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Decoding the adoption of AI in Nordic banking

Identifying where and how Nordic banks are deploying AI – and the success factors for accelerating its adoption

Decoding the adoption of AI in Nordic banking

Artificial intelligence (AI) is widely expected to reshape the banking sector – boosting efficiency, enhancing customer experience, strengthening risk management, and redefining workforce dynamics.

Yet within the industry it can be a challenge to understand exactly where AI is being deployed and how the maximum return on investment (ROI) can be derived. Globally, banks issue no shortage of press releases, but real, evidence-based insights into what works remain scarce. In the Nordics – once seen as a benchmark for digital innovation – the picture becomes even less clear and the messages more mixed.

So, at Visa Consulting & Analytics (VCA), we sought to shine a light onto what, exactly, is happening with AI deployment in Nordic banking. And, through a combination of desk research, expert interviews, and quantitative research, we looked for clarity on how AI is being applied in Nordic banking: where the technology is taking hold, what challenges institutions are encountering, and what successes are beginning to emerge.

This paper outlines our findings and the implications for banks across the region – including the success factors for accelerating AI adoption.

About our analysis

To understand what's really happening with AI in Nordic banking, we did three things:

Desk research – An in-depth review of industry whitepapers, academic papers, official publications and other external reports – including reports produced by other leading advisory firms, technology and AI players, market research firms, academia, and various central banks and government departments.

Expert interviews – A series of more than 25 structured, one-on-one discussions, conducted under Chatham House Rules, with senior players from across the banking and payments ecosystem – typical roles included CTO, CIO, and CPO, and organisations included leading Nordic banks, fintechs and infrastructure players, as well as Visa's global in-house AI experts.

Quantitative research – A quantitative survey – conducted in partnership with an independent market research partner – among a representative sample of 150 AI decision makers from a range of Nordic banks and neobanks. Typical roles of respondents included function heads, CTOs, strategy leads, and technologists – and the survey involved 20 question areas, covering the extent of AI deployment in their institution, the challenges encountered, and the value delivered.

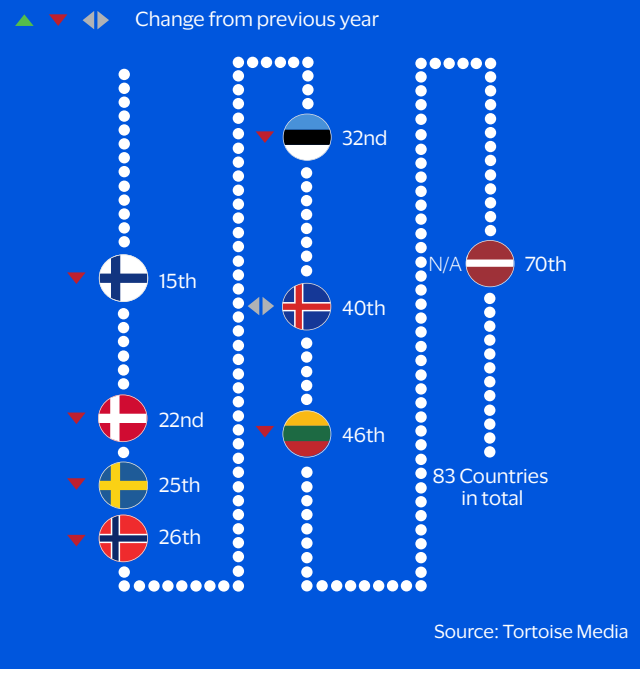
This paper covers just some of the themes from the analysis. For an in-depth briefing on the results of the wider research – and to understand how your institution ranks on our proprietary AI Maturity Index – speak to your Visa Relationship Manager or contact VCA direct on VCA@visa.com.

Understanding the context – an uphill battle for Nordic banks

The Nordic region was once seen as a pacesetter in digital innovation. But, as we explored in our recent whitepaper, Digital maturity and payments, the region has been losing its digital edge, with some quite large pockets of vulnerability opening up.

This is certainly the case in AI. The global scene is dominated by developments in two main markets – the USA and China – with Europe, and particularly the Nordics, lagging some way behind. The Global AI Index, produced by Tortoise Media,[1] gives an indication of the true extent of the gap and the way it is widening.

An inconvenient truth – the Nordics are lagging in the global AI rankings



Source: Tortoise Media

Of the eight Nordic countries, by far the best performer is Finland, at 15th place globally. All the others languish below 20th place, and six of them suffered a year-on-year fall in the global rankings. The lacklustre performance is driven by – in relative terms – a shortage of talent, a lack of government commitment, limited commercial activity, few research outputs, and an under-developed access infrastructure.

This inevitably feeds through to the financial services sector, where the challenge is compounded by the fact that many of AI's most obvious applications don't directly support a bank's core profit drivers.

Historically, the highest levels of AI adoption – and its most obvious impact – tends to be for companies where AI is closely intertwined with the core operations, or it greatly enables or supports the core operations. An example would be healthcare where AI can have an immediate and obvious impact on, say, protein structure prediction, early disease detection, or enhanced diagnostics. By contrast, the early applications of AI in banking have often been in areas like credit risk modelling or fraud detection – which can be hugely valuable but are nonetheless peripheral and/or entrusted to specialist vendors (a clear example being the way that card issuers rely on Visa's fraud detection systems, which have been deploying AI and/or ML for several decades).

This is not to say that no Nordic banks are deploying AI or benefitting from it. Just that they are yet to find an obvious entry point and, compared to some international peers, they face a more challenging implementation journey. And this, in turn, has contributed to the challenge of understanding or benchmarking the use of AI among Nordic banks.

Zeroing in on the Nordic banking landscape – four big factors at play

From the panel of expert interviews, we identified four big factors that are playing out across the region's banking landscape – two of which are facilitating the implementation of AI, and two of which are hampering it.

AI tailwinds

Pressure on margins

Over recent years, the profitability of the larger Nordic banks has risen in step with interest rates. This has arguably masked some underlying vulnerabilities and competitive pressures.

The investment markets have sensed that future returns and growth potential for traditional banks are likely to be squeezed. This is reflected in price-to-book ratios, which have been rising for most sectors but falling for banks globally – and falling more sharply for the larger listed Nordic banks.

Industry leaders are therefore looking to the potential of AI to liberate efficiencies, reduce costs, and increase revenues.

Heightened expectations

The rise of digital services has reshaped consumer expectations. Driven by the convenience offered by tech-enabled companies this 'on-demand' culture extends to more industries – and banks are no exception.

Consumers who use a secondary bank say the main reason is the ease and convenience of their mobile or online banking offer.[2]

AI is a route to meeting these heightened customer expectations. Industry leaders are eyeing the potential for AI to create more personalised experiences and improve customer service – by accelerating and smoothing decision making, onboarding, and support.

AI headwinds

Ageing tech stacks

Typically, established banks face significant challenges with legacy systems that stand in the way of them deploying new AI-based solutions.

For example, some banks have been slow to embrace cloud computing, and they are often contending with siloed systems, fragmented data, monolithic and hard-to-modify architectures, and a legacy code base which is increasingly challenging to maintain.

Leaders are conscious that, to properly embrace AI, they need to migrate to API-based systems, harmonised data, modular architecture, and scalability. Consequently, they are more focused on easy-to-implement AI solutions – like the deployment of out-of-the-box licenses – rather than truly game-changing interventions.

Regulatory scrutiny

Nearly all the industry leaders we spoke to said they find compliance and stringent regulatory requirements cumbersome, particularly for AI.

Regulators demand visibility and explainability of AI models, and regulations like GDPR require clear specification of the purposes for data use.

However, some banks see regulatory compliance as their route into AI – with one leader maintaining that an increased regulatory burden is going to require banks to automate and leverage AI to stay competitive.

Assessing the dynamics of AI adoption – key insights from industry leaders

Turning to the actual adoption of AI, common ground was scarce. There is no single playbook for Nordic banks. Instead, each organisation is charting its own course – with markedly different approaches to the core pillars of AI adoption, like leadership, governance, talent, innovation, and transparency. Even so, several clear themes did emerge:

Theme #1
Success factors

The leadership imperative

It's perhaps obvious, but worth stressing nonetheless: a successful implementation relies on a sound strategic approach to AI, driven by the executive leadership team, with strong buy-in from all tiers of management, and tied to tangible KPIs. Often this level of buy-in will be stronger in a neobank than a more established player. And this C-suite commitment enables the levels of experimentation, compliance and data access that characterise an effective AI deployment.

The cultural code

Any application of AI is only ever as good as the data it feeds upon. So, a critical requirement is to instil a data-first culture across the organisation. This, in turn, requires a bank to establish a strong, clear link between its business and technology teams – and, again, this is an area in which neobanks tend to have an innate advantage.

The data dimension

Again, it's all about the data. Banks succeeding with AI have a strong focus on data quality. They have a good understanding of the true extent of the data that's available to them. They have a realistic sense of its strengths as well as its limitations. And they have invested in the ability to harmonise data from many different sources.

The bottom line

This one is more complex for banks than it is for many other types of business. But a key to a successful implementation is for the bank to find a clear connection between AI use cases and their most important KPIs. When there is a close, clear connection, an AI implementation tends to move much more quickly and painlessly from development to deployment.

Theme #2
Implementation hurdles

The agility gap

Again, this is all about the challenge of integrating modern AI solutions with ageing legacy systems. Some banks report that, even when quality data is made available, their legacy systems still create difficulties with deploying models into production. And, unsurprisingly, neobanks view their technological modernity and agility as their biggest advantage.

The talent transition

Successfully navigating the change in talent needs can be a big hurdle, and not just on the technology front. Often, banks are stymied by the mindset of their product and business teams, their failure to grasp the fundamentals of AI, and their inability to frame business problems in realistic AI terms. Then, of course, there's the scarcity of good technologists. Ultimately, a bank needs to be able to combine capable engineers – who have the patience, the determination, and interpersonal skills to transition a promising experimental model into a live production solution – with astute business teams – who truly grasp the potential for AI-enabled efficiency improvements in their processes and workflows.

The automation anxiety

Both neobanks and established players cited a fear of job losses as a barrier. This anxiety creates a resistance to change, with people clearly worrying about the way their role may change and, ultimately, whether it may be eliminated. Again, this points to the type of culture that's needed to drive through change – and, for some players, a need to put clear incentives in place for non-technical employees.

Theme #3

Use cases

The use case conundrum

For banks, there is no silver-bullet use case – no magic ticket that will be the answer to their dreams. So, leaders report that it's necessary to develop a portfolio of use cases, each capable of making strong incremental changes (rather than betting the house on a single moon-shot-type deployment). And successful players will often go on to deploy multiple use cases in tandem, applying a use case portfolio management approach.

The production paradox

At some stage, a successful model will need to migrate from development to deployment, and this is where some use cases fare better than others. Incumbent banks have had good success in transitioning traditional ML use cases – like fraud detection and anti-money laundering – to AI, as this is familiar territory and the deployment environment is well defined. By contrast customer lifecycle management initiatives often require integration with legacy banking applications, creating a constraint for incumbents, but less so for neobanks.

The biggest prize

There was clear consensus that the most immediate opportunities of AI lie in cost savings and productivity gains. Indeed, from a P&L perspective, 80% of AI's impact is believed to come from cost savings. Leaders felt that the implementation of AI in revenue-generating solutions is generally more challenging – and those that have pursued revenue-focused use cases report that the value typically comes from indirect cost savings.

Theme #4

Partnerships

The production priority

Leaders generally bemoaned the difficulty in finding external partners who are equipped to provide real value. Generally, a prospective external partner will understand AI, but have little experience of banking, or vice versa. Either way, they often struggle to understand what it takes to transition a model into production, underestimating the related integration requirements and deployment challenges.

The pragmatic priority

Leaders reported that many partners are too fixated on model performance, with too little emphasis placed on other factors, like explainability, and overcoming integration challenges. Yes, for some use cases like fraud detection, AML and risk scoring, near-flawless model performance is critical. But more generally, it is of secondary importance – with leaders prioritising pragmatism over perfection.

The knowledge share imperative

When banks appoint external partners, they are looking for access to top talent and methodologies. But they also want the expertise they are buying to rub off on their own teams. They are therefore looking for partners who can help their people to grow as part of the implementation process – including formal approaches to training and up-skilling.

From experimentation to excellence – mapping AI maturity in Nordic banking

As well as providing us with more granularity, our quantitative survey was intended to map the levels of AI deployment across the region and enable us to populate a definitive AI Maturity Index for Nordic banking.

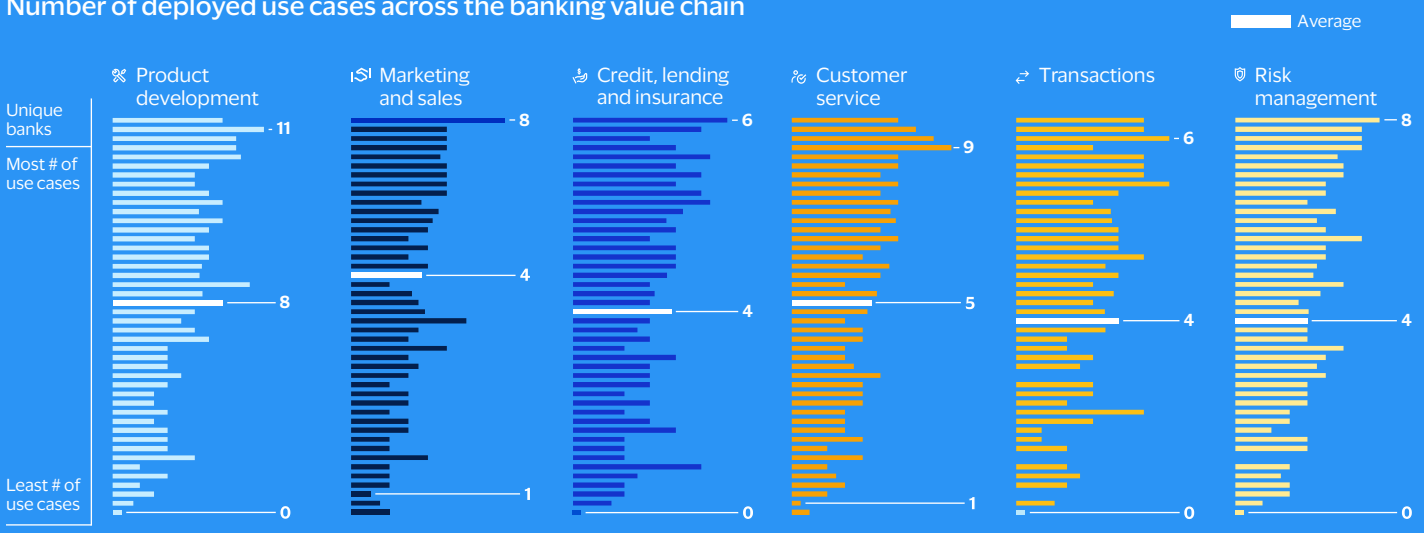
At the core of the research, we captured the number and nature of actual, real-life AI solutions that each bank had implemented. We benchmarked the perceived value that had been created, ranging from 'no impact' right through to a 'transformational improvement'. And we mapped the maturity of 44 banks in terms of their breadth of AI adoption and the extent of their performance improvement.

And, from this analysis, we came up with three central findings:

Finding #1 **Extreme levels of diversity**

There is no established AI play book for Nordic banking. The use cases are highly diverse, spanning the entire value chain.

Number of deployed use cases across the banking value chain



On average, product development does have more use cases than any other area of the value chain. But here adoption is polarised, with around a third of banks pursuing multiple use cases – in areas such as code development, product design, and innovation processes – and minimal implementation in the remaining banks.

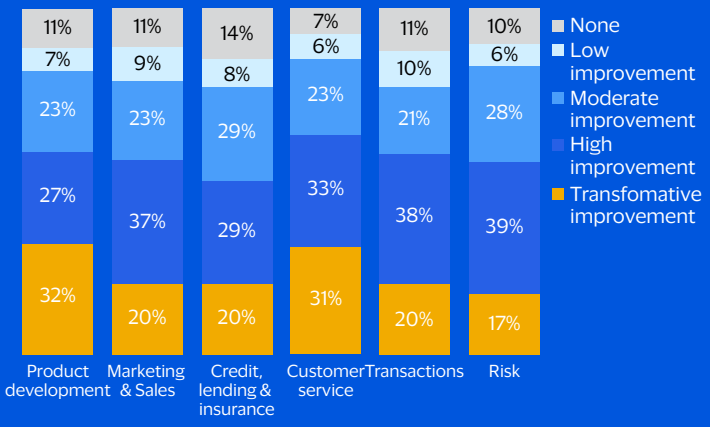
Across the other links of the value chain, many banks revert to their traditional competence in statistical models, deploying AI in areas such as regulatory compliance and operational risk management. But, again, the overall picture is one of diversity. This means there is no 'conventional wisdom' on the ideal use case – or no supposed silver bullet for a bank to be bound by or restricted to.

Why it's important: The best AI solutions are bank specific. Success often comes from linking implementation to an existing KPI, ensuring measurable impact. The real challenge – and opportunity – is to identify a portfolio of AI applications that solve concrete performance issues, deliver an easily quantifiable ROI, and directly advance the bank's strategic objectives.

Finding #2 **High levels of impact**

Turning to the value created by AI, product development again edges into the lead, narrowly ahead of customer service. Yet these figures are only averages across a highly diverse landscape.

Net improvement from implementing AI initiatives



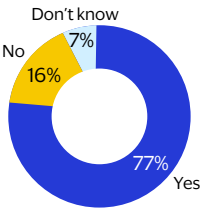
What's more striking – and encouraging – is the consistently high impact reported across use cases. In five out of six functions, over half of respondents cite either significant improvement or transformative results (and the sixth function is close behind). For a technology still viewed by many as emerging and experimental, these outcomes are remarkable.

Why it's important: Behind all the AI noise there's a strong signal – yes, AI is set to have a transformational impact on banking. Wherever it is deployed, it tends to bring stand-out results. The challenge is to move ahead with those use cases that will have the biggest strategic impact – and turn promising pilots into game-changing implementations.

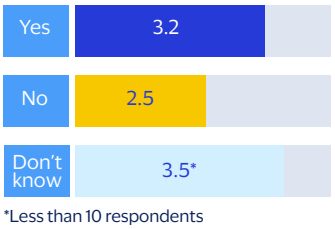
Finding #3 **It's not rocket science**

When it comes to AI deployment, the 'how' matters more than the 'what', 'where', or 'why'. In practice, success hinges on two things above all: a strong commitment from executive leadership and a clear, coherent AI strategy.

Does your bank have an AI strategy?

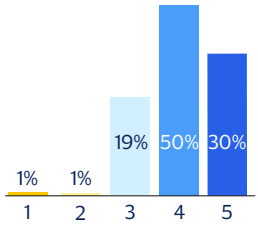


Average Ai maturity score
Split by Ai strategy answer

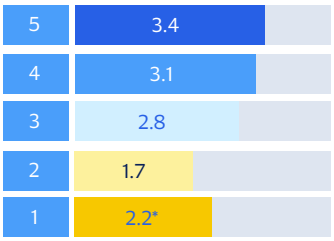


*Less than 10 respondents

How would you rate your top management support?



Average Ai maturity score
Split by talent ranking



*Only 3 respondents

These two, simple factors – a strident AI strategy and an evangelical top team – have more of an impact on a bank's AI maturity than, say, the size or quality of its AI talent pool, or even the capability of its existing tech stack.

But, importantly, this is not about storming ahead with an 'anything goes', 'gung ho' approach. There are many areas where caution is warranted – such as generative AI integration and regulatory compliance – and a discerning, committed leadership team will act accordingly.

Why it's important:

It may sound obvious. And in many ways, it is. But many organisations find 'the vision thing' nonetheless challenging. So, ensuring these prerequisites are in place should be the starting point for any AI implementation.

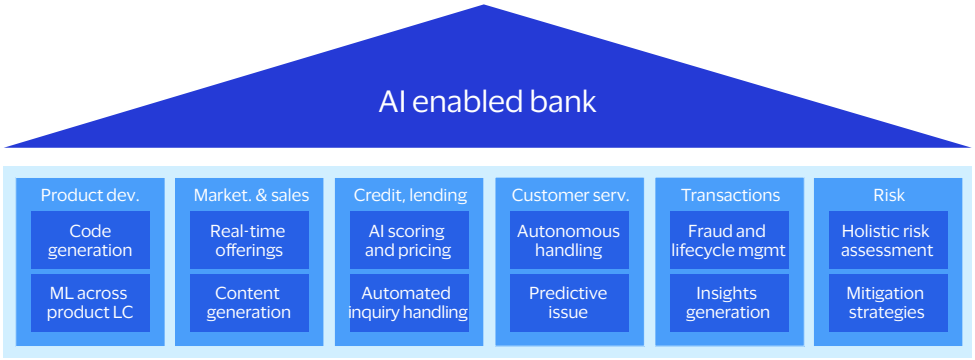
We plotted 44 Nordic banks in the AI Maturity Index. If yours was one of them, we can talk you through the detailed results. If it wasn't, we can add you to the analysis.

Envisioning the AI-enabled bank of the future

Drawing on the analysis, we can envisage the defining characteristics of the AI-enabled bank of the future, which comprises three layers.

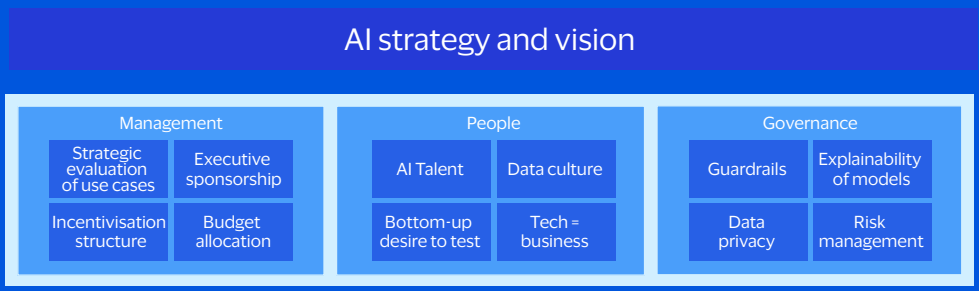
Solutions that generate real value

a product suite that captures the benefits of AI by enhancing the entire banking value chain – promoting efficiency gains and increased customer value.



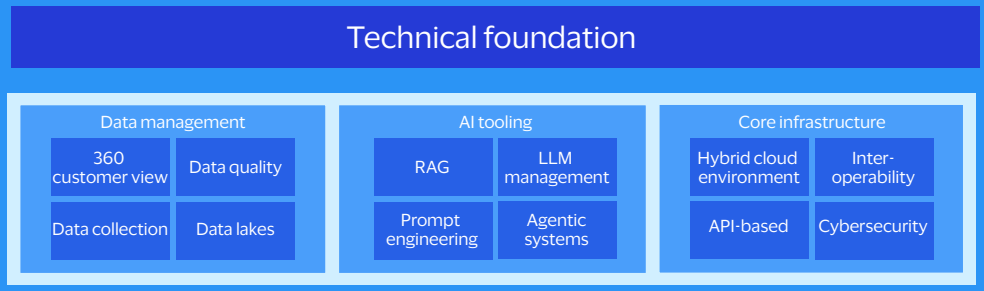
A fit-for-purpose organisational structure and operating model

set up optimally to enable AI solutions to come to life, with a structured way of evaluating use cases, visible leadership support, realistic budgets, and a clear focus on culture and governance.



A robust, scalable tech stack

which may be fully cloud-based or a hybrid core system. And, data-wise, a comprehensive view of the customer and data access is seamless across the organisation.



How Visa Consulting & Analytics can help

At Visa Consulting & Analytics, we have had a practice area dedicated specifically to AI since early 2024. This means we have a portfolio of offerings that support clients in their AI journey – from discovery of a portfolio of relevant use cases, to implementation at scale, while also ensuring clients have the necessary foundational capabilities.

Importantly, we also draw on Visa's heritage in AI.

We have been using AI in our core processing systems since the early 1990s, when we became the first network to deploy AI-based technology for risk and fraud management, pioneering the use of AI models in payments. Over the last decade, the organisation has spent more than US$3 billion on AI and data infrastructure. And, with several hundred AI models in production, powering over 100 products, our AI and deep learning capabilities help to solve longstanding challenges and pain points for buyers, sellers, and financial institutions.

Also, our vision for the future of payments is tied to AI. We believe generative AI is set to revolutionise commerce through agentic commerce. This new paradigm leverages AI-powered shopping agents to personalise the consumer experience. Equipped with a deep understanding of individual and family needs including preferences, existing inventory, and budget – these intelligent agents will save consumers significant time and money.

Discovery and planning

Understand AI and its transformative potential – Immersive deep-dive and training sessions, to help you understand what Generative AI means for your business, the areas where it is likely to have the biggest strategic impact, and how to seize the opportunity.

Design and develop a portfolio of AI use cases – Discovery workshops to identify and develop AI the most relevant use cases for your organisation, in payments and beyond; based on AI capabilities and grounded in customer understanding and data; including benefit cases, prioritisation and roadmap.

Implementation

Test and learn programmes – Iterative testing and piloting of prioritised AI use cases.

MVP development and launch – Help design and launch of AI use case Minimum Viable Product (MVP).

Scaling approach and execution – Leverage resources to support the implementation, go to market/launch and operation of AI use cases at scale.

Partnership identification and evaluation – Support to the identification of potential partnerships (including Visa partners), evaluation and scoring.

Foundational

AI capabilities assessment

Evaluate current AI capabilities across the organisation and value chain, identify gaps in data and analytics capabilities, and understand where/how the legacy tech stack may need to be upgraded.

AI strategy support

Learn about AI best practices and industry trends to help shape your AI strategy, understand operating model best practices for responsible AI.

Data/content/ insight provision

A Provide raw data, insights from proprietary models, or other input to be used to feed a client's AI solutions.

AI lab capability

Support in developing and managing a portfolio of AI use cases, informed by a continuous test and learn methodology.

About Visa Consulting & Analytics

VCA is a team of 1,300+ payments consultants, digital marketing specialists, data scientists, and economists across six continents.

The combination of our deep payments consulting expertise, our economic intelligence and our breadth of data allows us to identify actionable insights and recommendations that drive better business decisions.

Our consultants are experts in strategy, product, portfolio management, risk, digital and more with decades of experience in the payments industry.

Our data scientists are experts in statistics, advanced analytics, and machine learning, with exclusive access to insights from VisaNet, one of the largest payment networks in the world.

Our economists understand economic conditions impacting consumer spending and provide unique and timely insights into global spending trends.

For help addressing any of the ideas or imperatives above, please reach out to your Visa Account Executive to schedule time with our Visa Consulting & Analytics team or send an email VCA@Visa.com

You can also visit us at Visa.com/VCA

Sources:

[1]The Global AI Index, Tortoise Media: https://www.tortoisemedia.com/data/global-ai

[2]Visa Consulting & Analytics, Fragmented yet thriving: the Nordic payment landscape in 2024: https://www.visa.co.uk/content/dam/VCOM/regional/ve/unitedkingdom/PDF/vca/uk-fragemented-yet-thriving-the-nordic-payment-landscape.pdf

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