

How AI is transforming financial institutions in Malaysia

BY CHERYL POO

Artificial intelligence (AI) is rapidly evolving from a supplementary tool into a core capability for banks in Malaysia, as the pace of adoption accelerates. Major institutions are deploying multimillion-ringgit AI systems for fraud detection and customer analytics, to automate processes and to enhance branch services.

Bank Negara Malaysia's "Artificial Intelligence in the Malaysian Financial Sector" discussion paper, released on Aug 5, reports that 71% of local banks now operate at least one AI application, up from 56% a year earlier. This signals an industry shift from the pilot phase to production.

"Looking ahead, more than 60% of banking institutions and insurers and takaful operators view AI as a strategic priority at their institutions in the next one to three years," the central bank notes.

It attributes the growth in AI applications to the increased interest in exploring generative AI (Gen AI) applications, such as ChatGPT. There has also been growing interest in agentic AI, which refers to AI systems capable of taking autonomous actions to achieve a goal, such as an AI that automatically freezes a suspicious transaction upon detecting fraud risk.

PwC Malaysia financial services consulting partner Neha Mani tells *The Edge* that AI is now a significant priority for most Malaysian financial institutions, which is reflected in the "leadership time, organisational resources and investment" dedicated to its development.

"Investments are being made to ready the banks to leverage AI solutions at scale, such as investments towards cloud infrastructure and building a data infrastructure. Some leading financial institutions have even set up SWAT teams within their environment to help them identify and deploy use cases," says Neha.

RHB Bank Bhd (KL:RHHBANK), for instance, reported in its 2024 integrated report that it invested RM868.7 million in digital transformation and IT infrastructure between 2020 and 2024, with the digital transaction rate reaching 92.2% last year across a user base of over 2.9 million.

Neha says the biggest difference between local FIs and their foreign counterparts is the scale of their AI deployment. "US banks, for example, have already scaled AI-based tools in areas such as risk and fraud. Overall, organisational and leadership readiness is at different maturity levels across markets," she adds.

Leading banks in AI transformation are adopting a strategic, large-scale and business-driven approach with "comprehensive changes instead of isolated initiatives" that distinguishes them from institutions still in the pilot phase, she says.

As an example, she cites a global card issuer that uses AI and machine learning for real-time credit card fraud detection, and a major American retail bank that utilises an AI or machine-learning-driven virtual assistant to provide personalised financial insights and assistance with tasks like bill payments and budgeting.

Digital-native vs traditional banks

While digital banks are "AI-native by design", some traditional institutions are matching their pace. Oversea-Chinese Banking Corporation Ltd (OCBC) is an example. It was the first bank in Singapore to establish an AI unit in 2018 to build in-house



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capabilities. That has since evolved into the bank's group data office, where AI is a core strategic lever for productivity, revenue growth and risk reduction.

According to OCBC's 2024 annual report and an interview with its head of group data office Donald MacDonald, AI now drives about six million decisions daily across the bank, from personalised credit card offers to fraud detection. Its early start has accelerated the use of Gen AI over the past two years.

In November 2023, OCBC said it became the first Singapore bank to launch a Gen AI chatbot, known as "OCBC GPT", to support 30,000 employees in writing, research and ideation. This came after earlier deployments of internally built Gen AI tools for coding, document summarisation, call transcription and querying internal knowledge bases that have boosted productivity by up to 50%.

As OCBC continues deepening its AI and Gen AI capabilities, it is strengthening governance to ensure adherence to FEAT (fair, ethical, accountable, transparent) principles, with all AI models undergoing regular accuracy reviews and rigorous testing to prevent bias.

"I work very closely with all the different unit heads to [use] the data to make better decisions. Increasingly, it's about how we can use the data, especially AI, to transform the processes to make [the work] more efficient," says MacDonald.

His team of about 150 people, comprising data engineers, analysts and scientists, is responsible for data literacy alongside managing the bank's data science platform and strategy.

"AI is applied across all aspects of OCBC's business, namely in revenue generation, customer investment decisions, cost reduction and productivity improvement, as well as risk reduction. In the third area, we apply AI to reduce risk in areas like credit scoring as well as fraud and scam detection, anti-money laundering and things like that. These are key focuses at OCBC.

"We measure the value of all of our use cases which, going by the [collective] value of our use cases, AI generates [a significant amount] in quantifiable benefits every year," says MacDonald, adding such AI-driven gains that are measured as "quantifiable benefits" run into the hundreds of millions of Singapore dollars each year.

OCBC's strategy focus is agentic AI, which can automate complex, end-to-end workflow and reasoning models for strategic decision-making.

"Agentic AI is the thing that's going to



Ryt Bank's Foong: ... we're structured less like a traditional bank and more like a technology company: intelligent, data-driven and safe by design

unlock complex workflow. So, if you're in our financial crime space and you need to investigate a suspicious transaction and write a report about it, an agent could do that for you. If you were in a command centre and someone asked for a fee waiver, the agent could evaluate that and provide the rationale," MacDonald explains.

"Then there is OCBC's strategic decision-making, like how OCBC should be positioning its balance sheet or where OCBC should be investing its money amid all that's been going on with the US Federal Reserve. So, rather than having just humans thinking about what we should do, we're also looking at using reasoning models to handle some of these strategic decisions."

He also sees AI transforming customer interaction with banks.

"As Gen AI understands natural language, it is able to have a reasonably smart conversation with you now. You could ask, 'OCBC, what happened in the market last night and what should I do?' Because the agent knows your profile, the equities you like and your risk appetite, it would give you a recommendation," MacDonald says.

The digital bank model

For institutions that are digital-first, such as newly licensed digital banks, AI is embedded from the start.

Foong Chee Mun, chief product officer of the YTL-Sea Digital Bank Project — one of five entities awarded a digital banking licence in Malaysia — notes this difference at Ryt Bank, which was launched by YTL Group and Sea Ltd as the world's first AI-powered bank.

"At Ryt Bank, AI isn't a layer we added later, it's the foundation. Every operational flow, from onboarding to risk and customer service, was designed assuming a machine partner is always in the loop. Our core systems speak natural language, not just code or APIs (application programming interfaces). That allows customers to perform transactions conversationally, and it allows our internal systems such as credit, fraud and compliance to constantly learn and adapt in real time," says Foong, who is also CEO of YTL AI Labs.

Digital banks rely more on automation and data science teams than on conventional branch or operations staff. Ryt Bank was designed "around intelligence itself as the new infrastructure", meaning its teams are structured differently from those of a traditional bank.

"What's exciting for us is that we got to reimagine how banking could be built from the ground up in this generative AI era. We

weren't constrained by legacy structures or branches. That means our teams look quite different from a traditional bank," Foong acknowledges.

Over half of Ryt Bank's workforce comprises engineers, AI experts and data scientists, with safety being the core of its processes.

"For us, safety isn't a compliance checklist; it's part of how we engineer. Every product, every model and every decision system is designed with that mindset from day one. In short, we're structured less like a traditional bank and more like a technology company: intelligent, data-driven and safe by design," Foong says.

Challenges in implementation

The path to AI adoption is not without its hurdles. PwC Malaysia's partner Norliza Mazni points out a fundamental issue: data quality.

"AI models are only as effective as the data on which they are built. Without rich, accurate data, their potential is limited, stunting banks' ability to make smart decisions and provide valuable insights. While we are seeing local banks experimenting with AI use cases and offering personalised services to customers, poor data quality remains one of the top challenges contributing to AI project failures," Norliza says.

From a digital banking perspective, Foong highlights the complexity of conversational AI, where operators must understand intent, tone and context across diverse linguistic backgrounds, rather than merely predicting numbers.

"The hardest part is that language is messy. People don't always speak in neat, structured sentences, often mixing English, Malay, Mandarin, even slang, all in the same message. So, one of the biggest challenges is getting the model to truly understand what users mean, not just what they say. That's why we spend a lot of time fine-tuning for the Malaysian context, culture and code-switching patterns," Foong shares.

Safety and reliability are critical, as any misunderstanding instantly affects trust.

"You can't afford a wrong tone or a misleading response, especially in banking. So, we've built strong human-in-the-loop systems, content filters and fallback mechanisms to make sure the AI stays accurate and aligned with our values," he says.

Quick, tangible ROI

PwC's Neha observes that AI offers banks quick and tangible returns on investment or ROI, not just through real-time fraud management (which reduces financial losses and operational risks) but also the automation of repetitive tasks — such as compliance checks, data entry and report generation — that lowers labour costs, accelerates processing times and minimises errors.

"Institutions that embrace Gen AI early are likely to experience improvements in operational efficiencies and cost reductions, while also managing risks more effectively with the help of predictive analytics. These early adopters will not only be ahead in terms of technological development but also set new benchmarks for customer engagement and operational excellence," Norliza adds.



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