asian banking revealed a landscape that will be very familiar to those acquainted with the IT terrain of global banking. The study disclosed wide divergence in IT efficiency and value delivery, which did not correlate to bank size, and also showed emerging-market banks outperforming their developed-market peers. The winners were thus not necessarily the largest banks or those banks operating in the most advanced geographies. Rather, winners were those banks that positioned IT more strategically, reaching beyond the usual cost-center models, with more CIOs having meaningful boardroom presence. These banks follow better operating practices with stronger business-IT alignment and effective IT complexity management. They also practice stronger vendor management while outsourcing more selectively, emphasizing maintenance in outsourcing rather than development.[1]

Five fundamental capabilities

Banks need powerful IT capabilities to truly enable digital banking. Inefficient and piecemeal approaches will create IT bottlenecks rather than business value. An efficient IT engine for the digital bank rests on five fundamental capabilities:

1. A business-technology organization

2. A continuous solutions process

3. Next-generation infrastructure

4. A simplified technology ecosystem

5. Advanced analytics and data management

In examining each capability in turn, we have tried to balance demands for achieving business objectives with the need to avoid inessential complexity. Especially helpful in understanding this balance has been our experience of working with both digital leaders and leading "digital transformers," and examples from this experience are included in the following discussions.

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1 "Key insights from Asian banking IT benchmark," McKinsey & Company, April 2012.

Across the uneven Asian banking IT terrain, some banks are deeply engaged in the IT transformation needed to enable digital banking (see sidebar, "Stuck in the moment or on the move?"). Leaders have already emerged, having positioned IT strategically, as an effective business enabler. These Asian leaders have achieved best-in-class operations and business performance, driving improvements with investments in IT innovation for growth and continuous tracking of performance.

1. A business-technology organization

At the heart of the digital enterprise lies a fundamentally different model of how business and IT work together. In this new business-technology organization, IT becomes a strategic center for business innovation, transforming the way the business is run and constantly cocreating value with business partners.

The business-technology organization goes well beyond governance, reporting lines, and classic demand management, challenging traditional concepts of business and IT alignment. In the new model, business and IT talent are required to work together in such an integrated way that the boundaries between the two begin to blur. The reason this is happening is not far to seek: customer expectations of a rich, always-available online experience are drawing together business and IT threads, toward integration. In order to meet those expectations and deepen their share of wallet, banks must offer holistic digital-banking solutions that keep pace with customer banking needs and technological preferences.

This new form of business-IT integration permeates all parts of the IT operating model, creating, in effect, a true business-technology operating model: plan, design, build, and run. Based on our work with leading digital transformers, we have identified a set of key priorities on the path toward establishing the new business-technology organization, spanning strategy, governance, and organizational alignment; particular attention must be paid as well to winning the "war" for digital talent:

- Build an equal business-IT partnership, in which IT is involved in all business decisions, providing digital insights to execute but also to shape the bank's overall strategy.

- Rather than a separate IT organization for digital banking, consider creating a high-performing digital lab within the legacy IT organization, which reports directly to the CIO.

- Create closer integration between IT and operations to enable rapid, clean-sheet process digitization.

- Plan on winning the war for digital talent, which will entail several elements:

    – Overhaul role and skill definitions to cater to the digital world (for example, designate a "velocity manager").

    – Renew talent-search methods to include crowdsourcing and distributed cocreation.

    – Identify the bank's unique selling points for top IT talent compared with companies such as Apple, Facebook, and Google, including clear career pathways.

2. A continuous solutions process

A spectrum of solutions approaches can be observed in Asian banks today, with delivery models ranging from "agile" to the traditional sequential "waterfall" model. As digital banking becomes the norm, however, all players will have to move toward models that allow for continuous solutions development. Traditional models like the waterfall are fundamentally challenged by the requirements of digital banking, as they are not suited to withstand competitive pressures to innovate or to meet the ever-rising expectations of the modern digital customer. Digital leaders are therefore adopting continuous solutions processes, which flow naturally from the fundamental strategic premises of the digital enterprise.

An iterative approach

Continuous solutions are defined by an iterative development process, including rapid prototyping of hypothesized models, for creating implementable solutions within four- to eight-week cycles. The cycles are designed to capture frequent user feedback, which improves the responsiveness of the rapid-prototyping process, to better meet the demanding requirements of digital banks. The length of the cycles is determined by factors unique to each project: project complexity, the stability of its requirements, the frequency of incremental functionality, deployment needs, the number of stakeholders, and the extent of automation and planning maturity. Importantly, the iterations within the cycles are sequenced according to definite criteria to increase efficiency of developers and testers while reducing technical risk. Several criteria can be used for sequencing iterations:

- **Logical grouping.** Work completed in the iteration is a complete module that can either be released internally or externally.

- **Business priority.** Ensure functionality that is most critical to business is delivered as early as possible.

- **Dependencies.** Align iteration to meet all required dependencies with other projects.

- **Reusable components.** Build components that will be reused in other modules first.

- **Use-case completion.** Completing specific use cases in iterations will enable organizations to release to end users and get faster feedback.

Release-based testing

In the continuous solutions process, project-focused testing increasingly gives way to release-based testing. In this orientation, all development-deployed resources work on a release-based schedule, and limited resources are assigned or associated with particular projects. Crucially, all test cases are tied to use cases very early in the development process. The early linkage between testing and use helps minimize duplicative testing efforts, eliminates project-management overhead in testing, and promotes more extensive end-to-end testing both upstream and downstream.

Release-based testing demands a new level of resource flexibility. The pooling of resources through "multiskilling" and role-based allocation enables the delivery team to be more responsive to variable incoming user requirements and breaks the traditional silo mentality of skill overspecification.

Agile plus lean

In our experience, a combination of agile and lean principles in application development can help banks build capabilities in continuous solutions development. The approach leverages deep business-IT integration to create solutions that deliver quality, speed, and lower overall cost. The lean focus eliminates non-value-adding activities while emphasizing human interactivity and the technical processes. A shift in mind-sets toward continuous improvement helps enable root-cause analysis and improve productivity, quality, risk, and satisfaction. Lean fosters a learn-by-doing approach to capability improvement, so that talent development becomes integral to product development.

The principles of agile development ensure shorter, repeated development cycles by establishing flexible, multifunctional teams in which individuals

and interactions are emphasized over processes and tools. Working software is favored over comprehensive documentation, and an attitude of customer collaboration and responsiveness to change is encouraged as the norm, rather than rigid contract negotiation and adherence to preset plans (Exhibit 1).

3. Next-generation infrastructure

Next-generation infrastructure (NGI) has emerged as a holistic transformation option for CIOs of digital banks. Essentially, NGI is a highly automated infrastructure service-delivery platform built with new and open technologies operating at scale. NGI relies on large cloud-provider-level hardware and software to create efficiencies while supporting existing and new business needs. The transformation wrought by NGI would address four key areas:

- **Hardware.** From massive overprovisioning of high-cost infrastructure hardware to dynamic, right-sized provisioning of simplified and low-cost hardware.

- **Infrastructure management.** From a complex set of management and automation tools for managing the environment to a streamlined set of tools with heavy automation in the service and infrastructure layers.

Exhibit 1: The lean IT approach combines principles of lean with agile for application development.

Principles of lean	Principles of agile development
• **Eliminates all unnecessary activities that do not add value:** waste, variability, and rigidity	• Favors **shorter, repeated cycles** over single-shot development that takes many months
• **Does so by optimizing not only the process** but also management systems, organization and capabilities, and mind-sets and behaviors	• Favors **multifunctional teams** over dedicated functions
• Places a strong emphasis on ensuring a **continuous improvement mind-set** among the front line	• Favors **individuals and interactions** over processes and tools
• Allows **simultaneous improvement in productivity, quality, risk, and satisfaction** by attacking root causes	• Favors **working software** over comprehensive documentation
• Follows a **learn-by-doing approach through sequenced implementation** to improve performance and build capabilities	• Favors **customer collaboration** over contract negotiation
	• Favors **responding to change** over following a plan

Lean IT approach

- **Workload orchestration.** From static placement of workloads tightly coupled with data centers and hardware locations to dynamic workload placement such as on premises or via the public cloud, driven by application policy requirements.

- **Labor.** From an expensive and poorly scaled labor structure with manual bottlenecks to a lean, "silo-less" organization focused on design, rather than hardware configuration and management.

To enable this NGI transformation, digital banks would have to adopt several new and open technologies:

- Open-design general-purpose platforms enable digital banks to achieve scalability and performance at commodity-level price points.

- Specific vertical platforms, unlike general-purpose platforms, are capable of providing support for applications with different performance-requirement profiles.

- Software-defined networking and storage can shift greater functionality and control into software, simplifying application deployment and enabling use of lower-cost hardware.

- Open-source infrastructure platforms can speed time to deployment of private clouds and leverage open interfaces to drive greater heterogeneity and prevent vendor lock-in.

- Cloud-orchestration platforms can facilitate the operation of multi- and hybrid-cloud environments by creating an abstraction layer for applications and services.

In our experience, an NGI technology stack (Exhibit 2) is well suited to support the bulk of workloads within a digital bank (Exhibit 3).

4. A simplified technology ecosystem

The digital bank must manage technology complexity while keeping pace with technological changes and customer preferences. Winners will have created an adaptive technology ecosystem as a core capability, providing a reliable, scalable, and high-performing technological foundation without skyrocketing costs. The process by which this ecosystem is created relies, in our experience, on a number of essential practices.

Exhibit 2: Several elements make up a typical end-state next-generation infrastructure technology stack.

Application plane ➤	Blueprint, image library	SDLC[1] management	Configuration and deployment	Performance management
Middleware, platform ➤	Data, message enablement	Web server, framework	Language environment	Other middleware
Cloud orchestration ➤	Cross-cloud infrastructure orchestration and management layer			
Infrastructure-control plane ➤		Software-defined "data center"		
	Hypervisor, OS[2]	Software-defined security		Software-defined storage
		Software-defined networking		
Physical infrastructure ➤	Servers	Security middle boxes		Storage
		Switches, routers		
		Data-center infrastructure		

Management plane

- **Business and financial-management system**
- **Self-service capabilities (e.g., portal)**
- **Service catalog**
- **Access and identity management**
- **Risk and compliance**
- **Service-continuation management (e.g., DR[3])**
- **Predictive capacity management, analytics**
- **Instrumentation and performance monitoring**

1 Systems-development life-cycle management.
2 Operating system.
3 Disaster recovery.

Exhibit 3. Next-generation infrastructure can support the bulk of workloads in a typical enterprise.

☐ NGI focus

	Application types	Application examples
Supported by next-generation infra-structure (NGI)	- **General purpose** (i.e., balanced compute, network, memory)	- Basic enterprise applications, small and midsize databases, development, testing
	- **Compute optimized** (i.e., higher CPU[1]-to-memory ratio)	- Heavy-traffic Web applications, batch processing, complex simulations
	- **Memory optimized** (i.e., higher memory-to-CPU ratio)	- Higher-performance in-memory databases, memory-intensive enterprise applications
	- **Storage and I/O[2] optimized** (i.e., solid-state drive or larger local storage)	- Hadoop, NoSQL databases, large-scale data warehouses, high-access virtual-desktop infrastructure
Not currently suited for NGI	- **High-throughput transaction systems with data consistency**	- Real-time payment-processing systems with 99.999% uptime requirements
	- **Highest latency-sensitive applications**	- Flash trading applications
	- **Vertically stack-driven applications**	- High-performance computing at scale, hardware- and interconnect-dependent apps

1 Central processing unit.
2 Input/output.

Rationalizing application portfolio to reduce complexity. Many banks, especially those that have grown through a series of mergers and acquisitions, find themselves operating on myriad overlapping, redundant systems that do not integrate well. Many of these systems also rely on information that resides in different repositories, thus preventing banks from creating a single source of truth. In addition, many legacy applications cannot support digital business requirements and require lengthy and unwieldy workarounds, resulting in longer development cycles, even for simple enhancements. To surmount these obstacles, many digital banks have begun systematically to review and rationalize their applications, for example, allowing the sun to set on end-of-life applications, merging overlapping applications, and so on. They are furthermore institutionalizing and refreshing portfolio management as a part of their IT governance.

Using enterprise-ready open-source platforms to provide scalability and flexibility. This includes deploying the "LAMP" stack (Linux + Apache + MySQL + PHP) for development of front-end systems; using open-source system-management tools, including monitoring, network management, and process engines (for example, Solarwind); and adopting a standardized cloud-based delivery model (such as Amazon Web Services, or AWS) for specific applications to speed solutions delivery and manage fluctuating business demand.

Deploying cloud-based, service-oriented solutions for select application types. Efficacious use of the cloud will require a clear understanding of the availability of private, hybrid, and public clouds and their relevance to the different digital-banking application types. For example, many best-practice digital banks host nonsensitive applications (say, branding or awareness sites) on virtual private clouds through AWS and retain more sensitive information (such as financial transactions or customer information) on their own private clouds. In addition, digital banks are pushing forward with service-oriented solutions that are much more scalable in the long term.

Taking a "right-sourcing" approach to retain strategic capabilities in-house. Instead of full outsourcing, digital banks should selectively outsource, applying either a partial vertical approach, by function (for instance, digital, Web site, and internal applications), or a horizontal one, by steps in the system-development life cycle. The definition of in-house strategic talent would be based on a number of variable factors, including business outlook and geographical considerations.

5. Advanced analytics and data management

Effectively managing data is a critical priority for digital banks, yet many are still wrestling with basic challenges due to a lack of good tools and high-quality data. In our experience, best-practice banks have built strong capabilities in a number of core areas, which together provide a distinctive analytics and data-management capability:

- The end-state vision should be well articulated for analytics and data management. An effective vision must be customer-backed and would generally include cross-sell and up-sell objectives, risk-management requirements, and operational efficiency.

- Business-driven requirements must be well defined across all business functions, including sales, marketing, and product development. Our experience has shown that successful digital banks prioritize these requirements, deciding to be best in class in certain areas while maintaining industry standards in others.

- Banks need to be able to create layered data models, from a conceptual description of the business objects in scope to an integrated, logical data model. A best-in-class data model should be based upon consistent data access across channels, provide real-time analytics and processing capabilities, support a common master data source, provide consistent access to customer data, and support an enterprise-standard staging area. The data model should also address integration of internal and external data sources, as well as how to operate across structured and unstructured data sets.

- They emphasize a well-defined enterprise-wide data architecture, consisting of a description of data structures, integration technologies, and applications supporting the entry, storage, and use of data in the enterprise.

- A set of guiding principles for the data-governance model should be focused on creating a clear structure for ongoing realization of business value. A comprehensive data-governance model should address business value creation and capture, clear decision rights, transparency, and enterprise-wide collaboration and simplicity.

- Banks must possess the data-analytics and intelligence capabilities needed to create new knowledge from data based on pattern-search historic analysis and business intelligence.

□ □ □

The diverse and dynamic Asian banking terrain includes exceptional digital leaders and unique opportunities. Especially for banks in Asia's emerging markets, the possibility presents itself for leapfrogging many more advanced peers and tackling the challenge of building the digital-banking IT engine sooner rather than later, along the lines laid out in this chapter.

Asian banks that fail to heed the call of the digital consumer, again especially in Asia's emerging markets, may lose market share to unconventional players. Customer populations in most Asian markets are young, more comfortable with mobile technologies, and increasingly less dependent on conventional banking infrastructure. Alipay, for instance, a leading Chinese third-party online-payment provider, serves more than 800 million registered users as of July 2013 and facilitated around 8.5 million transactions every day in December 2012. A digital-banking IT engine that allows for scale, seamless connectivity, and agility is a must for banks seeking to respond to the massive online shift in customer expectations and behaviors, as well as the emerging and real competition from innovative nonbank competitors that already have such an engine.

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Stuck in the moment or on the move?

The ancient Chinese philosopher Laozi wrote, "A journey of a thousand li *begins with one step." That was a long time ago, but Laozi's wisdom has held up well these 2,500 years. We might say that the journey toward building a powerful IT engine for digital banking must also begin with a single step. The questions of which direction to go in and which first step to make will be decided according to each bank's starting position.*

"Basic transactors" and "focused transformers"

In our experience helping banks across Asia-Pacific to embark on this transformation and see it through, we have found players in a range of different starting positions. The variations, however, are generally consistent with a single criteria, dividing Asian banks in two fundamental camps, which we have called "basic transactors" and "focused transformers." Basic transactors are banks that are still operating in basic transaction-processing mode; these banks are a long way from building IT capabilities that would allow them to shape their business. Many core capabilities still need to be developed before an IT transformation can begin. Focused transformers are those banks that are already making targeted efforts to move into the digital world. Having developed the basic requirements of an efficient IT operating model, these banks have shifted their emphasis to transforming the IT operating model to enable a fundamental business transformation.

IT investment gaps in emerging- and mature-market banks

We have observed the following IT investment patterns in basic transactors and focused transformers in Asia's emerging and mature markets, which we have confirmed with further detailed research.

Asian banks in emerging markets

Asian banks in emerging markets have significantly underinvested in IT. These banks have been increasing IT investments lately, but most have been too timid and generally the increased IT spending trails the rise in overall business cost. The truth is, two-thirds of total budgets for emerging-market banks are still being spent on "running the bank"; significantly more than half of spending is on infrastructure. Too little, in other words, is being dedicated to the transformation effort needed to digitize the bank.

We are, however, beginning to see more banks in emerging markets focusing on getting the fundamentals right and reducing complexity by streamlining architecture and through platform renewal and application consolidation. Banks with a shorter history, often in the private sector, are finding this easier to do than those with stronger legacy issues. However, most emerging-market

banks struggle to keep up with increasing complexity, scale, and productivity challenges arising in both business and IT operations as a result of growth. IT investments are often not sufficiently focused on building capabilities to support growth and the digital-banking IT engine.

Asian banks in mature markets

In mature-market Asian banks, we have observed a stronger focus on transformation but also a need to step up efforts for the digital bank, with respect to both ambition and speed. While many mature-market banks in Asia have tightened IT budgets over the past few years, they have also managed to increase their focus on more strategic "change the bank" investments. Most of these investments are intended to support growth, creating scale through customer-centricity, channel transformation, or infrastructure upgrades and driving business efficiency through process-efficiency improvements and automation in application development.

It is true nonetheless that over half of IT spending by mature-market Asian banks is dedicated to "running the bank," a level that is still too high in this era of resource constraints to leave enough for transformational investment. These banks will have to continue investing in IT, especially in simplification efforts, to carve out the needed budgetary resources. Once sufficient resources have been concentrated, the digital-banking effort can truly begin. The object will be a transformed business model with the capability to create the seamless connected experience that defines customer expectations in the digital age.

Chapter 7
Scaling up your cybersecurity response

Tucker Bailey, Josh Brandley, Allen Weinberg

Executive summary:

- *Asian banks are recognizing that cybersecurity must be treated as a core business function.*

- *To counter the cyberthreat, banks should apply a risk-based approach to information security.*

- *They should identify critical information assets, apply differentiated process- and technology-based protection to them, use threat intelligence and advanced analytics to leapfrog the cybersecurity talent gap, and practice how to respond to cyberincidents.*

- *By taking a coordinated, cross-functional approach, banks can more effectively shore up their security environment while developing a more robust ability to respond to emerging threats and recover from breaches.*

Cybersecurity is a top priority for CEOs, CIOs, and boards of Asian financial-services companies. A recent study by McKinsey and the World Economic Forum revealed that 80 percent of global banking IT executives believe that the risk of cyberattack is a significant issue that could have major strategic implications over the next five years.

Many organizations have experienced sophisticated cyberattacks. Malevolent actors send e-mails to individuals, including innocent-looking but virus-infected files that appear to come from CEOs. This form of "social engineering"

increasingly makes use of social-media channels to target unsuspecting users. They use public sites to distribute malware. And they employ other techniques to gain access to and move freely within company networks, often for months before detection, in the process obtaining financial-transaction data, intellectual property, business plans, and customer-account credentials.

Cyberfraud risks are acute in the financial-services sector because "that's where the money is," to paraphrase the famous 20th-century American bank robber Willie Sutton. Banks are witnessing the rise of transnational cyberfraud syndicates that hack customer accounts and siphon money from unwitting users. China lost $46 billion in 2012 through cybercrime—40 percent of total global losses, according to Symantec, a leading security-management and solutions company. In Japan, the average cost of a data breach is more than $2 million per incident, according to the Ponemon Institute. In addition, cyberenabled fraud losses are spurring regulators to take action constraining banks' operations. For example, a recent spate of breaches enabling fraudulent ATM transactions has led regulators in Hong Kong and Singapore to push banks to require users to set limits on online transfers and overseas transactions.

Many financial institutions are spending more on cybersecurity and have beefed up their overall anti-cyberfraud efforts. They are employing increasingly sophisticated approaches to the problem, such as monitoring network activity. They are also investing in cyberoperations centers, which are meant to provide a better view of threats from the outside world. In Japan, for example, many financial institutions are beginning to work with the Japanese Computer Emergency Response Team Coordination Center, an independent, nonprofit organization, to circulate information on known cyberthreats.

These approaches are adequate, but they don't go nearly far enough. Even sophisticated organizations still suffer from breaches, and companies are failing to reach the cybersecurity goals they set for themselves. A McKinsey survey of 50 global companies recently showed that none have been able to reach their desired capability level, with only 14 percent of those surveyed rating themselves as "mature" across critical cybersecurity practices (mature representing a score of 3 on a scale of 1 to 4 in eight practice areas).

The issue is that current approaches are passive—companies are usually only on the lookout for known threats, waiting for sensors to trigger alarms indicating that an incident may have already occurred. The approaches are often backward-looking, mostly relying on assessments of past attack patterns. And they do not sufficiently involve business leadership, particularly when log reports of Web

site attacks, malware, or suspicious activity are not translated into something executives of the businesses can understand.

For example, in one bank, executives were routinely briefed on the number of alerts generated by their intrusion-detection system but were not informed if these "intrusions" were having any impact on the business, leaving them unclear about the true nature of the cyberrisk facing them. Most important, these approaches provide too many false positives—alarms that upon second-level analysis turn out not to be malevolent activity—and are too reliant on large numbers of cybersecurity professionals to examine log reports and compare them with known bad IP addresses or signatures before taking specific actions such as blocking IP addresses or closing ports. These approaches are not scalable because the talent required to staff these positions is either unavailable or too costly, or both, given how many financial institutions have the same needs.

Asian banks need a new approach, one that avoids large staff increases and is better able to use existing security assets, such as fraud-detection units, compliance and risk resources, and business-operations managers. The key is combining old and new to automate the security-response process. The approach melds the tried-and-true practice of focusing efforts on the highest-value business assets with application architecture and network-activity monitoring to detect anomalous patterns (particularly systems changes or outbound network traffic). The result is an environment that can largely take care of itself, freeing up valuable IT security resources to focus on more strategic issues, such as reducing the impact of cyberincidents, and to ensure that the resources are available when incidents do get past the system.

Seeking cybersecurity

This next-generation approach is taking shape. Working with more than 150 private- and public-sector security professionals, we have identified seven elements of best-practice cybersecurity, the first three of which are known to most financial institutions (but rarely implemented effectively); the remaining four will be new to most enterprises.

Identification of critical business assets

The first step is also the one least taken of the seven. Security assessments are usually done from a technical point of view, focusing on gaps or applications that don't follow policy. This leaves open the question of what are the most critical business assets, meaning they may go unprotected. For banks, this suggests that security is not focused on areas like proprietary trading algorithms, sensitive

data related to underwriting, or risk reports, which could result in material losses and cause significant reputational risk if they were made public.

Development of strategies for assets and 'use-based triggers'

Based on the assets that need protection, an overall strategy can be defined by identifying practices and technologies to use. Then, for each critical asset, an expected access profile can be developed.

The key is keeping the list of critical assets and access entitlements manageable. This might include determining who can access the information or process, and what the range of expected behavior is (for example, how the information might be expected to move within the network). Triggers can also be set for monitoring certain kinds of activity, such as changing operating systems or Domain Name System entries. For each trigger, actions can be predetermined, ranging from simply logging an alert to shutting down a system. Over time, machine learning will allow these triggers to become more effective. Meanwhile, the organization must be clear about which outcomes are unattractive (downtime in a customer-facing application, for example) and which are unacceptable (such as loss of "bet the company" intellectual property); sometimes, unattractive outcomes will be acceptable. In addition, in some countries, the triggers should be defined so they are not interpreted by government authorities as monitoring individual behavior.

Employing existing processes

Banks and other financial institutions have effective processes to reduce fraud and manage financial risk. However, in our experience, they typically underestimate other forms of cybersecurity risks. Leading banks are beginning to move beyond fraud and include other cyberrisks, such as theft of privileged information—M&A data, proprietary algorithms, and customer information—as part of their enterprise-risk-management program. In addition, when cyberfraud risk is assessed, it is often not fed back to the information-security team so that the unit can design specific mitigation actions. When the process is redesigned, more effective reviews are done, and IT security can then effectively use risk estimates already being done by other parts of the bank.

Enhancing the IT environment

In the short term, technology such as sensors and network appliances is useful for detecting anomalous activity, tightening access control, and appropriately encrypting critical data. Over time, security reviews could be used to increase standardization, making it easier to detect anomalies as well as reduce cost. IT architecture can also be dynamically switched to dramatically reduce the ability of hackers to take or tamper with information—for example, through cloud

infrastructure that moves everything from network switches, servers, and data-management strategies to a virtual, software-based infrastructure. In addition, architectures increasingly need to be adapted to secure the mobile environment. As more banking transactions are conducted through mobile devices, the secure delivery of this channel is emerging as a differentiator.

Employment of active defense

There are a variety of techniques under development to stop attacks from occurring. These include defusing distributed denial-of-service attempts, throttling bandwidth from known attackers, creating "honey pots" of seemingly valuable information in order to gather information about attackers while diverting them from their intended targets, and developing multisource threat-intelligence capabilities that draw from external and internal information sources to provide warnings of malevolent activity before an incident actually occurs.

Sophisticated testing and war gaming to ensure a strong response

Most organizations put 90 percent of their cybersecurity effort into prevention, but developing a cross-functional approach to respond to and mitigate the damage from an attack and regularly practicing it is as important. A poor response can damage a company's reputation and potentially destroy additional business value. War-gaming a response can help minimize problems such as slow decision making in the "fog of war" during an attack, ad hoc release of messages to internal constituents, poor communication with regulators, and an unsophisticated or uncoordinated media response. Best-practice organizations train and test business, corporate management, and IT and security professionals on how they will respond to attacks. They define their general communication plan as well as what their approach to critical clients would be during an outage, and train their staff to manage a crisis using scenarios based on actual cybervulnerabilities.

Tailoring business and employee engagement to build the right culture and mitigate insider threats

Of course, employees are vulnerable to phishing or other attacks, and up to two-thirds of all advanced external attacks leverage unwitting insiders. Similarly, the risk of malicious insiders remains of significant concern. While putting in place the elements described above, financial institutions should take the internal risk seriously and offer targeted, role-based training as well as continuing education to the broad base of employees about how to manage data safely. In addition, organizations should increase their ability to detect and defend against the threat of malicious insiders stealing or corrupting data or code. For example, several financial institutions are applying advanced-analytics approaches to

identify anomalous behavior by employees (such as accessing databases outside normal hours or using portable media). They are also regularly reviewing the retention risk of important employees: research by Verizon has shown that 70 percent of all insider theft is committed by employees who are within 30 days of leaving the organization.

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The threat from cybercrime is real and pernicious. Asian banks and other financial institutions must move from an alert- and reaction-based approach to one where they anticipate and hunt for malicious activity affecting their most critical assets. While no approach will deliver 100 percent security, adopting the principles described above will help banks to detect and thwart adversarial activity, improve the efficiency and effectiveness of their security organizations, and ensure a more robust response to a breach.

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Chapter 8
Organizing your bank to capture digital opportunities

Joe Chen and Eunjo Chon

Executive summary:

- *Banks need to incorporate digital more fully into their offerings to better serve their customers, who value convenience and simplicity.*

- *Setting up the organization to deliver on digital is essential to making this shift.*

- *There are three broad options for doing so (a digital "SWAT team," a center of excellence, or an independent innovation center), but banks should weigh their strategic aims before deciding which to use.*

- *When putting the model in place, players need to ensure sufficient funding, create a digital culture, find the right talent, promote entrepreneurship, and above all act quickly.*

The digital revolution has changed what consumers want, including what they want from their banks. While most Asian banks have at least some digital component, they are not yet truly meeting the needs of their customers, who want convenience, simplicity, and a superior banking experience. Banks need to offer more to their customers—and they need an organization that is prepared to deliver it.

The types of value propositions that digital customers find compelling are, for some banks, a radical departure from their traditional brick-and-mortar offerings (see sidebar, "Ten value propositions for the digital consumer"). For example, integrating multichannel access is a fairly bold proposition for

traditional megabanks that already have a strong branch-centric sales culture. But for a company that is affiliated with, say, an e-commerce organization—Rakuten Bank, a fast-growing retail bank in Japan, is one example—it might be fairly easy to go beyond even multichannel offerings and present consumers with one-stop, multicategory, integrated banking and commerce solutions.

Three organizational options

We have identified three organizational models banks can use to set up and manage their digital teams. Before deciding which model to use, banks should think about their larger strategic goals in the context of the digital opportunity. Some banks might be focused on penetrating new customer segments, for instance, while others are keen to expand into new geographies. Banks should also think about where they are in the digital journey—specifically, their existing digital capabilities and products.

Create a dedicated digital "SWAT teams" within a single business unit

While many banks already have some staff working on ad hoc or incremental digital innovations—usually driven by IT—a single, dedicated digital team can help banks accelerate and achieve true breakthroughs. But banks in the early stages of the digital journey don't have to make radical organizational changes to make breakthroughs a reality; they can simply establish a dedicated digital group within an existing unit of the organization. Most banks choose retail, which is where the bulk of the public demand for digital resides. By concentrating digital capabilities in this consumer-led business segment, banks can sharpen and accelerate their digital value proposition. Under this organizational model, the digital team can capitalize on its proximity to other groups within retail that also tend to be close to the consumer: customer-relationship management, customer insights, customer service, and physical branches and other retail channels.

Akin to a SWAT team, dedicated digital groups have a clear mandate and are more agile, so they can respond quickly to digital consumers' evolving needs, drive disruptive ideas, and execute those ideas more efficiently and effectively. And because the SWAT team is embedded in the larger retail unit, promising pilot programs are more likely to garner support from business-unit leaders. One leading Asian bank had great success with this model. The company created a three-person "new business division" within its retail unit to spearhead the bank's digital efforts. Despite its modest size, the group was able to develop small yet visible digital initiatives, such as an advanced online-banking site, mobile applications, and a new payment system created in partnership with several

TEN VALUE PROPOSITIONS FOR THE DIGITAL CONSUMER

Loosely defined, there are ten value propositions that banks around the world are using to cater to the new digital consumer. They fall into three categories: beyond pricing, beyond digital, and beyond boundaries.

Beyond pricing

1. *Simplified core offering. Enter the market with a handful of simple products and one or two "hook" products, such as a competitively priced deposit offering or strong trading platform.*

2. *Apple-like experience. Design an intuitive digital interface and experience that is free of defects and "leakage."*

3. *Personalization. Create a personalized Web experience and recommend products based on, for example, browsing behavior.*

4. *Social- and mobile-centric. Use the latest digital technologies and platforms to enhance reach and offerings and stimulate engagement beyond customers' immediate need for financial products.*

5. *Instantaneous satisfaction. Offer paperless, personalized, real-time transactions.*

Beyond digital

6. *Ubiquitous and integrated multichannel access. Create easy access via multiple digital and physical channels, so that any transaction can start in any channel and be seamlessly completed in any other channel.*

7. *Relevance. Use cross-source customer data to predict customers' needs and provide relevant offerings.*

Beyond boundaries

8. *Compelling cross-category offerings. Take advantage of opportunities to combine retailing and retail banking.*

9. *Fun way to engage. Generate customer engagement and affinity building, through "gamification," for instance.*

10. *Open ecosystem. Design open platforms for cocreation, communication, and distribution of products and services among the bank's internal and external innovation network.*

major convenience-store chains. Such initiatives generated buzz within the bank and among the general public as well.

The SWAT model can help banks amass a greater volume of digital capabilities in a short time. But confining the digital organization to a specific business unit is not without drawbacks. The bank might develop isolated pockets of deep digital capabilities but fail to spread those skills across different business units. This model also does little to set the stage for broader or more integrated digital offerings to customers whose interactions with the bank span multiple business units. This means some opportunities are likely missed: for example, the chance to develop a holistic digital offering that caters to small- and midsize-enterprise (SME) customers who want streamlined digital access to both personal wealth and business-banking services.

Create a shared digital center of excellence across multiple business units

Banks that are slightly farther along in the digital journey can consider creating a shared digital center of excellence (COE). Unlike the SWAT model, the shared COE is not confined to one business unit. Instead, it oversees digital activities in multiple units, for example, certain geographies, specific segments like SMEs, and consumer channels such as mobile.

By capitalizing on digital skills from throughout the organization, banks can generate higher levels of synergies, for instance through shared technology and pooling of customer and business insights; this model can also make the bank's digital-marketing campaigns more consistent and make more efficient use of scarce digital talent and IT development resources. Additionally, a COE could help generate a more coherent system for tracking success in digital innovation across participating business units, through measurements such as return on investment, incremental growth, and cost savings; as is the case with any new initiative, digital innovation must be linked to a quantifiable business objective and must be measured if it is to generate sustained investment and company-wide support.

In most cases, the COE's leadership reports directly to the bank's CEO or chief operating officer (COO). This sends a clear message to the broader organization that the digital proposition is a high priority for the bank. (In some cases, banks will designate a chief information officer for the express purpose of overseeing the COE. This person usually reports to the CEO.) The COE model worked particularly well for one global bank, which has long viewed innovation as part of its competitive advantage and core DNA. An early adopter of digital as a strategic priority, the bank established a COE in the late 1990s—driven largely by the

vision of the COO and CEO. Because the COE's leadership reported directly to the two senior executives who had championed the project, the COE was able to quickly get approval to launch new, often industry-leading ideas such as voice-activated Internet banking, animated banking kiosks, "digital wallets," and live remote access to bankers via the Internet.

Set up an independent innovation center outside of the bank

In some cases, it is appropriate to establish a COE that is separate from the rest of the bank. While a COE inside the bank is closer to the existing customer base and can therefore more effectively serve that group's needs, a COE that is independent of the parent organization does two important things: it encourages a more entrepreneurial environment because the group has the flexibility to pursue disruptive ideas, and it makes it easier to attract high-quality candidates from both inside and outside the bank. This is especially important in an era of scarce digital talent.

A leading Asian financial conglomerate recently created this type of external COE. Separate from the rest of the banking and insurance business units but reporting to the bank's holding company, the COE had two goals: first, to act as a thought leader in an effort to support other business units in the bank (for example, by building data-analytics capabilities that can be used by many business units), and second, to pursue the types of adjacent and even disruptive innovations that other teams would not have the capabilities or resources to pursue because of challenges such as the P&L pressures associated with their daily work. The COE's results are impressive—it has integrated sports and gaming content into the bank's online portal and built a networked loyalty program that now sustains itself as an independent e-commerce business.

Like each of the organizational models, the external COE has downsides. First, external COEs are costly to set up and maintain. There is also a risk that the group might launch projects that are inconsistent with the bank's overall goals or strategies. Additionally, the COE runs the risk of being perceived by members of the business units as operating in an "ivory tower"; they might feel removed or excluded from the center. To overcome this, an independent COE should make efforts to build strong relationships with the business units and codevelop small but effective projects that add value to those business units, thereby sustaining the relationships.

How to do it

Regardless of the chosen model, banks should keep five things in mind if they want to create an organization that can meet the needs of digital consumers.

Ensure sufficient funding and investment

Banks should have structured funding in place before launching their digital organization. Dedicated venture funding can help combat the focus on short-term performance that is common in the banking industry; stable, reliable funding is critical to helping the bank capture, in the long term, the kinds of opportunities that can offer significant returns.

Banks should also implement a process that allows for quick decision making about which digital projects to fund. Such decisions should be made by the executives who govern the new organization—not by any individual business units that might be involved.

Create a digital culture

Banks are notoriously slow to change. Creating a shift in mind-sets and behaviors is critical to embracing the new organizational structure and its mission. One way to do this is by generating entirely new key performance indicators (KPIs); instead of measuring top-line sales, for example, digital organizations can look at cross-sales figures or customer wallet share. Banks should also be sure the new digital strategy is highly visible throughout the organization.

Find the right talent

Banks need a well-defined talent-sourcing strategy. They also need to strike a balance between bankers and digital experts. Banks should aim for diversity by recruiting people with backgrounds in customer service, product development, and traditional banking, as well as representatives from Internet companies. All recruits should be customer and action oriented, and they should have a proven track record of challenging the status quo. These demands can put an additional burden on the human-resources department; the enterprise might therefore consider relying more heavily on employee referrals and other informal channels to supplement traditional hiring processes. Banks can also host internal innovation competitions to identify promising candidates or borrow ideas from viral marketing to create "viral hiring" campaigns.
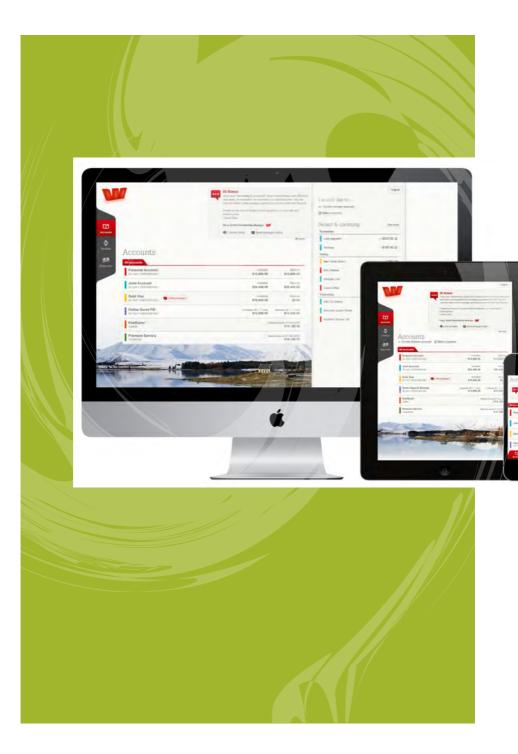
Create a sense of entrepreneurship

Leaders should take care to establish an environment that encourages risk taking and allows failure. Often, bank employees are more conservative than their peers in other industries and are hesitant to behave entrepreneurially; banks that want to launch digital organizations should make it clear that independent thinking will be rewarded, not punished. Metrics are an important part of any new program, but to be sure they encourage innovation, banks should avoid overly constrictive KPIs that might make new ideas seem too risky.

Act quickly

When the digital organization brings new businesses to market, they should do so quickly. Otherwise the idea might stall within the organization and the bank will lose the opportunity to capture early adopters—a critical group in this market. As such, digital organizations need agile processes for implementing new ideas.

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Like their peers around the world, digital consumers in Asia want more from their banks. But for banks to create a value proposition that customers will find compelling, they must set up an organization that can deliver it.

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Chapter 9
Creating a seamless customer experience: An interview with Westpac New Zealand's digital-banking head, Simon Pomeroy

Interviewed by Kenny Lam

Executive summary:

- *Westpac New Zealand has moved aggressively into digital banking.*

- *The bank has put customers at the heart of its strategy and is aiming for a unified online-banking customer experience.*

- *Early results are promising: product sales and revenues generated through the digital channel are increasing.*

- *Banking is still a "people business," and Westpac is clear that it wants customers to be able to go seamlessly from the digital channel to a human being.*

Digital banking is changing the nature of bank-customer relationships, a development that only a few banks in the Asia-Pacific region have grasped. One of them is Westpac New Zealand, which has put its customers at the center of its strategy. Westpac New Zealand has moved aggressively in the last year to create an integrated, multichannel communications program and a unified online-banking customer experience. This enables Westpac to use digital channels to extend the services that can be performed in a branch today and promote both deeper customer relationships and a seamless customer experience.

The transformation accelerated under the leadership of Peter Clare, the bank's CEO, who has a strong interest in digitization, both at an economic and a business level. Clare came to Westpac New Zealand in April 2012 and moved quickly to divert investments from other areas into the digital realm and improved customer experience. Clare also worked with his leadership team to spread the necessary cultural changes throughout the business and gave accountability for the development and delivery of strategy to Simon Pomeroy, head of digital banking and customer experience.

In a recent interview with McKinsey's Kenny Lam, Pomeroy discussed Westpac New Zealand's commitment to digital banking and how it has carried out its digital transformation.

McKinsey: What prompted Westpac to start thinking actively about digital banking, especially in New Zealand?

Simon Pomeroy: Digital banking is customer-driven, particularly regarding the uptake of technology, in New Zealand and around the world. Peter Clare really understood that, challenged the existing thinking, and started asking, "If we know it's what our customers want, how do we then drive that change for the bank?"

McKinsey: So you're saying this was actually quite top-down change?

Simon Pomeroy: I think it does come down to the vision of the CEO. One of the things Peter put on the table is, "Can you imagine this bank by 2020 not having a digital mandate and not having an online platform that allows customers to be able to do all of their banking?"

There's no doubt there were people in the bank that wanted it but hadn't necessarily been visible and vocal at that executive level, and Peter brought the focus in. I think all of us recognize, whether it's in our job title or not, that digital is a key part of customer experience. Digital is where more than 50 percent of our customers are interacting, not just weekly or monthly but daily. And when you think about change, you don't see customers walking into a branch every day. In fact, you don't see customers walking into a branch every week or every month. We get more traffic now online in any given day than we get calls to our call center in a month or visits to our busiest branch in a year.

McKinsey: How do you justify the business case for the aggressive move into digital banking?

Simon Pomeroy: I think the upside for us is obvious. I'll give you a really good example. We were the first bank in New Zealand to put home lending online, where customers could go at their own convenience and apply for a home loan and get a decision straight away. We put that in place last year, and in the space of 12 months, it's now driving about 15 percent of our total applications for home lending. That, in itself, is a significant result. But out of all those applications, 40 percent or more are not customers of Westpac; in other words, they are new to the bank. We're the only bank in New Zealand that allows customers to go through their mobile phone and get a quick decision for their home loan—24/7. And the conversion rates we're seeing are on par with what we're seeing through our other channels.

One of the key things we recognized immediately was that digital design delivers convenience and experience to the customer, but it needs to go beyond that experience and delight customers. So once customers get their approval, we call them within two hours and talk them through the home-buying process. We've just started measuring the satisfaction scores, and what we're seeing is that the approach is making a big difference, including switching these new-to-bank customers in before the home loan is drawn down.

McKinsey: How do you think about your unified customer experience?

Simon Pomeroy: It's all about putting customers at the center of the strategy, reducing friction, and creating a more seamless experience across all channels, both human and digital. We were trying to build a more personalized, deeper, proactive contact with customers, and we previously relied on doing all that through our frontline channels. But it's physically impossible when one frontline agent is trying to deal with 500 or 600 customers at a time.

We realized that you couldn't necessarily do it all through human channels. We also recognized that our data didn't enable us to build those customer relationships. Why? Traditionally, we looked at everything through the eyes of the product, but we wanted to look at it through the eyes of the customer. The answer for us was to create a single customer view. We also needed to automate our processes around data and build a decision-making and communication-deployment capability. This was really important because it allowed us to understand customer behavior and respond in near real time.

For example, when a customer does something in either a behavioral or transactional sense, we can see it in the data, and the decision engine can respond in near real time with relevant communication. We've enabled ourselves to have what we call "next-best conversations" with customers

across all channels. These are both program- and customer-behavior-led, which means that we can have cycles of conversation. We are using this to cross-sell, manage pipelines, and onboard customers. Think about it like having a message stack that's tailored to every single customer and that can be communicated across all channels, human and digital.

This isn't just about when someone wants to buy a product; it's actually everyday communication we're having with customers. It's automated and it's triggered, and when a customer responds to it, we can either fulfill it or we can triage it through to another channel. This is driving a significant amount of activity. Last year, on average, we spoke to customers about 3.5 times; this year, we spoke to more customers on average nearly 11 times. A great example of this is in our home-loan pipeline, where we can now communicate frequently with customers as they go through the home-buying process. Leading this through digital channels—e-mail, online banking, and SMS—we can centrally deploy thousands of personalized one-to-one communications, and when the customer responds, these are immediately triaged to their relationship manager's mobile phone and inbox to follow up.

We've even integrated our ATM network into the approach so that we can personalize the experience and have next-best conversations via the 50 million interactions we have through this network every year. Customers will even be able to fulfill services through the ATM.

Additionally, we've integrated our voice-of-customer strategy. After interacting with us across any channel, customers are surveyed in near real time. We've taken this one stage further to make it easy for customers to give us feedback through all digital channels. All responses are triaged back to the appropriate relationship manager in near real time. We are seeing significant shifts in the net promoter score and really lifting our approach to customer recovery as a result.

McKinsey: Did you have to rebuild the central data system to carry out this effort?

Simon Pomeroy: We had nothing really a year ago, and our CEO was keen to see what we could do without tackling core systems. We just started to think about how to get data out of the warehouse, make it actionable, and then use it to drive a smart and ongoing communication strategy across both human and digital channels. The investment in this piece of the project is about NZ $4 million (US $3.4 million), so it's not a significant amount of money.

McKinsey: How are you thinking about a unified user experience?

Simon Pomeroy: The number-one channel in reach and frequency is online. One of the key things we realized was that customers are now using different devices throughout the day to do everyday tasks, including banking. The idea that full online banking would only be available on a PC felt like an outdated concept. We wanted our customers to have the best digital and mobile experience in New Zealand, so we created a central online platform that offers full banking functionality, not just through PCs but through phones and tablets as well—that's the game changer. We built our system in a mobile-first environment to make sure that whatever we developed works for the smaller screen, and you just expand it to get it to the bigger screen; it's fully responsive. We are one of only a handful of banks to have achieved this globally.

We have also introduced a groundbreaking feature called Timeline. This offers customers an aggregated, searchable view of all transactions across all accounts, allowing them to see past and future payments. This offers a great platform to deliver financial and cash-flow management to customers.

McKinsey: What's the impact of these changes on physical branches?

Simon Pomeroy: The new platform allows us to build services significantly cheaper and quicker, and we are looking to replicate 90 percent of all the products and servicing you can do at a branch today through this platform over the next nine months. This fulfills the customer demand for more self-service, 24/7 and from any device anywhere in the world. This will ultimately remove the need for frontline staff to predominantly fulfill transactional activity and enable our staff to focus on providing more advisory services to customers.

That said, we are making sure that everything we lead digitally is human-backed. Because I'll tell you what—banking is still a people business. It's still about relationships. And I personally believe that when I need my bank most, I want to be able to go seamlessly from a digital channel to a human being. The one thing that's really impressive about what we're doing is that everything we do that's digitally led gives the customer the ability to get a human being to contact them straight away if they've got an issue.

The whole point of the new Internet-banking platform is that we can bring in things like chat and the ability to FaceTime your banker, to have secure messages, and to have a dialogue straight away, in real time. But it also allows us to drive the next-best-conversation strategy through online banking, which customers can see through any device every day. It could be about what's

coming out of your account; it could be the bank has a new credit-card offer for you; it could be that the bank can see that you've got a payment going out in a couple of days and you haven't got enough money in your account to pay for it. All of these things our frontline teams can then engage with the customer on through digital channels.

The next-best-conversation strategy also extends existing inbound conversations through the branches and our contact centers. We have enabled a single customer view for our frontline teams that prompts next-best conversations around customer need. This ensures the focus from frontline teams is on marketing, pricing, and loyalty activity that is relevant to each customer. We are already seeing high conversions from these conversations, which further demonstrate the return on investment of the strategy.

McKinsey: What about the impact of digital banking on a channel like call centers?

Simon Pomeroy: About 18 months ago, we recognized that about a million calls a year to the call center were people just asking for the balance of their account. We wanted to try and use our call center to be more advisory, and our call-center staff wanted to be more advisory. So we built this app called Cash Tank. This allows customers to get their account balance without having to log in. Cash Tank now gets three million hits a month, and it's reduced the amount of balance calls coming through the call center, which has meant we've started using call-center staff for other things, so they can be more proactive in outbound calling, for example. The great thing about innovations like Cash Tank is that we can continually enhance them in response to customer needs. Cash Tank now sits as a widget on Android devices, and we're about to launch a version for smart watches. This will be one of the first integrated banking apps to be developed for a watch globally.

We have also just turned on proactive chat with customers on our public Web site. We have targeted this at personal and home lending; within the first 30 minutes of it going live, we had converted a new loan. We aim to roll this out across more products in the coming months and will fully incorporate it into our central online banking platform in 2014.

McKinsey: How do you measure impact?

Simon Pomeroy: We're already seeing significant uplift in revenue from the next-best-conversation strategy. We've seen an increase of about 28 percent

in products sold through campaign activity compared with the corresponding period last year.

It used to take four weeks to get communications to customers, because we were handraulic in how we managed data. We can now get that in 24 hours. It used to take a week and a half to get leads to our front line. We can now send those leads in real time and get hold of customers on the first time to contact for leads that go to the front line in 72 hours, as opposed to two to three weeks. It's making a big difference in how we contact customers.

We are now speaking to more customers, more frequently, through new channels. When you think about e-mail and SMS, in our personal lives, you don't necessarily look at those things as new channels, but for the bank, they're new channels. We weren't communicating through them 12 months ago; now we're driving a lot of communication through these channels. And it's communication that's quickly responded to by customers. Also, the integrated voice-of-customer program—our ability to listen and act on customer feedback—is driving our net-promoter-score metric in the right direction.

McKinsey: What challenges has the bank had to overcome to deliver its digital strategy?

Simon Pomeroy: The biggest challenge is in the way the bank has traditionally developed technology solutions and the complexity that has built up as a result. The CEO was again instrumental in driving a change of approach to planning our IT development, which required us to make courageous decisions and "future proof" our systems. This was embraced by the CIO, who has delivered a "digital first" reusable service-oriented architecture across the bank.

At the same time, we have delivered a new service layer that allows solutions to be developed and deployed without wholesale change to core systems. Our approach to delivery has also become incremental, which enables faster delivery and a test-and-learn approach. This again has been embraced really positively by our technology team.

McKinsey: How would you sum up Westpac's approach to digital banking?

Simon Pomeroy: We believe the customers are the drivers; technology is just the enabler. We still believe that banking is about relationships and about people, and it's really important that everything we do is deeply personalized, deeply relevant, deeply targeted, and always human-backed.

The CEO's aspiration is to be the best digital bank in New Zealand in 2014 and to shoot to be the best in the world in 2015. He has been clear about letting nothing stand in the way of doing so. We think this is achievable, and the proof points we have delivered are encouraging the whole team to believe we can do it and be proud of what we are doing for our customers, because that's what it's really all about: our customers.

McKinsey on digital banking

McKinsey's Financial Institutions Practice in Asia serves financial and nontraditional institutions on digital-banking topics in 13 countries. Our practice has over 100 professional practitioners who have helped clients across all essential areas in digital banking.

Our work broadly covers five areas:

- Overall strategy and approach, including segment-specific propositions (for example, private banking), business-unit-specific strategies (for example, payments), organization, and rapid prototyping and piloting

- Connectivity, including digital marketing, multi-channel approaches, and channel customer experience

- Automation, including process digitization and sales enablement

- Innovation, including innovation factory and innovation center development

- Decisioning, including advanced data analytics and cybersecurity

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