

Global Banking Practice

# Autonomy of AI: Staying on the forefront of AI in banking

AI in banking has become an important tool to help banks in Asia create innovative, personalized services for customers.

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# Introduction

**The concept** of digital and analytics-led banking is not a new one. Over the past few years, as these capabilities have been enhanced immensely, more banks across the world have become savvier with how they use technology and data to deliver products and connect with their customers. Digital and analytics can help banks deepen customer relationships by, for example, designing AI-driven propositions that solve unmet needs and harnessing big data to deliver hyperpersonalized services and enhanced cross-selling opportunities. They can also improve financial performance by maximizing customer lifetime value, which dramatically lowers the cost to serve through automation, and adopting superior data-driven risk management practices. Many of these trends were covered in last year's compendium on building the AI bank of the future.<sup>1</sup>

The articles collected this year highlight progress in the Asian market specifically.

Asia represents a vast market with nuanced banking needs that vary by region. Institutions across the continent have redefined how banks think about digital, analytics, and AI. WeBank in China, for example, has emerged as a large digital disruptor while existing in a technologically sophisticated geography and has built a mature financial ecosystem with its WeChat feature. Bank Jago, meanwhile, is trying to adopt banking technology in Indonesia, a more traditional geography. Moreover, large established financial institutions such as KB Financial in South Korea and Westpac in Australia have emerged as leaders on the cutting edge of digital and analytics innovation,

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<sup>1</sup> "Building the AI bank of the future," McKinsey, May 2021.

reshaping the paradigm of banking in their respective geographies.

These companies stand out as leaders and shapers in their industry and are examples of how others can stand at the forefront of innovation. As financial institutions further their data and analytics capabilities, they can tap into the nuances of the region they're serving and their customers' needs to build better relationships and provide long-term value. Each article in this compendium focuses on how leaders define the role of an AI bank, what capabilities they have bolstered to become pioneers in their industry, and what future initiatives are critical for remaining competitive.

### **Inside AI**

To offer the perspective of real leaders within the banking industry who are using AI to work smarter and deliver better products, we amplified their voices through a series of interviews. This collection of four interviews from leaders across Asia shows how each company—from start-ups to 200-year-old institutions—has leveraged data and analytics to become competitors in their industry.

In our first article, "Making financial services available to the masses through AI," McKinsey's Violet Chung speaks to WeBank CFO Arthur Wang. WeBank has become one of the most widespread and technologically savvy banks in China. Wang discusses how the company has embraced experimentation to provide more-inclusive, and 100 percent digital, financial services for its individual and business customers. "WeBank is built on failures rather than on successes," says Wang. "You need to have a strategy to manage the failures, to be able to fail fast and fail smartly, and to have the patience to allow people to try and test."

In our second article, "Evolving institutional finance with AI," David Walker, Westpac Group's chief technology officer, speaks to McKinsey's Keerthi Iyengar about how he helped transform the 200-year-old, Australia-based institution into

a modern, full-service bank. "Innovation needs to be fostered," Walker notes. "If you think of it as a mindset, a core competency, or a culture, you're thinking about the behaviors that enable it and support it, while encouraging people and teaching them how to innovate themselves." Walker also emphasizes the importance of maintaining the bank's familiar rapport with its customers while it uses AI to better serve the community.

The third article, "Life-centric banking with an analytics edge," looks at the nuances of AI banking in Indonesia. McKinsey's Badrinath Ramanathan talks to Peterjan van Nieuwenhuizen, Bank Jago's director of digital banking, about how the company takes a life-centric approach to connecting with its customers. "Don't fall into the trap of only considering digital technology as a channel to provide existing products and services," advises van Nieuwenhuizen. "It's an opportunity to fundamentally reinvent your value proposition, and I believe that should be done in a life-centric manner, so that it's more about what people truly care about and not just about basic financial services." By meeting personalized needs through AI, Bank Jago has developed differentiated, nonstandard features and expanded its customer base significantly.

Finally, in the fourth article, "How KB Financial Group navigates and curates banking," McKinsey's Eunjo Chon talks to KB Financial Group Vice President Dong Whan Han about balancing traditional ways of working with AI capabilities. Han discusses how the tech and business sides of the bank work together to better serve their customers across South Korea, as well as how he leads his team to become both experts in and teachers of their craft. "We don't want to pass inconvenience to the customers by promising them the future first," Han says. "AI can't do everything, and you can't do banking just because you have the technology."

### **Keeping the momentum going**

Last year, we discussed how leaders should start their transformations by aligning their

organizations on specific, strategic goals, and then use AI to support those goals. As exemplified by the leaders in these four articles, maintaining the vision after creating it is no easy feat—but it can result in great returns.

As banks across the world chart their plans to modernize their systems and offerings, it's important to maximize what assets they have to help achieve new goals, whether that be strong partnerships across ecosystems, a good rapport with their customer base, or highly capable, synergic internal teams. Regardless of where a bank is in its journey, it will be imperative for banks to keep customer relationships in mind while actively working to mitigate risk and efficiently implement data, analytics, and AI

capabilities. More so, integrating an AI mindset in every initiative moving forward will help banks satisfy consumer expectations and further enhance value propositions.

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The case studies within this collection offer perspectives against which leaders can compare their own experiences. Each article offers a chance to glean insights from others going through similar exciting, sweeping transformations and learn from the challenges and triumphs each person has encountered. The evolution of AI banking is ongoing, and we hope these voices help guide the journey.

# Making financial services available to the masses through AI

WeBank CFO Arthur Wang discusses how the company balances innovation, technology, and compliance to move itself forward.



**In this series** of interviews with leaders of banks in Asia that leverage AI, we explore how the use of AI improves services and makes banking accessible to all their customers. As China's first digital bank, WeBank is one of the most widespread and technologically savvy banks in the country. McKinsey's Violet Chung spoke to WeBank CFO Arthur Wang to learn how the company approaches experimentation, learns through failure, and navigates the nuances of China's market. The following transcript has been edited for clarity.

**Violet Chung:** My name is Violet Chung. I'm a senior partner at McKinsey and I'm leading a digital-analytics transformation for financial services across the Asia-Pacific region. Today's discussion is about AI banks and the leading shapers and movers in the region. We're very lucky to speak to Arthur Wang of WeBank today. Arthur, tell us a bit about WeBank and what you do there.

**Arthur Wang:** WeBank is the first digital bank in China—we have been providing our services online since the inception of our company. I'm the CFO and the board secretary of the bank. Internally, I take care of financial management. Externally, I deal with financing and take care of investor relationships as well as PR matters for the bank.

**Violet Chung:** How would you describe WeBank and what it does as an AI bank?

**Arthur Wang:** Even though our bank has been around for almost eight years, we consider ourselves a start-up. We're always exploring better

fintech technology. WeBank's strategy is to provide better, more inclusive financial services—to the mass population as well as small and medium-size enterprises [SMEs]—with leading technology. We do business 100 percent online, so we rely on technology. In fact, more than half of our employees are engineers and programmers; we look more like a technology company than a traditional bank. Our customer strategy requires us to build the capabilities needed to serve huge volumes of customers at a low cost.

To achieve efficiency, we invest heavily in technology such as AI, blockchain, cloud computing, and data analytics. These provide strong support for our business innovation and productivity. I'll give you some examples. We serve more than 340 million individual customers and almost 2.8 million SMEs on our digital platform with high efficiency. Our per-account IT operational and maintenance annual cost is as low as 2.2 renminbi, which is equal to about 40 US cents. That's almost a tenth of the cost of regular big banks and less than the cost of smaller banks, which gives us an advantage for serving the mass population.

We also leverage cloud computing and data analytics technology so we can build better and faster risk models than our peers. To support a fully online, convenient credit product, our online lending products are instantly available to our customers. They can get their credit assessed and approved within seconds. Before we launched our digital products, it was unimaginable for people to have their credit approved in seconds. Nowadays, it's a regular practice. In China, historically, a lot of individuals and SMEs could not obtain credit from regular banks because those banks could not process their requests efficiently while balancing costs and returns. But we managed to do so and make a profit, so it's commercially sustainable.

**Violet Chung:** You talked about technology as a source of differentiation. How else is WeBank's AI approach different?

## About Arthur Wang

**Arthur Wang** is the assistant to the president, chief financial officer, and secretary of the board of directors of WeBank. Prior to joining WeBank, Arthur worked with KPMG as a managing partner in fintech and in the banking sector in China. He has more than 20 years of experience in professional services, including domestic and overseas projects for large and medium-size financial institutions. Arthur also has extensive industry experience in the fields of fintech innovation and direct banking.



**Arthur Wang:** We use a bottom-up approach, meaning we put our business people and technology people together in joint product teams. By working together, our team members can identify opportunities for new innovations and smoothly merge technology with the process. WeBank's success is built on hundreds or even thousands of small innovations. They eventually led to products and services, bringing business value to our bank.

We also have a tolerance for failure. We have a strategy of investing and allocating certain funds to support internal incubation. Sometimes innovative ideas or new technologies need time to develop. They fail from time to time, but we have patience. We use the fund to support them until, one day, they come out of the incubator and start to generate value.

**Violet Chung:** What are some examples of technology that WeBank is investing in?

**Arthur Wang:** We invest more than 10 percent of our annual revenue in top-notch IT each year. There are also a number of technologies that we focus on quite a bit. First, we use an AI-driven process to make sure we spend our commercial costs wisely.

Second, we use a federated-learning technology to do machine learning and protect our customer privacy at the same time. Third, we have highly reliable facial-recognition technology that helps us with remote KYC [know your customer] for our online banking. Fourth, we have very strong robotic-process-automation [RPA] technology so that we can help our customer services be more efficient. With RPA technology, one person can do the same amount of work it would regularly take a few dozen employees to do.

We see other areas where we can gain efficiency and productivity. Technology can help us provide better services and products to our customers. We can build products that our competitors cannot. Our core banking system can process a huge volume of online transactions with the same efficiency and high quality as the regular large banks in China.

**Violet Chung:** Can you give some examples of where innovation has given WeBank the most success?

**Arthur Wang:** Federated learning is a key example. Our federated-learning team has been with the bank for quite a long time, and they have been making efforts to fit their models into the business

## About WeBank

**WeBank Co., Ltd.** ("WeBank") is a world-leading digital bank and the first digital bank in mainland China. Founded in 2014, WeBank provides inclusive financial services to more than 340 million individuals and almost 2.8 million small and microsize enterprises. In 2021, Moody's and Standard & Poor's gave WeBank A3 and BBB+ ratings, respectively.

WeBank focuses on fintech, such as AI, blockchain, cloud computing, and big data, and is actively exploring new models and products for inclusive

finance and real economy. By leveraging distributed-technology architecture, WeBank's core banking system can process approximately 800 million transactions per day at peak times. Such technology significantly reduces IT costs while allowing the bank to achieve high agility, availability, and concurrency. WeBank states that its IT operation and maintenance cost per account is less than one-tenth of that of its domestic peers.

With its strong IT capabilities, WeBank was the first commercial bank in China

to be awarded the National High-Tech Enterprise certification. Since its founding, WeBank has devoted 10 percent of its revenue toward research and development efforts, and more than 50 percent of its internal employees are technical personnel.

practice. With federated-learning technology, we can harness data while protecting customer privacy. That gives us an advantage over our peers.

Another example of successful innovation is the core banking system. We were among the first to use distributed technology to build a banking system. It is basically a private cloud and gives us an advantage when doing business online. With distributed technology, our core banking system can process huge volumes of transactions within a short period of time and can also tolerate a lot of errors. For example, if you have a centralized system, once the central system fails, it shuts down and you cannot do anything. With distributed technology, you have many servers working at the same time. We have more than 20,000 servers within our system that replace each other if they fail so the system can be more stable.

To put this into perspective, the current transaction volume of our banking system can be as high as 800 million financial transactions per day. This is equivalent to the capability of the five big banks in China, but WeBank spent one-tenth of their IT costs to achieve the same level of capability. That's really amazing. We can compete with a better system at a lower cost. Also, because we have this core banking system, we have technology in our own hands: we

develop software ourselves. We do not rely on an external software vendor. We also have internal developer technology that uses domestically produced hardware, which also gives us an advantage when dealing with uncertainties.

Our RPA technology is another example of successful innovation. We can handle 98 percent of our customer service requests online automatically. One regular customer service staff member plus an RPA can give us 30 or 40 times the efficiency of regular banks, which has significantly reduced our costs when dealing with customer requests. This is critical for an inclusive financial-services provider. We can be extremely efficient in providing services and responding to any of our customers.

One last example of our innovation is through the satellite technologies we use to analyze the economic status of cities. That helps us understand the credit risk of certain regions or companies so we can have a better understanding of economic situations in real time. After the COVID-19 pandemic hit China, economies in some areas stopped for days or even months. We had to assess risk on a timely basis so that we could precisely manage the bank's exposure within that portfolio. Using satellite technology and graphical analysis, we can do a better job assessing risk.

**‘WeBank is built on failures rather than on successes. You need to have a strategy to manage the failures, to be able to fail fast and fail smartly, and to have the patience to allow people to try and test.’**

—Arthur Wang

**Violet Chung:** You're describing the ideal of what a leading AI bank should look like. What is your advice for other banks and innovators on this path?

**Arthur Wang:** "Success is not achieved in one day" is an important idea to keep in mind. Success requires a lot of testing, so my advice is to be prepared for failure. Financial institutions find leading technologies such as AI very attractive because they provide better efficiency, more productivity, and better services. But behind the scenes, it's not easy to implement those technologies. You have to have the right kinds of data as a financial institution, as well as the compliance, privacy rules, and regulations to go with it. You have to get the model right and have the right team in place. In many cases, there is a gap between the expectation of what technology can do and its actual capability. Managing expectations is important in helping the company move forward at the right time.

WeBank is built on failures rather than on successes. You need to have a strategy to manage the failures, to be able to fail fast and fail smartly, and to have the patience to allow people to try and test. Among the few successes at WeBank, we have had thousands of failures, but we needed to have patience and faith in innovation. Once you are successful, even with one single innovation, the power it unleashes is amazing. To reach that level, you need to have patience and a tolerance for failures. That's the key advice I want to give others.

**Violet Chung:** That's great advice, Arthur. We're going to switch gears a little bit to ask you about your leadership style. You've been with WeBank for a while now. How has your perception of and experience in WeBank changed since you've been

there? And what defines the success of leadership, in your opinion?

**Arthur Wang:** My perception of the bank has not changed, but I think it is important to stick to strategy: our technology strategy, our customer strategy, and our ambition. There have been a lot of changes these days, both inside and outside China. For our company to run, we have to be persistent and have faith in our strategy—especially in our technology. I believe with continuous innovation and faith in technology, we can achieve our business purpose and generate value for society. Sometimes we need to adapt to changes in the environment, but we need to stick to our strategy throughout.

**Violet Chung:** What is it like to lead a company in China and Asia, where companies are leading innovation globally? How are the interests and skill set as a leader different compared with leaders elsewhere?

**Arthur Wang:** To do business in China, in Asia, there are a few things we need to bear in mind. First, Asia is developing fast, especially China. There are ample opportunities here for financial services—not just banking but also wealth management and insurance—because of the escalation of individual wealth. These services are in high demand. The second thing we need to consider is compliance, which is always updating because China has been developing fast.

A responsible innovator must work proactively with regulators, build common understanding, and help them catch up with innovation in technology. That way, we can proactively manage our compliance issues.

**Arthur Wang** is the CFO of WeBank. **Violet Chung** is a senior partner in McKinsey's Hong Kong office.

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# Evolving institutional finance with AI

Westpac Group's chief technology officer, David Walker, discusses how to lead through change to transform a legacy institution into a modern, full-service bank.



**In this series,** we sit down with leaders of banks across the globe that leverage AI to improve services and better serve customers. Founded in Australia more than 200 years ago, Westpac has become a go-to bank for consumers and businesses by offering a wide range of services. McKinsey's Keerthi Iyengar spoke to David Walker, group chief technology officer at Westpac, to learn how the organization has evolved over the years to provide better, more secure services to its customers. The following transcript has been edited for clarity.

**Keerthi Iyengar:** Would you describe Westpac as an AI bank?

**David Walker:** It is and isn't an AI bank. On one hand, it's not, because Westpac is very much a human-centered bank—and has been throughout its more than 200-year history. Artificial intelligence can seem faceless, and Westpac focuses on the community it serves.

On the other hand, it is an AI bank because of how it is equipped to run and serve its customers and employees—from how we work to how we operate to the technologies we use, including the products and services we develop and how we use data to help our customers and support our employees.

## About David Walker

**David Walker** joined Westpac Group in August 2019 as group chief technology officer. He started his technology career in 1987 as an engineer, coding systems for various Australia-based companies. After a decade of honing his software engineering craft, he founded a consultancy company that specializes in data science.

Before joining Westpac, Walker worked at DBS Bank in Singapore for nine years, leading initiatives that helped transform the bank from a traditional brick-and-mortar institution to a digital-technology company.

**Keerthi Iyengar:** What's different about Westpac's AI approach?

**David Walker:** We go out of our way to work with the best AI companies and people around the world. One example would be our partnership with a New York-based company that is one of the world's best in terms of conversational AI.

We are also leaders in responsible, or ethical, AI. We're very conscious of our customers' data. In every department, we have artificial intelligence experts making sure we're setting a good standard when it comes to responsible AI.

**Keerthi Iyengar:** What areas of investment is Westpac doubling down on technology-wise?

**David Walker:** We're a full-service bank, so we invest across a spectrum of areas. Broadly speaking, one goal is to try to simplify the bank. Any organization that's more than ten years old has a legacy, and our 200-year-old bank has [one]. For this reason, we're trying to eliminate any redundancies we might have—we're a multibrand organization, but we don't want to be a multibank organization. We're also trying to modernize the bank. We have an acronym, BEAD, we use to drive us forward. It stands for "built for change, evergreen, automation, and digital-to-the-core." These principles guide everything that we do from the ground up. And all that innovation and investment are centered on the customer and our employees.

**Keerthi Iyengar:** What are some of Westpac's most successful innovations?

**David Walker:** We were one of the first banks globally to do banking-as-a-service well. We use state-of-the-art technology, in the cloud with cloud-native characteristics. We were able to stand up the base platform in just nine months. We've got three external customers using our banking-as-a-service platform, and we're currently bringing in our own GTS [global transactional service] business as a fourth tenant. This means we are creating a brand-new bank for our institutional customers on this platform.

Second is our conversational AI. We wanted our conversational AI to answer any question for any customer—and be helpful at the same time. That's complicated in the chatbot business, so we co-built this state-of-the-art “brain” to be able to do that. With the help of our partner Kasisto, we were the first in the world to build this capability.<sup>1</sup>

Third is our dynamic CVCs [card verification codes]—the three digits on the back of a credit or debit card. If you give that away, fraud can occur, and we want to prevent that. We built a dynamic CVC capability that customers can use when they access a digital version of their card in their mobile-banking app. The dynamic CVC refreshes every 24 hours and has eliminated fraud by up to 80 percent for those who use it.

Along those lines, we also launched a tap-to-pay capability for small businesses. They can download the mobile app and use that as a way for people to pay, rather than having to have a usual merchant terminal.

The fourth innovation, while not AI-enabled, is our new data analytics offering—Westpac DataX—designed for our largest institutional, corporate, and government customers. It draws on the Group's internal de-identified data assets and other third-party data to create actionable insights across key business use cases such as market share benchmarking, store network panning, marketing effectiveness and optimization, and broader economic conditions.

example, even with the rise of e-commerce, brick-and-mortar stores remain important. When clients wish to expand and they're trying to work out where their next location should be, we can provide data and recommendations to support that network planning decision making. All the data is completely de-identified. This is one example of how we're using data to help our customers.

**Keerthi Iyengar:** How is leading a company in Australia and Asia different than elsewhere? What unique skills or traits are needed?

**David Walker:** At the end of the day, people are people. After being away from Australia and coming back to it, I've recognized that you absolutely need to earn people's respect. In some other cultures, your title will give that to you automatically. I've started to understand those nuances as I move between different environments, and it's important for me to know what they are and where to find them. Regardless, people are motivated by similar things, and it's important to tap into that.

**Keerthi Iyengar:** Westpac has been public about its intention to rebuild its internal software engineering capability. Can you elaborate on the reasons why?

**David Walker:** Engineering is obviously important to software companies, and, in many ways, banks are by and large software companies. Most of the products and services that we provide to customers and our employees are software. Because software is recognized as a core tenet of what we do, we need to build those capabilities up. That doesn't mean we're going to walk away from partners and go 100 percent into software development or engineering work ourselves. But we want to strike a balance between working with our partners and doing what we can do well in-house. At Westpac, we're building a compelling proposition for technology engineers. We recognize that we're competing with the tech companies and start-ups of the world, so we're moving from the traditional ways of attracting and valuing engineers.

## About Westpac Group

Westpac is Australia's first bank and oldest company. It is one of the four major banks in Australia and one of the largest banks in New Zealand, providing a broad range of consumer, business, and institutional banking services to more than 12 million customers across its portfolio of brands.

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<sup>1</sup> Ry Crozier, “Westpac backs maker of its chatbot ‘orchestrator,’” *iNews*, August 23, 2022.

**Keerthi Iyengar:** What suggestions do you have for other peer banks and innovators that are investing or leading in innovation?

**David Walker:** Two things. First, innovation isn't a department—it's not the responsibility of one person or a small group. Instead, it's a mindset. It's a culture. That's the first thing to get right in any organization. If you're going to be innovative, you need everyone to be innovative, from the tellers to the CEO. Innovation needs to be fostered. If you think of it as a mindset, a core competency, or a culture, you're thinking about the behaviors that enable it and support it, while encouraging people and teaching them how to innovate themselves.

Second, people tend to conflate innovation and R&D, but they are two important, separate things. R&D is the function or unit in the bank that supports innovation. Like innovation, you want to decentralize access to the R&D. So the R&D team needs to facilitate across the group, making sure that the right resources are in place to make the investment happen. It's important to have the right people assessing the potential in fintechs and start-ups, too. If you take large corporate thinking into that space, you could be burning away those opportunities.

**Keerthi Iyengar:** What is a successful leadership approach, in your opinion?

**David Walker:** To be great at leading, particularly through transformation, you first need a compelling vision. All great leaders have that. People get tired of working on a burning platform or within a fear-based culture. So it's important to use your vision to create a mission-based or purpose-based environment.

It's also important to create the environment to change. That requires many elements: your leadership style, the psychological safety of employees to work in a changing environment, clear incentives, and the right remuneration. Then you have to make sure the company has an "engine room" for change—the mechanisms and processes that make the change happen. These things fundamentally change an organization, whether that's how teams interact with customers or how they run meetings. While this change is occurring, however, you want to make sure that you have a sustainable leadership. If you adjust your team or your leadership too frequently, you lose momentum. So having a steadfast leadership approach helps get through long-lasting transformations.

**David Walker** is the group chief technology officer of Westpac Group. **Keerthi Iyengar** is an associate partner in McKinsey's Sydney office.

The author wishes to thank Anubhav Bhattacharjee, Violet Chung, Akash Pandey, and Yihong Wu for their contributions to this article.

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# Life-centric banking with an analytics edge

Bank Jago's Peterjan van Nieuwenhuizen explains the value a life-centric banking approach has for AI banks.

*by Badrinath Ramanathan*





**Over the past two years**, Bank Jago has been systematically enhancing its data and analytics capabilities to provide intuitive, life-centric banking services for millions of its customers across Indonesia. In this interview with McKinsey's Badrinath Ramanathan, Bank Jago's Director of Digital Banking Peterjan van Nieuwenhuizen discusses how the bank provides its customers with more-relevant and better financial services while helping them develop financial management skills. An edited version of their conversation follows.

**Badrinath Ramanathan:** You are familiar with our AI bank construct.<sup>1</sup> Considering that there are different kinds of AI banks, how would you describe Bank Jago as such?

**Peterjan van Nieuwenhuizen:** Bank Jago's overall aim is to help consumers, small merchandisers, and small businesses get closer to achieving their dreams and aspirations through better financial management. There are a few principal ways in which we do that. One is that we serve them through technology and fully digital delivery. Another is that we serve them as part of an ecosystem rather than as a stand-alone digital bank. That automatically has implications from a technology and AI perspective. From the beginning, we invested heavily in a modern technology stack, including advanced analytics and machine learning—both of which are required because without digital technology, our market scale would be difficult to achieve. Working this way has allowed us to gain more than four

million customers in less than 18 months and offer differentiated, nonstandard banking features.

We also aim to deliver life-centric banking. Analytics allows us to personalize [for] and adapt to all our users. Because we're embedded in an ecosystem, we have a rich set of data from both Bank Jago and from our partners. By combining all of that, we can use data optimally, and we can offer a richer value proposition to our users.

**Badrinath Ramanathan:** What's special about Bank Jago's approach?

**Peterjan van Nieuwenhuizen:** We don't treat digital as a channel to serve people with traditional financial products and services. Instead, we look to reinvent the entire value proposition, shifting the focus from money and financial services to the things that really matter to the lives of our users and the ways financial services can help them do or achieve those things. That's also where the importance of data comes in. Our ecosystem approach is still relatively novel in financial services. It's not about simply partnering with some companies to cross-sell; it's about jointly building an ecosystem where we can infuse our financial services products within our partners' lifestyle services, such as food delivery, transportation, or e-commerce. Providing that kind of digital lifestyle with financial services embedded is profoundly useful for the customer in a way that traditional financial services are not.

## About Peterjan van Nieuwenhuizen

**Peterjan van Nieuwenhuizen** is the director of digital banking at Bank Jago and a member of its founding team. Previously, he led the launch of and early stages of operations for Indonesia's first fully digital bank, Jenius (a part of Bank BTPN). Earlier in his career, van Nieuwenhuizen was a member of the board of directors at VPBank, a relatively young

bank in Vietnam. During his two years on the board, he helped to transform the company into one of Vietnam's leading banks—it is currently listed on the Ho Chi Minh City Stock Exchange.

Van Nieuwenhuizen was among the first batch of Gates Cambridge Scholars formed by the Bill and Melinda Gates

Foundation. He holds a bachelor's degree and Certificate of Advanced Study in mathematics from the University of Cambridge, as well as a master's degree in computer science from the University of Twente in the Netherlands.

<sup>1</sup> Renny Thomas, "Introduction: Building the AI bank of the future," McKinsey, May 18, 2021.

‘The sheer opportunity is what makes this both very exciting and very challenging. This is a market with 280 million people.’

—Peterjan van Nieuwenhuizen

**Badrinath Ramanathan:** Apart from its use of data, what other examples of innovation has Bank Jago brought to the industry?

**Peterjan van Nieuwenhuizen:** About a year ago, we launched features called “pockets” and “shared pockets.” It was inspired by an Indonesian concept called the “amplop” system, in which a person uses envelopes to save money for different purposes. We didn’t see a digital equivalent of that in banks. So we created that concept digitally, where users can have as many pockets as they would like to separate their money for different purposes. Then they can share the pockets with, say, their kids or spouse or another member of their household. That is an example of a life-centric banking feature that aims specifically at how Indonesians like to approach the management of their money. For the first year or so after the launch, we were quite busy scaling the system and

getting it ready for customers to use. In the coming year, we have a plan to launch other features like this one that will be truly differentiating.

**Badrinath Ramanathan:** In your view, what’s the most exciting thing—and the most challenging thing—about running a digital bank in Indonesia?

**Peterjan van Nieuwenhuizen:** The sheer opportunity is what makes this both very exciting and very challenging. This is a market with 280 million people. But on top of that, probably 50 percent of them are either unbanked or underbanked. While that gives us a fantastic opportunity in many areas of the market, it’s also difficult because there’s a lot of work to do to understand what is needed that presumably hasn’t yet been provided with more traditional services. We have to continuously learn what they need, how we can adapt to them, and how we can offer a service and experience that’s right for them.

**Badrinath Ramanathan:** How have things at Bank Jago changed in the several years that you have been on this journey?

**Peterjan van Nieuwenhuizen:** Our core strategy has changed remarkably little. Speaking for myself, I feel that our purpose to help people get closer to their dreams and aspirations through different styles of financial management still persists. But we have learned a lot about what it takes to execute against that aspiration and that purpose.

## About Bank Jago

**Bank Jago is a financial app** that provides banking services using a digital ecosystem. It delivers innovative money management solutions to help millions of Indonesians achieve their aspirations. A company founded using an innovative approach to microlending and digital banking, Bank Jago has positioned itself to become a leading and life-centered financial institution in Indonesia. It aims to use its strong tech capabilities to fulfill the needs of the middle and mass market segment, including small and medium-size enterprises.

We have many moving parts that all have to come together in an orchestrated way: technology, data analytics, machine learning, people, and so on. On top of that we have more than 30 ecosystem partnerships. Bringing everything together in the right way was harder than we had initially thought. So we've had to adjust our perspective on how to properly coordinate these pieces.

We started this just before COVID-19 and had a lot of assumptions in terms of how to build an entirely new team from scratch, infuse our purpose and build our culture, and set a direction for that team. We were using tactics that would have worked in the past but didn't work during times of COVID or physical lockdowns or in a remote workplace. Having to build this team, this organization, and this culture under these circumstances was unprecedented, as it was for everyone else in the world. And we had to modify all our existing experiences and assumptions to achieve that.

**Badrinath Ramanathan:** What you have achieved in two years has been incredibly inspiring. What advice would you give to other AI banks?

**Peterjan van Nieuwenhuizen:** Three things: First, don't fall into the trap of only considering digital technology as a channel to provide existing products and services. It's an opportunity to

fundamentally reinvent your value proposition, and I believe that should be done in a life-centric manner so that it's more about what people truly care about and not just about basic financial services. Also, that way, the data, AI, and analytics comes into its own because it allows you to better understand not just groups of users but also individual users. That's one way to max out the opportunity that technology and data offer to reinvent your value proposition.

Second, don't settle for legacy technology or slightly older technology if you want to push the boundaries of what you offer and how you offer it to your users. In our experience, you have to invest in cutting-edge technology; using legacy systems just slows you down. Sooner or later, it prevents you from offering what you really want to offer.

Third, think carefully about the right way to combine a financial services culture and a tech culture. Because we are so heavily reliant on technology, data, and AI, we can't get away from adopting a lot of the same practices that successful tech companies have adopted. However, banks still have relevant knowledge and experience to offer from decades of learning how to do risk management, liability management, and so on. How you bring those together so that it's not one or the other is something that requires careful thought.

**Peterjan van Nieuwenhuizen** is the director of digital banking for Bank Jago. **Badrinath Ramanathan** is a senior partner in McKinsey's Singapore office.

The author wishes to thank Anubhav Bhattacharjee, Violet Chung, Akash Pandey, and Yihong Wu for their contributions to this article.

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# How KB Financial Group navigates and curates banking

McKinsey's Eunjo Chon talks to KB Financial Group Senior Executive Vice President Dong Whan Han about simplifying processes and transforming bankers into instructors.



**At KB Financial Group**, Dong Whan Han helps make banking better by relaying technical finance topics simply and encouraging his team to be learners and instructors simultaneously. In this conversation with McKinsey's Eunjo Chon, Han—the company's senior executive vice president—shares his banking and leadership strategies, the importance of a learning mindset on a teaching approach, and how to balance AI with traditional ways of working. An edited version of their conversation follows.

**Eunjo Chon:** If you were to describe KB Financial Group as an AI bank, what would you say?

**Dong Whan Han:** If you go to any KB branch, you will see a guiding kiosk that has an AI virtual human. They point the customer to the teller they should go to. As of 2022, a virtual assistant is also available inside our mobile banking app to provide guidance. We also created a chatbot that uses natural language processing to understand the Korean language and is specialized in financial terminology to complete general tasks.

We also developed the KB STA, which stands for “state of the art.” Based on state-of-the-art text analytics, customer requests and queries can be naturally generated into language, voice, or text. While we've made a lot of progress, we have not yet reached the engagement level—just the kiosk level—so we still have work to do.

**Eunjo Chon:** Many people say AI and digital-innovation companies are too focused on filling technological capability gaps and gathering data, so they become detached from reality. What is your view on this?

**Dong Whan Han:** That was a big problem for us as well. We don't want to pass inconvenience to the customers by promising them the future first. AI can't do everything, and you can't do banking just because you have the technology. For example, if the AI service is at 20 percent, we want to fill in the remaining 80 percent with personal interaction so 100 percent of the service satisfies the customer. Otherwise, if the technology advances and AI can do

90 percent, then we'd fill in the remaining 10 percent. So it's important for those on the business side to collaborate well with data experts and AI experts. As of now, it is very difficult for data or AI experts to have a relationship with business experts.

We want to acquire many customers, but in the digital era, customers want to receive professional services. However, our bank is currently in need of experts to provide those kinds of services. So to cover all that customer demand, we use machine learning to gather data from experts' work and replicate it for future uses. Those in our CoE [center of excellence] support the business from the back. For this to work properly and create more value, people in the business who know the business domain need to know about the AI and data side through the CoE. Once this is achieved, we can provide more satisfactory service. We should avoid thinking that everything will work out once the technology is adopted.

**Eunjo Chon:** In your opinion, what level of AI should KB aspire to achieve?

**Dong Whan Han:** I like to think about the optimal level of AI using the concepts of navigation and curation. I often compare it to modern abstract art. If you look at abstract art, it's difficult to distinguish the price and value. The person who can help you with that is the curator. Maybe a customer goes to the mobile app to get a loan or make a deposit because the teller guided them there. The bank's target for AI service, then, should be to provide the curation of the product to properly sell it.

**Eunjo Chon:** That relates to your earlier point about filling in the 80 percent. When the bank provided only face-to-face services in the past, the bank employees were the ones providing the curation. How do you think KB's approach to product curation is differentiated compared with other competing financial institutions in the world?

**Dong Whan Han:** Many of our competitor banks focused on chatbots while our AI team focused on AI OCR, which stands for “optical character reader.” Much of the knowledge in the bank is in text format.

Converting the accumulated knowledge in the bank and structuring unstructured data is critical. Our AI OCR reads this data and learns from it. What kind of impact did this have? For example, the most difficult thing for me when I did foreign exchange–related work at the bank was reviewing letters of credit. It was a simple task, but it was difficult to determine what the provided information meant and what I had to do. Once we started using OCR, all that information was instantaneously read, and this resolved the pain point experienced by so many employees.

This also allowed our business side, which had only a vague idea of what AI services are, to have a much clearer understanding of how to use AI. So because KB first pursued OCR rather than a finance assistant, the large knowledge base of our bank was learned quickly and data was used more effectively. We generated outputs such as a more simplified KYC [know-your-customer] process and reduced complexity in foreign exchange work, remittance, and more. By achieving such small wins, we gained a deeper perspective on AI and we obtained more insights, allowing us to challenge ourselves to reach the next level.

**Eunjo Chon:** Going forward, in which areas do you think you will invest the most?

**Dong Whan Han:** I believe the fundamental nature of the banking business is to field customer questions and provide the answers. AI must understand the natural language and answer questions well, so the model must be continuously updated. Enhancing the capabilities to link language-learning technology to the core knowledge of our bank will be important, so we are focusing on that.

Software will keep getting better, so we can't get tied up with a particular software and get behind on the evolution. When open-source technologies related to AI are developed externally, we should be able to create tools that can advance at the same pace, rather than buying it all at once in a package. It's critical to be prepared for continuous updates.

**Eunjo Chon:** What has been the greatest success based on what you have implemented so far?

**Dong Whan Han:** The biggest success was KB's AI OCR. Our AI team has also developed a knowledge graph, which distinguishes the taxonomy of certain finance-related words—volatility, for example—and updates our knowledge base accordingly. We also consolidated our call centers, which is a challenging task. In finance, the banking business, insurance business, and securities business have different characteristics, so to consolidate all of them into one call center is not an easy task. But it is feasible if we leverage AI. KB is planning to apply a consolidated AI call bot in Korea. The fact that we are doing it as a group and not just at the bank level may be our differentiator and success factor.

**Eunjo Chon:** If you were to give some advice to other financial institutions or companies that want to drive innovation or invest, what would it be?

**Dong Whan Han:** Microsoft CEO Satya Nadella said, "The learn-it-all does better than the know-it-all." I think that is very important. We should make the effort to keep learning and trying new things with an open mind. And we should provide the framework for people to enjoy learning. For instance, KB is recruiting many AI or digital experts from outside. But I've noticed that sometimes we use them as translators. AI has a lot of technical elements, so many people on the business side don't try to understand it. But if you remove the frills and just focus on its essence, it becomes quite easy to understand. You shouldn't pretend to know something when you don't—remove the noise and focus on the core message.

**Eunjo Chon:** You have worked at KB for a long time, serving in many key positions. How has your role at KB changed over time?

**Dong Whan Han:** Honestly, I joined the bank to make a living after getting married. Over time, I realized that while the government's role is protecting the lives of its people, the banking system's role is to protect people's economic

# ‘While the government’s role is protecting the lives of its people, the banking system’s role is to protect people’s economic happiness.’

—Dong Whan Han

happiness. The bank where I was working helped me to make a living during the financial crisis, which is quite meaningful, and I realized that banking played a big role in protecting the happiness of people around us, too.

Over time, I became comfortable sharing my opinions and made proposals for different solutions. That created a good impression and allowed me to work on the strategy part of the business. So I emphasize to my colleagues that they should also find what engages and interests them in their work and work for that thing, rather than for their company or boss.

**Eunjo Chon:** How can leaders help employees be successful?

**Dong Whan Han:** I have talked frequently about being a “top-notch instructor” to my staff or during executive meetings. Top-notch instructors refer to the lecturers in Korea who prepare students for college entrance exams; they often have great skills in delivering knowledge about, for example, math—better than schools do. Finance is abstract and very difficult to understand. So we should train our financial experts to be top-notch instructors and help them deliver financial content better to our customers. When customers are just told to sign a contract without knowing the exact content, it could lead to mis-selling, which would trigger issues and complaints when losses occur. So how

financial companies deliver accumulated expertise and knowledge effectively to customers matters for their success.

**Eunjo Chon:** What will it take to nurture these top-notch instructors?

**Dong Whan Han:** When you look at our products, they are represented in documents such as manuals. But today, it’s all about videos. Experts, however, find it difficult to give explanations on a video. They are not trained to explain a product’s specialized features in layman’s terms. Fintechs in Korea, especially KakaoBank and Toss, have recently made good progress, albeit in small areas, thanks to their ability to explain their products simply. So for our wide business areas, including insurance, securities, and banking, the key would be to offer good explanations by tailoring them to our customers.

By taking the “learn it” approach and communicating easily with our customers, we can allow our top-notch instructors to deliver our hard-earned financial knowledge. We already have accumulated knowledge, but how to deliver it well has been less of a focus. To help our customers understand information better and faster, special training would be required.

**Eunjo Chon:** What achievements you are most proud of? And are there any areas that you want to improve?

**Dong Whan Han:** First, I am proud of our people. While before we had strong knowledge in domains, our knowledge in digital technology was insufficient. Even so, we had to provide services and compete, so we worked together. The people whom I worked with at that time have developed themselves and are now serving in key positions across our organization. Second, KB Star Banking, which is the mobile platform of our bank and the group, has grown by more than 14 percent this year alone, achieving more than ten million MAU [monthly active users]. Fintech companies have achieved similar MAU by

operating in very narrow areas, but our services are wider and more complex.

As for the areas in which I want to see improvement, it's about Big Tech. Those firms are our rivals, so we often try to follow their practices despite them being complicated and not always best. We should think instead about simplifying our banking platform as needed. That would also help assure that our ten million MAU are really satisfied. We look forward to accomplishing those goals.

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The author wishes to thank Anubhav Bhattacharjee, Violet Chung, Akash Pandey, and Yihong Wu for their contributions to this article.

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