Deloitte. | ORACLE

CHANGING THE GAME:

THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE BANKING AND CAPITAL MARKETS SECTOR

Capitalizing on AI transformation opportunities with Oracle

AI is not new to the banking and capital markets (B&CM) sector. It has been used for years in specific functions such as algorithmic trading and trade surveillance. But the widespread adoption of machine learning and arrival of Generative AI (GenAI) marks a new era, expanding the number of potential use cases and putting benefits in the hands of the workforce.

Considering the banking sector outlook more generally, the coming years will likely include macroeconomic uncertainty. Any number of forces may buffet the sector. However, a recent report from Deloitte Global Financial Services sees AI as the single biggest controllable opportunity for players to improve their competitiveness over the next five years.[1]

The report, Changing the Game: the impact of artificial intelligence on the banking and capital markets sector, asserts that AI offers vast additional operational capacity at low marginal cost compared to the human equivalent, since it helps enable banks to tackle challenges of scale in a way that, previously, would have required hiring additional staff. But more than that, the game in which players are competing will likely change. AI is on the threshold of a paradigm shift from AI as an 'instrument of strategy' (i.e., accelerating delivery of today's business plan) to a 'determinant of strategy,' where tomorrow's business is planned around new AI capabilities.

This perspective examines the report through an Oracle lens to explore how organizations can capitalize on each theme by applying connected, intelligent technology platforms such as the Oracle Banking Suite. The intent is to spark ideas for harnessing the power of the Oracle ecosystem and Deloitte's deep financial services industry (FSI) experience to create human-centric, AI-augmented processes that can have transformative impact for organizations.

1. WHAT IMPACT CAN AI HAVE ON THE BOTTOM LINE AND HOW?

With the sector's inherent focus on returns, the significance of AI within financial services may largely be assessed on the extent that it delivers sustained operating margin uplift. What is the size of the prize? Taking into account a typical cost-to-income ratio profile today and expected AI benefit themes, a recent Deloitte analysis sees potential for a 5-7% positive contribution in 2-3 years, and 10-15% in 5-7 years.[2] This view considers a wide range of banks, and smaller, more nimble organizations including those with currently high cost-income-ratios (CIRs) could find greater opportunity to achieve the higher end of this 5-15% range of improvement. [3]

The application of AI, including GenAI, can bring advantages across a number of cost and revenue categories, including increased efficiency, improved accuracy, enhanced personalization, trends prediction, greater creativity, cost savings, better protection, and greater accessibility to services. Across these areas, there are three key modes for achieving value through the application of AI, which combine machine and human strengths:

1. **A focus on productivity through personal agents,** i.e., using AI to assist those in executive and operational roles, such as functional leaders and upper management. AI-enhanced activities include analyzing data and generating content, scheduling meetings, and providing real-time assistance and suggestions on documents.

2. **A focus on improving quality and process performance through specialist agents,** i.e., using AI to support those with domain knowledge such as investment managers, underwriters, and relationship/account managers. AI-enhanced activities include insight gathering, error checking and validation, trend spotting, trading algorithms, predictive analytics, and routine forecasting.

3. **Large-scale re-imagining of end-to-end processes,** i.e., using AI to transform customer-facing support roles, such as contact center agents and central services. AI-enhanced activities include fraud detection and protection, data categorization, quicker processing times, language translation, and voice and text sentiment analysis.

The benefits of all three modes come by blending the strengths of humans and machines, not by replacing people on a large-scale with AI. Accordingly, adoption and value realization may depend upon humans and AI interacting harmoniously to implement the operating improvements that can deliver financial impact.

ORACLE PERSPECTIVE

Many banks have invested in cloud, data, analytics and digitization initiatives in recent years as the technologies have advanced. Leading organizations have already realized straight-through processing gains from automation. With embedded machine learning (ML) and AI capabilities, Oracle Banking Cloud Services Suite (Oracle Banking Suite) and Oracle Cloud Infrastructure (OCI) help make it easier for organizations to go even further in streamlining processes and enhancing productivity across nearly every aspect of banking operations, from customer service to writing code.

For instance, Oracle Banking Suite helps enable rapid rollout of next-generation, front-to-back retail banking accounts and digital origination experiences. This includes the potential for hyper-personalization, i.e., getting down to a market of one, along with dramatic improvements in customer service gained by using digital agents to augment the capabilities of call center personnel on a large scale.

The suite also features modules that help enable adoption of self-service channels and accelerate business processes for both bankers and customers. For example, the AI capabilities in Oracle Banking Origination Cloud help to empower bankers by determining if the documents submitted by customers are complete and up-to-date, and by providing customer-centered insights to enhance the onboarding experience.

From a development perspective, in at least one product, Oracle has used its own code to train an AI system that can be leveraged for software development. This helps developers write effective code. The idea here, as with each Oracle technology, is to combine human and AI strengths so that developers can build code that integrates with existing code bases faster with the help of their machine assistants.

2. HOW WILL THE SECTOR LANDSCAPE CHANGE AND WHO WILL BE SUCCESSFUL?

Banks expected to capture the biggest benefits from prior waves of technology-enabled innovation (e.g., cloud, digital, and data) will likely continue to outperform in creating value from the application of AI. As innovation leaders, they have already invested in the key organizational enhancements needed to capitalize on the AI opportunity. Among them, those in the FinTech subsector are likely to move the quickest, as they are inherently oriented towards more rapid growth and innovation, and they may have the flexibility to jump straight into newly conceived processes without re-engineering the legacy ones.

Regardless of one's starting point, realizing value from AI will likely take more than implementing and adopting new technology. As banks evolve in maturity with the application of AI and GenAI, they can begin to give frontline employees increasing autonomy and improved tooling to help enable revenue growth, such as insight-driven pricing, while also reducing time-consuming manual work, such as data entry. But once that tooling is in place and banks begin to reconceive processes, they should focus on continuing to redeploy staff to higher value roles. This underscores the importance of professional development. The continuous upskilling of teams who use these new tools to do more is not a one-time effort, it should be built into the talent model and measured.

Banks that simply implement AI and GenAI to augment existing processes will likely not see full value realization and could in fact only see increased costs. Banks that leverage AI and GenAI to support continuous improvement can take the foundational investments already made in cloud and data to help unlock further value. For leading institutions at the top of their game, AI is already opening the door to new business segments, products, services, and experiences—generating value as part of a paradigm shift from being an instrument of strategy, to a determinant of strategy.

ORACLE PERSPECTIVE

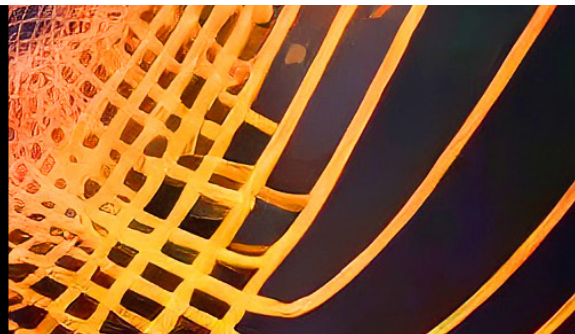
AI is not the first technology to take the banking world by storm. Digitization, cloud, analytics and robotic process automation (RPA) have each preceded it. Some organizations have been more successful than others in unlocking value from these investments, causing some to wonder if AI, and now GenAI, is just the latest fad—another capability attracting much discussion but not ultimately leading to sustained operating margin uplift. Early indicators suggest this is not the case. The difference this time is that preceding technologies laid the foundation for AI. Thus, organizations that have put the building blocks in place—investing in cloud, digitization, data, and analytics; establishing governance and risk-management processes; and adopting an innovative mindset—will likely have an advantage and be well-positioned to springboard into sustainable improvements.

The next level for those that have already established a foundation for AI will likely be a movement toward increasingly frictionless processes, greater levels of unstructured data management, and significantly enhanced customer experiences, including hyper-personalized products and services. On the front end, the AI and ML capabilities embedded in Oracle Banking Suite not only help enable end-to-end automated processes and data-driven customer offerings but also support 24/7 customer accessibility in the cloud. On the back end, Oracle offers infrastructure components such as OCI Data Science, OCI Machine Learning, and Exadata Database Service that provide the elasticity to accommodate various phases of AI development, from prototyping and training the models to implementing and operating them.

In determining what comes next, Deloitte provides the consulting capabilities built upon the Oracle technology stack with AI-embedded software. Together, Deloitte and Oracle can provide support for B&CM clients around prioritizing and piloting different types of AI use cases, helping them identify those that may have the greatest impacts upon their businesses.

"ORACLE BANKING APPLICATIONS GENERALLY SERVE AS VERY SMART AI AGENTS WHO DO THE PREP WORK. WHEN THE BANKER ENTERS THE ROOM, THE AI HANDS IT OFF TO THE HUMAN TO ACT ON IT."

Conor Colleary
Senior Vice President, Consulting
Oracle Financial Services



3. HOW CAN BANKS EMBED AI ACROSS THE VALUE CHAIN?

Business benefits can be realized by building an inventory of combined human/AI agents and deploying them right across the value chain. Initially, these agents may provide marginal gains in workforce productivity and process efficiency through quality improvement and/or automation. The operating model might look like today, but be potentially faster, better, cheaper, and less risky.

Organizational agendas tend, at a given point in time, to be heavily weighted towards a specific strategic priority, for example achieving cost efficiencies, reducing risks, or focusing on customer experience and growth. Banks should accordingly look in-depth for AI opportunities in specific functions. For instance, if **cost efficiency** is the priority, then banks should look at the largest functions, and those where the nature of the processes mean that AI can deliver substantial efficiency or cost-avoidance benefits. Similarly, where **risk reduction** is prioritized, the largest opportunities appear within risk and compliance, data management, and service operations. A beneficial correlation exists between the cost efficiency and risk reduction agendas, in areas such as transaction monitoring, financial crime, and regulatory compliance. This is because risk events in these areas can have high cost implications.

"DATA PRIVACY AND SECURITY IS ONE OF THE KEY TENETS THAT UNDERPINS THE ORACLE STACK WHEN IT COMES TO AI, WITH DATA SOVEREIGNTY BEING PARAMOUNT. ORACLE CUSTOMERS LEVERAGE ORACLE AI AND ML MODELS, BUT YOU DON'T SHARE YOUR DATA, WHICH IS REALLY IMPORTANT."

Conor Colleary
Senior Vice President, Consulting
Oracle Financial Services

"EVERYTHING ORACLE DOES IS AUDITABLE, MEANING YOU CAN CHECK BACK AND SEE HOW THE SYSTEM ARRIVED AT IT. EXPLAINABILITY IS REALLY WHAT REGULATORS ARE LOOKING FOR, AND ORACLE MAKES YOU FEEL MORE CONFIDENT IN THE OUTPUT."

Nick Grewal
principal, Oracle Global Financial Services leader
Deloitte Consulting LLP

Finally, organizations pursuing an agenda of **customer experience and growth** may naturally look toward the front-office, emphasizing sales, marketing and service functions, and tailoring product/service features and pricing. Interestingly, credit risk management can be a key enabler of customer experience and growth, since greater precision in credit-risk assessments can support insight-driven pricing, empowering banks to offer their most competitive lending terms to help secure target customer segments.

ORACLE PERSPECTIVE

Oracle embeds AI and machine learning in a variety of applications, which makes it well-suited to support banks in "making big bets" with AI in functions that align with their business priorities.

Fraud and financial crime, for instance, is one of the most advanced areas for adoption of AI and ML in terms of impact on the cost-efficiency and risk-reduction agendas. For example, Oracle's Financial Crime and Compliance Management module uses AI analytics to identify suspicious activity and aid investigations. Among its many crime-fighting capabilities, it can identify obscure relationships between business relationships in a financial ecosystem and visualize them, thus saving investigators a great deal of time. Overall, the solution helps banks understand financial crime risk within their businesses so they can manage and report that risk to regulators more effectively and transparently.

The credit process—whether it is screening and underwriting, credit-risk management or collections and recoveries—is another area where AI and ML can make a big impact, specifically in furthering the risk-reduction and customer-service agendas. Here, the Oracle Banking Suite offers industry-leading intelligent capabilities such as the ability to track exposures in real-time, assess customers' credit worthiness, and mitigate risks.

Importantly, Oracle provides its banking customers flexibility to start wherever is most relevant for them. Customers can purchase individual cloud modules from the Oracle Banking Suite, and they can also choose from an array of Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) tools to suit their objectives, whether that is bringing data from different sources and running AI models that are provided by Oracle in different programming constructs, or building and running their own models from the ground up.

4. WHAT ARE KEY CONSIDERATIONS FOR SAFE AND EFFECTIVE EXECUTION?

In many ways, deployment of AI to scale up operations raises similar enterprise risks as outsourcing to a third party. The role of bank staff changes to one of defining and governing the process in question, rather than directly executing it. In exchange for the benefits of increased processing capacity and lower cost, the bank accepts a certain level of increased inherent risk, which requires mitigating controls. These risks may include misuse of AI by malicious actors, cybersecurity and data privacy breaches, future regulations including sovereignty restrictions, and amplification of inherent biases in the underlying datasets.

Beyond these commonly discussed threats, AI can also pose talent risks, as competition for science, technology, engineering, and mathematics (STEM) skills increases. It can additionally elevate environmental risks, as AI use fuels greater energy consumption in data centers, potentially countering company and industry sustainability aspirations.

In addition to addressing these risks, safe and effective execution of AI programs requires alignment with the enterprise business strategy, smart use case selection and prioritization, and sound data management. Regarding the latter, AI output can only be as good as the quality of the input in terms of data and content. Strong governance is important to support traceability and reduce hallucinations. Thus, enterprise source data (i.e., the input) should be understood, owned and managed.

Lastly, humans are important to the design, development and successful operation of AI. Human staff should retain accountability for AI operations, being able to oversee AI processes and take action where necessary to manage unwanted behaviors or outcomes. This means AI functionality should support human interactions that are transparent, explainable and intuitive.

ORACLE PERSPECTIVE

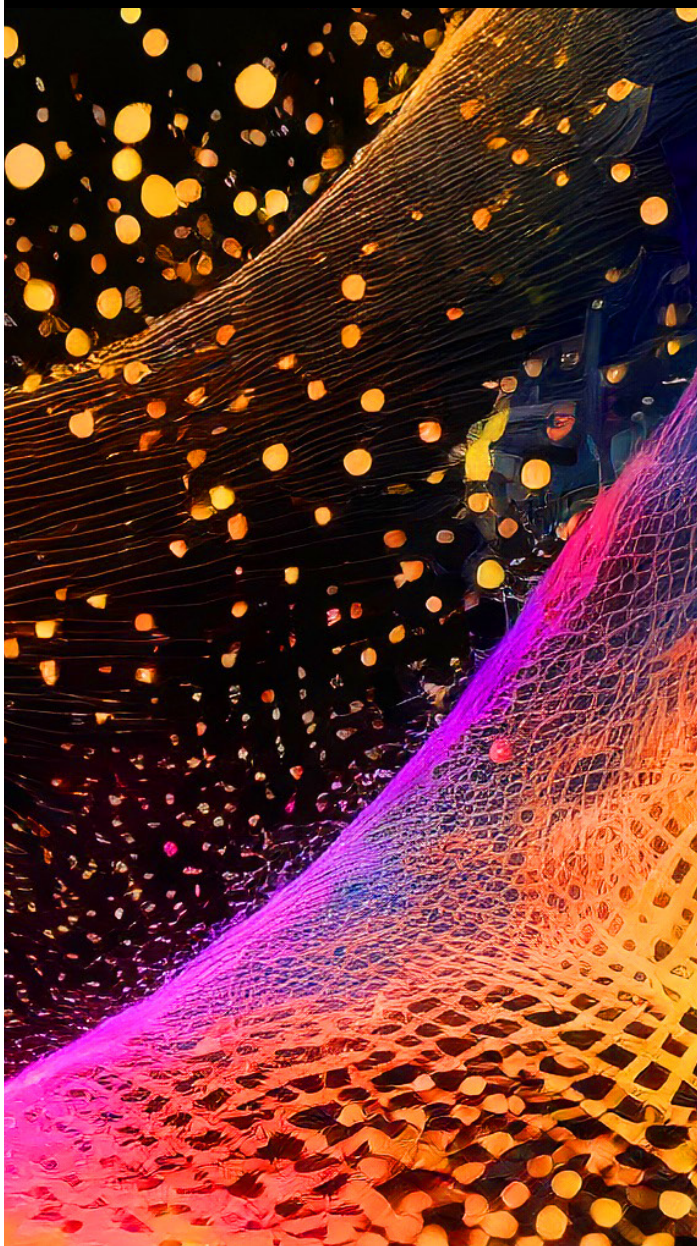
Data privacy and data management are among the top AI-related concerns for banks. Accordingly, Oracle maintains tight control over data security and AI governance. Oracle also offers transparency and auditability in explaining how their models work, how results are produced, and how thresholds for various reports and determinations are tuned.

Furthermore, in building its models, Oracle uses model-training techniques which keep humans in the loop. Human learning and feedback are consistently incorporated into the data that is populating Oracle AI and ML models. This is particularly important in the GenAI space, because Oracle

"SAFE AND EFFECTIVE USE OF AI DEPENDS UPON DATA: THE BETTER QUALITY DATA YOU HAVE AND THE BETTER CURATED IT IS, THE BETTER THE OUTPUT."

Barry Dockar

director, AI and Data leader for Capital Markets
Deloitte MCS Limited



solutions do not solely rely on the public data that the model has been trained on; instead, they rely on verified data that has been fed into them. This is one of the many ways in which Oracle helps manage risk.

Even at the tech-stack level, Oracle has created tools that help provide a clear picture of what is going into the model, along with checking mechanisms. This helps identify biases and helps ensure that any labeling performed by machines may be reviewed by a human. Oracle provides capabilities for customers to fine-tune the model—a separate space where customers can bring their own data, experiment with the model, and tweak it for their specific needs. Finally, Oracle models can be contextualized to FSI, which can improve accuracy, especially in comparison to broader GenAI models.

5. HOW TO GET STARTED, SCALE, AND DRIVE ADOPTION

As mentioned in earlier sections, sustained value will likely be delivered through new capabilities that combine human and AI strengths. Accordingly, organizational development to manage AI is as important as the technology itself and requires new perspectives on:

1. **Leadership:** Set leadership goals against measurable AI targets and value to drive evangelism and accountability.
2. **Investment:** Treat AI investments as core enablers of enterprise business strategies and not as experimental investments.
3. **Culture:** AI should be seen as a skill that each employee will need to embed in their ways of working, particularly GenAI.
4. **Execution:** Move beyond the front- and back-office method and adopt a "two in the box" approach where business and IT set shared goals.

But, perhaps most importantly, successfully scaling AI to realize value from it requires an **evolution in mindset**, moving beyond the endless cycle of near-term proof of concepts (POCs), and placing long-term bets on AI in key areas.

ORACLE PERSPECTIVE

It can be relatively easy to stand up some AI tools and do some POCs and give people something to experiment with; it's quite different to embed AI into business processes in a way that helps affect the bottom line. The difference largely lies in concentrating AI investments on high-value functions in the business that people really care about.

Making these "big bets" is not to be done alone. While the Oracle tech stack has the ability to enable nearly every high-value banking function in some way with ML and AI, human orchestration is equally important. A leadership mandate should be established; stakeholders should be mobilized, and an alliance ecosystem should be developed.

Regarding the latter, it is important to join forces with the right collaborators. This means engaging a leading professional services organization like Deloitte who has the AI transformation experience and deep B&CM knowledge to guide you, along with a tech leader like Oracle who has the end-to-end application and infrastructure components to help enable long-term success.

EMPOWERING HUMANS WITH AI AGENTS

Deloitte and Oracle seek to help banks find new avenues for growth and bottom-line impact amidst continuing regulatory pressures and aging infrastructure. Central to this aspiration is offering virtually unparalleled access to transformation opportunities that combine AI and human strengths. Through the power of intelligent technologies, banks can shift toward more personalized services and frictionless processes—which can deliver greater customer satisfaction and sustained margin improvements.

CONTACTS

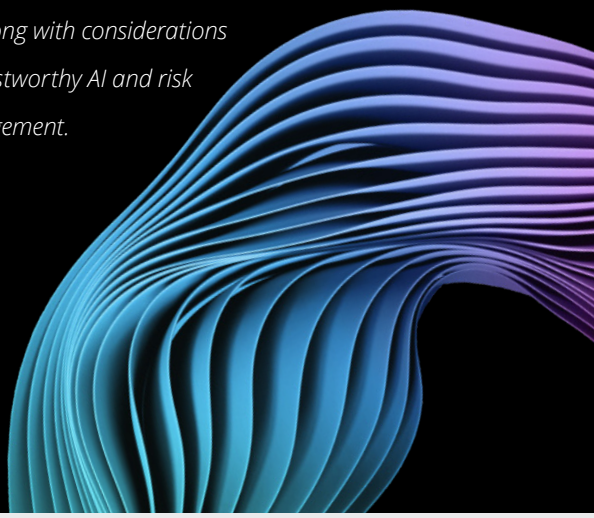
Conor Colleary
Senior Vice President, Consulting
Oracle Financial Services
conor.colleary@oracle.com

Barry Dockar
Director
AI and Data leader for Capital Markets
Deloitte MCS Limited
bdockar@deloitte.co.uk

Nick Grewal
Principal
Oracle Global Financial Services Leader
Deloitte Consulting LLP
nicgrewal@deloitte.com

THE AI DOSSIER

No matter how you look at the landscape, the application of AI has become a competitive necessity in the B&CM sector. The key to moving forward is understanding what AI can mean for your organization. The Deloitte AI Institute created the AI Dossier to give leaders in different industries summaries of important matters and opportunities, and how AI can help achieve them. The AI Dossier features top applications of AI in FSI, along with considerations for trustworthy AI and risk management.



ENDNOTES

1. **Changing the Game: the impact of artificial intelligence on the banking and capital markets sector, Deloitte Global Financial Services, June 2024.**

2. **2024 Deloitte research. Informed by Refinitiv, financial statements of global 25 major universal banks.**

3. **2024 Deloitte research. Informed by Refinitiv, Factiva, and Statista selected bank annual reports as available in Q4 2023; Deloitte AI Institute, 2024; and Deloitte GenAI Dossier, 2024.**