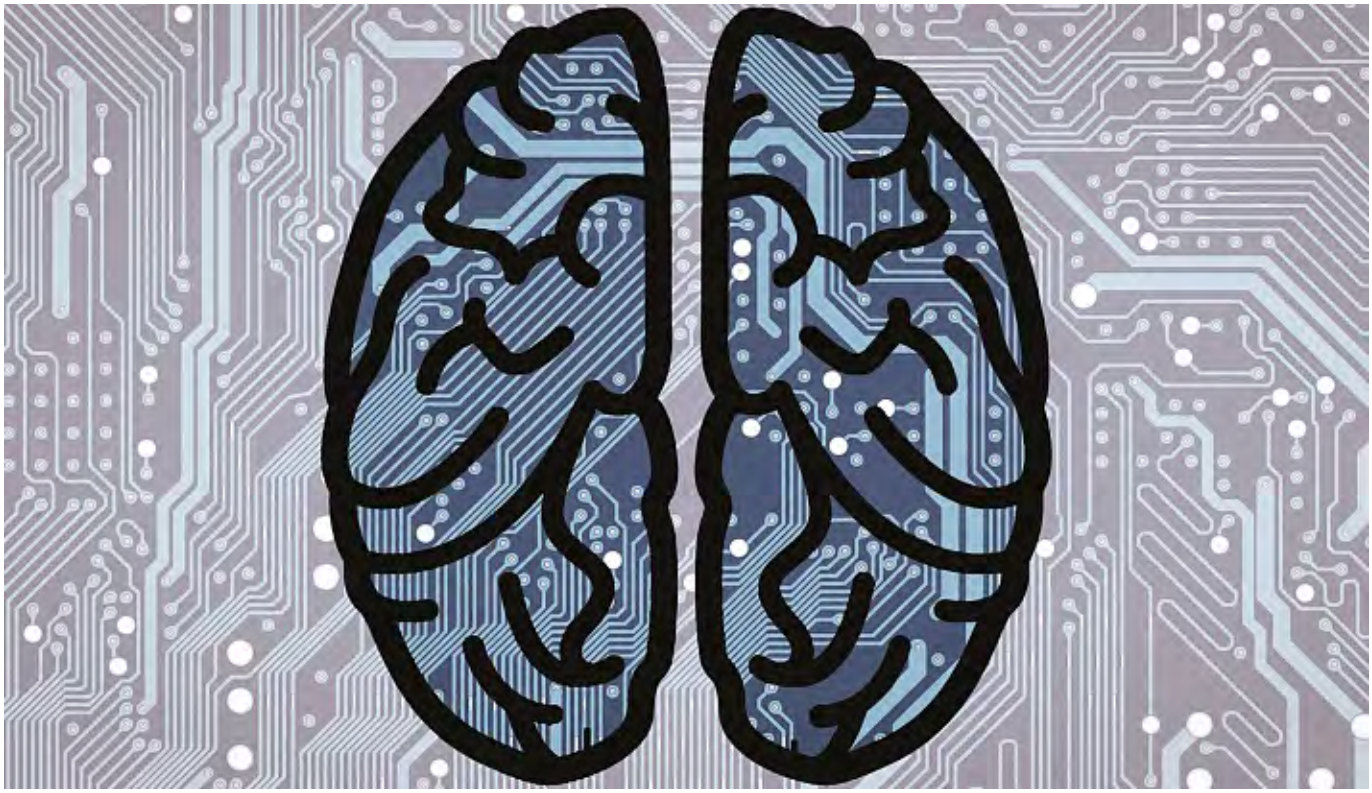

ACCELERATING THE AUTOMATION TREND

Machine learning

The pandemic has fast-tracked the digitisation trend, shining a spotlight on the inefficiencies inherent in manual processes and illustrating what can be done with artificial intelligence and machine learning. Heather McKenzie reports.

The digitisation trend – often referred to as the Fourth Industrial Revolution – is likely to accelerate in the aftermath of the coronavirus pandemic. As millions of workers have adapted to home working, the shortcomings of manual processes were thrown into stark relief.

Technologies such as artificial intelligence (AI) and machine learning, which are at the vanguard of digitisation, eliminate the need for many processes to be conducted by humans. As a result, such processes could be conducted remotely.

For example, an immediate focus for financial institutions in the early days of the pandemic was liquidity management. Many corporates were drawing down on their investments to shore up their liquidity positions, and their banking partners had to ensure they had as much instant access to liquidity as possible in order to meet their own – and clients' – demands. Never has the regulatory push towards more active management and control of intraday liquidity seemed so relevant.

Andrew Bateman, head of the buy-side division at financial IT company FIS, says during the start of the pandemic that falling interest rates, loan impairments and stressed credit lending showed how important it was that a financial institution understood its liquidity position on a continual basis. "This is no longer an end-of-day process," he says.

According to Andreas Burner, chief innovation officer at financial software and services firm SmartStream, AI technology is particularly suitable for liquidity management. He says: "AI can give cash and liquidity managers much more control over their daily cash and liquidity management workflow and thereby reduce risk, which is the ultimate goal."

TIPPING POINT

In its 2019 report, 'Intraday Liquidity Management: From a cost discussion to a revenue opportunity', SmartStream says the technology is at a "tipping point" where financial institutions can scale and innovate "without significant redesign of their legacy IT systems and processes". The availability of cloud-based infrastructures and solutions, advances in data analytics, and AI and machine learning are enabling financial institutions to apply sophisticated risk algorithms to large data sets to help them intelligently manage their liquidity.

AI and machine learning techniques, such as profiling, enable banks to digest large volumes of data to help them understand the likely behaviour of liquidity, says the report. This will enable cash managers to pre-empt costly liquidity events and take management decisions, as well as detect abnormal liquidity behaviour that may indicate a liquidity stress event.

The technology could also be used by financial regulators to automatically detect anomalies or institutions that are more likely to suffer liquidity shortfalls in the vast quantities of reporting data they are required to gather, the report adds. »

Nadeem Shamim, head of cash and liquidity management solutions at SmartStream, says AI cannot mitigate all the liquidity risks a financial institution faces, but it can help manage the challenges.

"AI can help treasurers to determine when they will hit peak liquidity use, which receipts might not come in to meet payment obligations and which counterparties are yet to settle or cannot settle in time. These are important questions a bank treasurer needs answers to." He adds that there is much more interest in AI projects among the company's clients since the pandemic.

Mr Burner believes the financial industry can learn from the pandemic. He says: "We are entering into a less rules-based world and towards one where intelligent systems will dominate. A clever, intelligent system can adapt to unprecedented situations such as the pandemic, and give cash and liquidity managers much more control."

RECIPE FOR SUCCESS

Both Mr Bateman and Mr Burner agree that any AI or machine learning project needs to be focused. In initiating an AI project, Mr Burner advises financial institutions to identify "the smallest possible project" to address a pain point because such an approach will bring the biggest benefit. "The idea is not to automate a whole process. In liquidity management, for example, the whole workflow does not need to be automated – just the payment prediction element, which is the biggest pain point for treasury," he says.

Starting out on a modest scale is important, given that AI technology is relatively new and not widely applied within financial institutions. "Once an AI process is put in place, it whets the appetite for further AI-based automation," he adds.

Mr Bateman also advises financial institutions look at discrete use cases, such as taking rules-based engines and applying machine learning to them. Another approach is to apply AI algorithms to suites of similar solutions that form part of an ecosystem, for example reconciliation processes.

Alenka Grealish, senior analyst, corporate banking at research firm Celent, says that, to date, much of the AI energy and success in corporate banking have been concentrated in back-office operations, such as payments and trade finance processing, fraud detection and compliance. In the middle office, AI has been driving change in small business credit underwriting, commercial loan negotiations, booking, and monitoring, while in functional areas, AI is making efficiency inroads, particularly in accounts receivable processing.

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Ms Grealish reports that AI is now ascendant in the front office. She pinpoints 2018 as a "watershed" for AI in banking, with 12-14% of banks with assets above $10bn worldwide implementing AI in the front office and, based on her research, she predicts such implementations will hit 50% by 2026.

She describes a "pyramid of needs" driving AI use cases in the front office in corporate banking, with 'advise me' the pinnacle of achievement. These are:

- Tell me – basic queries such as FAQs, basic account enquiries and alerts;
- Do it for me – account onboarding, transaction initiation, accounts receivable/payable digitisation and basic task optimisation, such as payments routing;
- Tell me with data analytics – data visualisation and report generation, descriptive models, predictive models (such as cashflow and forecasting);
- Advise me – product recommendations and rationale, action item alert and options, sophisticated task optimisation such as foreign exchange hedging.

"In the past, there has been a trade-off between hi-tech and high touch, but AI has reduced that trade-off. AI enables very personalised automation; financial institutions are scaling a customisation machine that is learning a lot about individual clients and can support them," Ms Grealish says.

BEATING THE COMPETITION

The banks that will outperform over the long run will be data analytics-driven and will impart a data science culture into everything they do, according to Ms Grealish.

"Those [banks] leveraging machine learning, whose algorithms become more accurate the more data and outcomes are processed, will steadily grow their competitive lead. These banks are moving from simply delivering data to their sales and loan officers and other staff to providing knowledge and wisdom. The wisdom is coming from predictive models that assess customers' creditworthiness, credit needs, preferences, and potential behaviour," she says. Advanced AI is being used to gauge a customer's current behaviour and intent, as well as track news on customers.

She highlights the example of PNC, a financial services provider in the US with 32,000 corporate and institutional clients. The bank developed a treasury analytics platform to remove inefficiencies and tackle limited access to useful data. The platform provides basic to advanced analytics, data visualisation and proactive customer insights. It delivers both self-service analytics and actionable alerts.

The platform has saved sales and product teams hours each day, and generated a "virtuous revenue circle", she says. For example, the time required to create a client schematic for a relationship review dropped from hours to seconds. Time savings, coupled with actionable alerts, have increased PNC's advisory and new sales-related interactions, boosting client satisfaction and share of wallet.

Ms Grealish's research found a slight majority of total AI use cases in the front office supported by vendors were employee-facing (54%). The situation was similar in proprietary AI developments at banks. "These findings are not surprising, given the relative complexity of implementing customer-facing AI in corporate banking compared to retail banking. While use cases are primarily basic customer support-related, more advanced use cases are increasingly being launched," she says.

DATA FIRST

Applying AI technology to any problem requires an initial focus on data. "Some projects fail because institutions fail to get a better handle on data," says Mr Bateman at FIS, who says "getting a handle on data" involves tackling segmented and fragmented data.

Ms Grealish agrees, saying "data first" should be a mantra for any financial institution implementing an AI project.

SmartStream's Mr Burner adds that at present, only around 10% of machine learning projects are successful. However, the more data an AI system has, the better it will become at prediction. He also points out the challenges financial institutions face with legacy infrastructure.

"It is easier to apply AI and robotics in organisations such as Uber and Google because they are using relatively new technology," he says. "The banking infrastructure is different and is based on legacy technology. That is why there is a shift to cloud computing, but it will take a while." TB