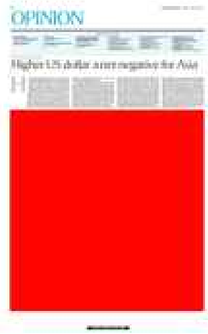

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AI in finance: Taming the beast

There are risks and limitations to consider as artificial intelligence (AI) is increasingly being deployed for various purposes in finance, including digital identity verification, trading and personalised banking

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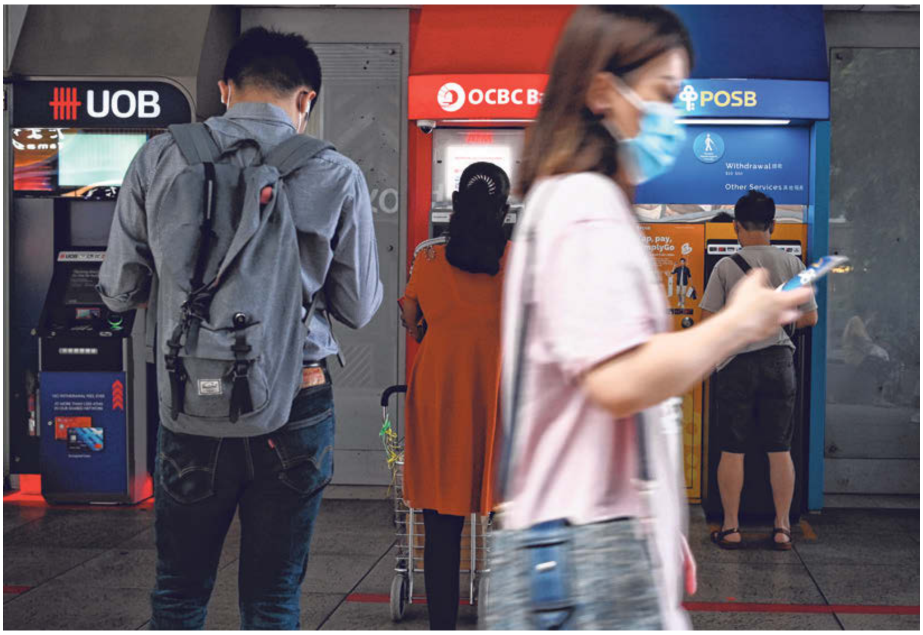
For The Straits Times



Banks use AI to evaluate data from several networks in nanoseconds, identifying trends and anomalies. Thanks to its capacity to examine hundreds of data points at once, AI can detect money laundering, account takeovers and ransomware, in real time. ST PHOTO: KUA CHEE SIONG

After two years of living with the coronavirus pandemic, we have become accustomed to more and more digital services. Waiting in line to open a bank account is fast becoming a thing of the past. We can quickly and easily open one at home with our digital identity verified by SingPass.

And, if investment is on our minds, we can now dial up to reach robo-advisers from the banks which can instantly deliver personalised advice catered to individual risk tolerance. Some services go even further to recommend a curated suite of investment products using data that gives the financial institutions a more holistic understanding of their consumers who have given access consent to "listen" to their regular digital activities.

So, unlike the way investment businesses were conducted 10 years ago when financial consultants would sit you down and try to explain their products, we can now create our own investment portfolios at our fingertips with the help of artificial intelligence (AI).

GROWING RAPIDLY

The number of fintech firms has grown from about 100 in 2015 to around 1,400 in 2021, Mr Shadab Taiyabi, president of Singapore Fintech Association, said at the NBS-AI.R Joint Symposium: Empower Financial Services with AI in March. AI is being tapped in hopes that it will provide more personalised services for an affluent mass market. AI solutions are extensively used in investment/wealthtech (13 per cent), regtech (10 per cent), and insurtech (8 per cent).

Wealthtech, regtech and insurtech leverage new technologies to enhance and automate wealth management, financial institution compliance, and the insurance business, respectively. An example of AI in action in wealthtech is the use of robo-advisers which tap machine-learning algorithms to propose investment portfolios for individuals based on their risk tolerance. This is done with minimal human supervision, which translates into cost-savings when compared with traditional wealth management services.

In regtech, AI is used to automate anomaly detection and identify suspicious money laundering transactions, lowering compliance risks for financial institutions. Additionally, AI has been used to assist insurers in expediting vehicle insurance claims following an accident. It could also open up new possibilities for personalised life insurance premiums.

According to Dr Li Xuchun, head of AI development office (FinTech & Innovation Group), Monetary Authority of Singapore (MAS), the central bank uses a four-pillar approach to promote AI in Singapore. The four are – building technical platforms to promote industry wide utility; founding support through grants such as the artificial intelligence and data analytics grant; building up ecosystems through working webinars, sharing sessions, and tutorials to increase awareness of AI adoption; and developing talent through collaboration within and between various industries.

INTRINSIC PROBLEMS

As much as AI delivers convenience and speed, among a whole range of other benefits, there are limitations and risks to consider.

AI has sparked privacy issues and been accused of invading personal spaces. On the one hand,

Most experts in the field would agree that there is a scarcity of AI talent. The market has yet to catch up in terms of offering fully trained personnel to practise the use of AI in fintech.

we want to have customised banking, such as when a bank app pops up with a coupon or discount when you walk into a shopping mall, or when it sends nudges about the risk of an overdraft in the coming days and suggestions for temporary loans.

On the other hand, we can occasionally get a little uncomfortable when we realise that the app knows us very well indeed. For one thing, it seems to be able to forecast our activity and possible expenditures.

We are faced with a trade-off between privacy and convenience.

If there are clear disclosures and disclaimers in place letting us know that the data collected will only be used for whatever defined purposes, and if there are legal structures in place to ensure that these have been implemented in accordance with boundaries, it will likely alleviate some of the concerns.

That was why the MAS introduced Feat (fairness, ethics, accountability and transparency) principles to promote responsible use of AI in 2018. In February this year, the central bank released five White Papers detailing the assessment methodologies with a comprehensive checklist to guide financial institutions in adopting Feat principles.

Another risk that comes with the adoption of AI in finance revolves around highly intelligent scams which target not only the consumer.

While AI voice cloning allows a chatbot to minimise customer support costs, it can also facilitate bank heists. A bank manager in Hong Kong was reported to have been tricked by an intricate plan in which the fraudsters utilised "deep voice" technology to clone the speech of a corporate director and made a call to urge the management to allow about US$35 million (S$49 million) in payments.

Even as financial criminals become cleverer, turning to better technology to cheat and steal, financial institutions are also aggressively employing AI to combat fraud and hacks.

For example, banks use AI to evaluate data from several networks in nanoseconds, identifying trends and anomalies. Thanks to its capacity to examine hundreds of data points at once, AI can detect money laundering, account takeovers and ransomware, in real time. Before an unauthorised and illegal transaction is completed, AI can already detect suspicious activity.

SKILLS GAPS

Most experts in the field would agree that there is a scarcity of AI talent. The market has yet to catch up in terms of offering fully trained personnel to practise the use of AI in fintech. While low level AI work may not need sophisticated skills, it may be several years still before a healthy collective competence is reached.

Also, because of the nature of their businesses, companies that provide AI solutions and services strive to protect their intellectual property rights. AI solutions are, to some extent, a black box. However, in order to ensure the Feat principle is applied and enforced, there must be certain auditing and certification procedures to check whether it comes with a bias or how the AI engine has been implemented.

Therefore, more collaboration between industry practitioners and researchers is required to alleviate skills gaps while also effectively addressing ethical and equity concerns.

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