EVIDENT

REPORT EXCERPT

BANKS

01 How are banks organizing their AI research teams?

02 How is the focus of AI research explored by the banks changing?

03 Where and how does AI research accelerate use cases and business outcomes?

INNOVATION PILLAR | Research | Patents | Ventures

# The state of AI research in banking

2025/09

## Disclaimer

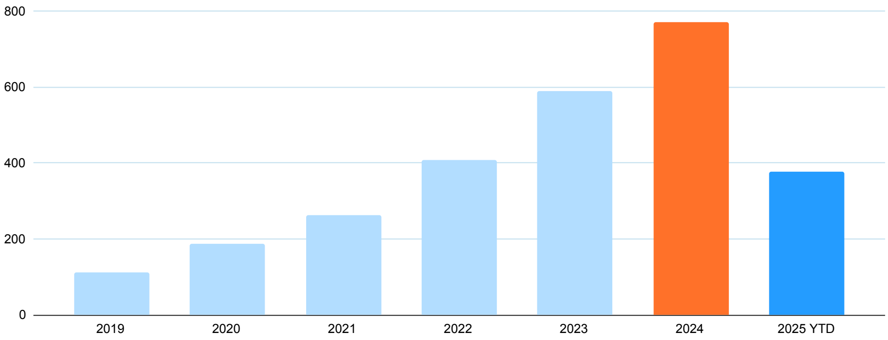
# Key Findings

## 1 EXPANDING RESEARCH OUTPUT HITS NEW PEAK

Over the past five years, the banks tracked in the Evident AI Index have increased their annual AI research output by 7X. This rapidly expanding body of applied work cements a distinct model of inquiry from that observed across industrial labs, frontier labs, and the wider world of academia.

2019-2025 YTD, n=2,705 papers

AI-SPECIFIC RESEARCH PAPERS, BY YEAR

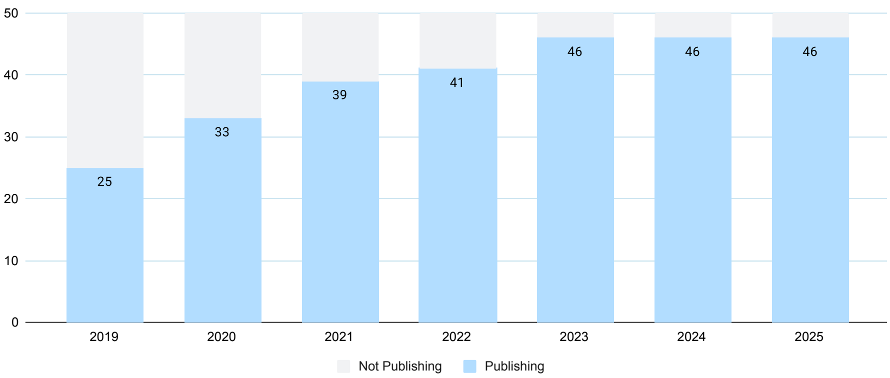



## 2 THE NUMBER OF BANKS PUBLISHING AI RESEARCH HAS DOUBLED SINCE 2019

Since 2019, the number of banks publishing any AI research has surged from 25 to 46 out of the 50 banks tracked by Evident. This expanding level of participation in AI research crested in 2023 – underscoring the ubiquity of research capability within the current ecosystem.

2019-2025 YTD, n=50 banks

CUMULATIVE SHARE OF BANKS ENGAGING IN AI-SPECIFIC RESEARCH

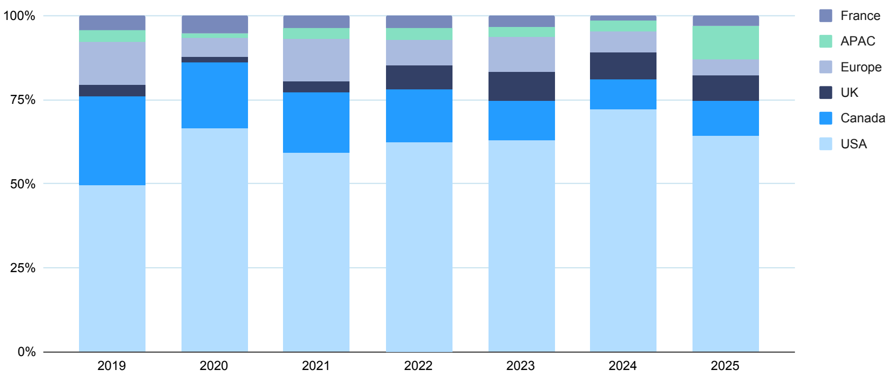



## 3 NORTH AMERICAN BANKS CONTINUE TO DOMINATE RESEARCH AGENDA

While more banks have gradually joined the fold over time, the bulk of AI research remains overwhelmingly driven by a select North American contingent – including those banks that were first off-the-mark in establishing AI labs. To date, nearly 80% of AI-specific research originates from banks based in the USA or Canada.

2019-2025 YTD, n=45 banks

BREAKDOWN OF AI-SPECIFIC RESEARCH PAPERS, BY BANK GEOGRAPHY

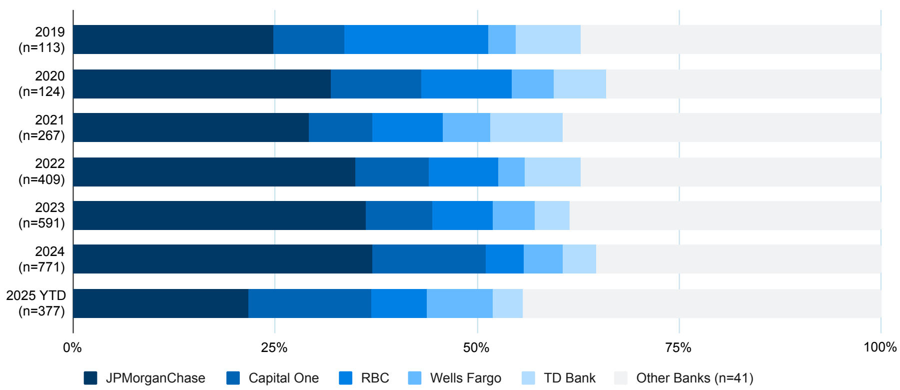



## 4 ESTABLISHED LEADERS CONSISTENTLY DRIVE MAJORITY OF RESEARCH OUTPUT YOY

Last year, nearly 65% of AI research was driven by just five banks: JPMorganChase (37%), Capital One (14%), RBC (5%), Wells Fargo (5%), and TD Bank (4%). This dominance over the research landscape has remained highly consistent year-over-year since at least 2019.

2019-2025 YTD, n=2,707 papers

SHARE OF AI-SPECIFIC RESEARCH PAPERS, BY BANK

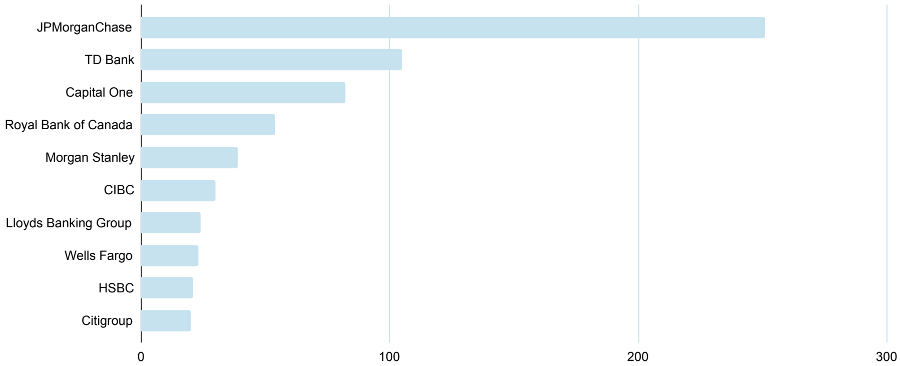


## 5 TOP-10 TEAMS ACCOUNT FOR NEARLY 75% OF ALL AI RESEARCHERS IN BANKING

Not all AI research teams are created equal. Nearly three-quarters of AI researchers who contribute to AI-specific papers during their tenure at the bank are found at just 10 institutions. The vast majority of these banks are highly centralized in terms of organization and leadership.

August 2025, n=890 staff

TOP-10 BANKS: NUMBER OF AI RESEARCHERS IDENTIFIED

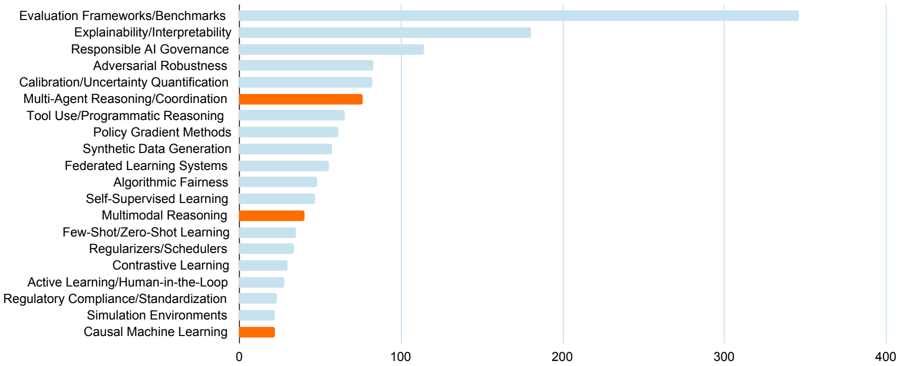



## 6 TOPIC ANALYSIS REVEALS BALANCE BETWEEN PRACTICAL VS. CUTTING EDGE RESEARCH

Topic analysis of AI research papers reveals banks are balancing practical experimentation against exploration of frontier topics, including: multi-agent reasoning, causal AI, and tabular foundation models.

2019-2025 YTD, n=50 banks

CATEGORIZATION OF AI-SPECIFIC RESEARCH PAPERS, BY THEME

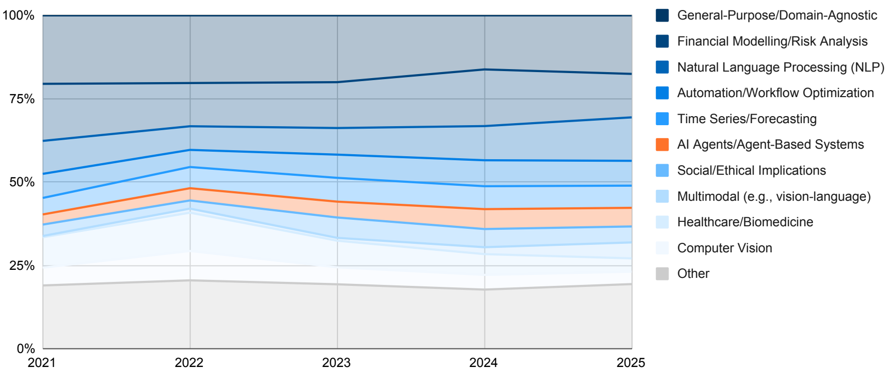



## 7 RISE IN AGENTIC RESEARCH REFLECTS PRIORITIZATION OF APPLIED WORK

Across 2022-25, we observed a significant rise in the number of papers focused on AI Agents and Agent-based Systems. This data also demonstrates how banks are shifting away from General Purpose and/or pure research (e.g., Scientific Discovery) – in favor of applied research that clearly relates to immediate business applications.

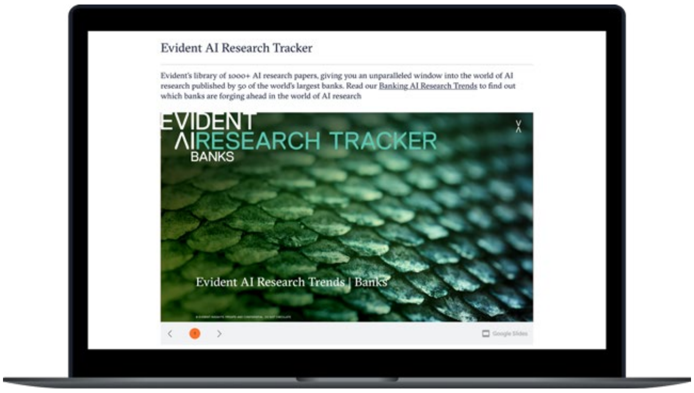
2021-2025 YTD, n=2,284 papers

BREAKDOWN OF AI-SPECIFIC RESEARCH PAPERS, BY PRIMARY APPLICATION DOMAIN




## 8 NOW LIVE: EVIDENT'S LATEST DATA TRACKER

Evident members now have access to our AI Research Tracker. This comprehensive database inventories and analyzes all recent publications from 50 of the world's largest banks and 30 of the world's largest insurers.



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# Introduction

Different strategies by which to cultivate and foster AI innovation are advancing across the banking sector. While all banks are thinking about how AI can enable better, faster, and more efficient operations – distinct leaders are emerging in three key areas that require long-term, top-down investments:

**RESEARCH**
Banks invest in AI research to maintain pace with cutting-edge AI advancements, balance focus between pure versus applied solutions, and ultimately, explore how to scale theory into practice.

**PATENTS**
While representing less immediate return on investment, banks file AI patents to track or prepare the groundwork for future business processes and activities, ranging from defining, defending, licensing, or indemnifying intellectual property with both partners and competitors.

**VENTURES**
Banks make strategic investment into AI startups with novel ideas and promising tools (which can be scaled and developed for use inside the bank).

This report is the first in an ongoing series that will unpack the latest data specific to the Innovation pillar of our continuing coverage of the sector – starting with the following deep dive into the state of AI research.

**HISTORICAL CONTEXT: THE ROLE OF RESEARCH IN BANKING**
Research into Machine Learning (ML) began as a largely academic pursuit, with university labs driving advances in theory and early applications. Gradually, this landscape began to shift in the late 2000s and early 2010s – ushering in the Deep Learning (DL) renaissance, and giving rise to industrial labs such as DeepMind (2010), Google Brain (2011), and Facebook AI Research (2013).

Industry's influence is perhaps best exemplified (though by no means limited to) the landmark 2017 NeurIPS paper "Attention Is All You Need." With more than 200 thousand citations, this publication remains one of the most influential computer science papers ever published. Beyond its technical contribution, the phrase itself has become symbolic: shorthand for the transformer architecture and the foundation models built upon it.

Since then, the research ecosystem has evolved again with a select group of corporate labs developing the largest and most influential models. These 'frontier labs' are more guarded – now often sharing only selective technical blogs rather than open academic papers, reflecting a more competitive and commercially driven industry. Meanwhile, academia continues to generate much of the most cited work, while banks occupy a distinct space. Namely: bridging large-scale innovation with the demands of practical, regulated deployment.

Against this backdrop – *what then, is the role of research in banking? And how should its success be defined and measured within this wider ecosystem?*

Within banking, effective research teams are, at their core, aligning their agendas with generating business value. While the scope to pursue individual research interests remains important for attracting and retaining top talent, the ultimate impact of these teams is largely measured by the degree their work shapes products, improves processes, or strengthens competitive offerings.

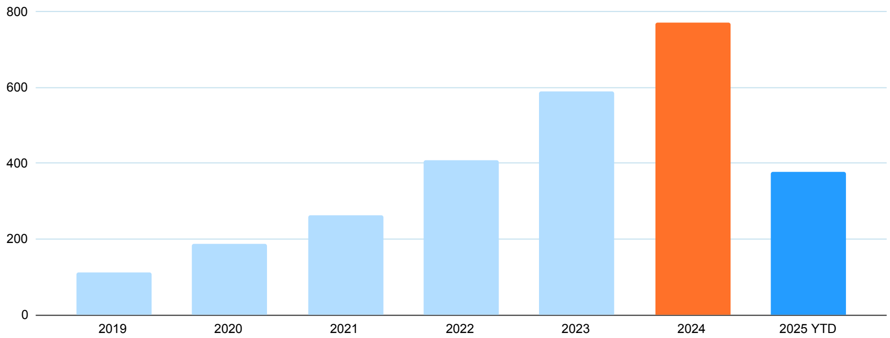
To this end, established leaders – including JPMorganChase, Capital One, Wells Fargo, RBC Borealis, and TD Bank's Layer 6 – have consistently demonstrated an ability to translate ideas into deployed use cases, demonstrating value to both the institution and its clients.

Now, more than ever, these groups face a business imperative that requires balancing applied research and open enquiry in such a manner that enables banks to maintain credibility as research institutions, while also delivering tangible impact.

**STATE OF PLAY: ESTABLISHED RESEARCH LEADERS REMAINS STABLE AMIDST EXPANDING OUTPUT**

Over the past five years, we've witnessed a precipitous rise in the volume of AI research being produced by the 50 banks tracked in the Evident AI Index – surpassing 750 discrete publications for the first time in 2024.

**AI-SPECIFIC RESEARCH PAPERS, BY YEAR**




2019-2025 YTD, n=2,707 papers

Historically, establishing (or acquiring) an AI research team has become a proxy for a bank investing considerable time and resources into developing proprietary intellectual property and/or in-house capabilities.

Properly channeled, applied AI research can be directed to solve mission-critical business problems and create highly differentiated offerings. In doing so, banks investing heavily in AI research are well-positioned to build bespoke, cutting-edge AI solutions – before customized solutions for financial services clients are available to buy from external vendors.

Reflecting on drivers behind the tidal wave of research output profiled above, Bayan Bruss (Capital One) recalled:

"We realized early on that there was a need for applied research as opposed to pure academic research – working on big research challenges that go about 2-3 years out into the future but that tie back to real business problems. The focus here was to break ground on the application of AI/ML to financial services. And the most effective way to demonstrate the potential of these applications is to take it all the way through to production. That need has only grown over time commensurate with the possibility of the technology to transform our business."

*Bayan Bruss*
*VP, Applied AI Research*
*Capital One*

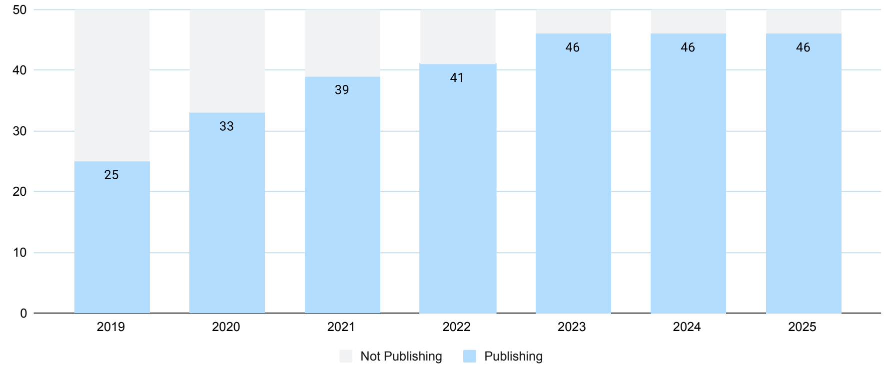
Many experts align on the "BC/AC" (Before vs. After-ChatGPT) shift in priorities – consistently stressing the opportunity cost of *not investing* in AI research. Jesse Cresswell (Layer 6 AI at TD) observed:

"AI is an incredibly fast moving space. The research is accelerating faster than any other field I've witnessed. Since our ChatGPT moment in late 2022, just look at how thoroughly LLMs have penetrated the wider industry."

*Jesse Cresswell*
*Staff Research Machine Learning Scientist*
*Layer 6 at TD Bank*

Underscoring this point, Evident registered a spike in the number of banks publishing AI research since 2019 – with participation effectively doubling from 25 banks to 46 banks over the short span of five years. But since 2023, the share of banks contributing to AI research literature has remained static, underscoring the ubiquity of research capability within the current ecosystem.

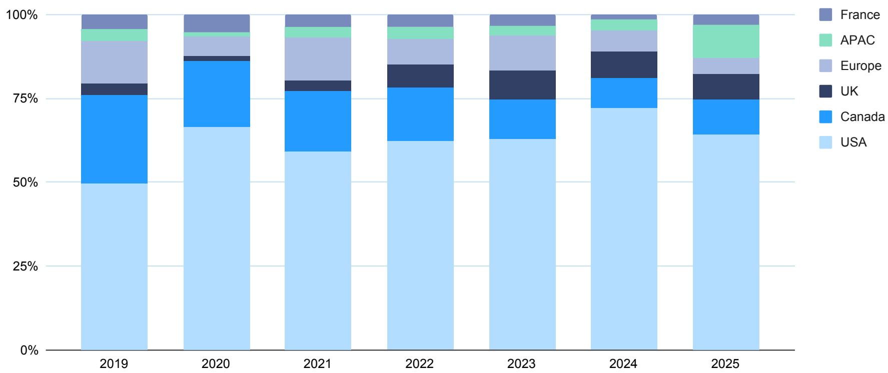
**CUMULATIVE SHARE OF BANKS ENGAGING IN AI-SPECIFIC RESEARCH**




2019-2025 YTD, n=50 banks

Moreover, while more banks have gradually joined the fold over time, AI research is overwhelmingly driven by a select North American contingent – including those banks that were first off-the-mark in establishing AI labs. To date, nearly 80% of AI-specific research originates from banks based in the USA or Canada.

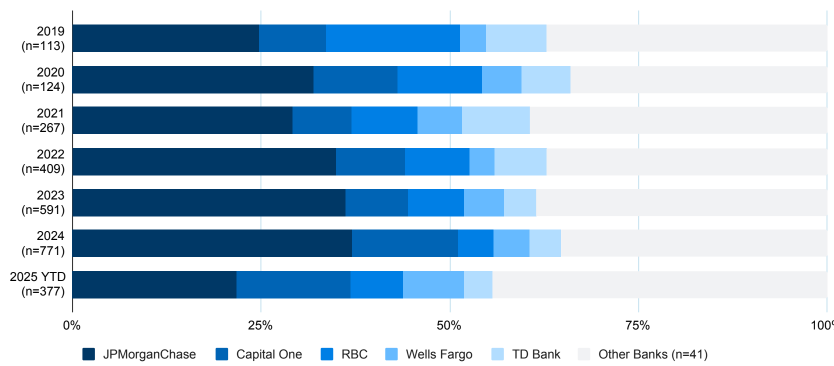
**BREAKDOWN OF AI-SPECIFIC RESEARCH PAPERS, BY BANK GEOGRAPHY**




2019-2025 YTD, n=2,707 papers

Last year, nearly 65% of AI research was driven by just five banks: JPMorganChase (37%), Capital One (14%), RBC (5%), Wells Fargo (5%), and TD Bank (4%). As shown below, the dominance of these five institutions over the research landscape has remained highly consistent year-over-year.

**SHARE OF AI-SPECIFIC RESEARCH PAPERS, BY BANK**




2019-2025 YTD, n=2,707 papers

A potential explanation for the consistency of this cohort can be linked to the reputational benefits of an AI research lab (or lack thereof). Top-tier AI researchers – typically sourced from the world of academia or tech firms – remain hard to find, expensive to keep, and notoriously difficult to recruit.

Key recruitment factors include: (1) comparative data and computational resources available at the bank; (2) strength of established academic partnerships; and (3) the freedom to publish novel findings and present at academic conferences – which is not necessarily a guaranteed right across the private sector at large.

Cresswell underscored this final point in particular:

> "There are many reasons for us to be conducting AI research internally. A lot of it is driven by personnel, morale, recruiting, and our talent strategy in general. We are able to recruit some of the best researchers by offering them a chance to continue to do AI research in a different setting."

*Jesse Cresswell*
*Staff Research Machine Learning Scientist*
*Layer 6 @ TD Bank*

By extension, banks that were early in establishing a dedicated research capability accrued a reciprocal advantage in their ability to attract, nurture, and retain talent. In simplest terms: talent attracts talent – providing limited opportunity to establish new research centers that could rival the early movers. Consequently, a small number of banks now dominate the Index in terms of relative team size, total publications, and overall citations.

**KEY QUESTIONS & ADDITIONAL RESOURCES**

To help unpack these critical benchmarks, Evident has launched its AI Research Tracker, a comprehensive database of the the AI Research published by the 50 banks tracked in the Evident AI Index. This new tool is available exclusively to Evident members via our Member Hub, and is the first in a series of new Data Trackers we are publishing over the coming months. The new Data Trackers will expand the range of tools available to Evident members to cover both AI Patents and AI Ventures.

Alongside each Data Tracker, we will be publishing a series of reports unpacking each component of the Innovation pillar of our standing methodology. To that end, the following report is focused on exploring three big questions:

1. How do banks **organize** their AI research teams?
2. How is the **focus** of AI research explored by banks changing?
3. Where and how does AI research accelerate **use cases** and business **outcomes**?

Please reach out with thoughts and feedback on our key findings and insights on this critical topic.

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# Evident Membership

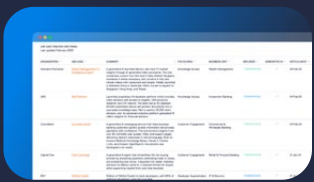
Evident members have exclusive access to the full report, The State of AI Research in Banking, as well as the AI Research Tracker, a comprehensive database that analyses all recent AI research published by 50 of the world's largest banks and 30 of the world's largest insurers. The AI Research Tracker contains over 1,000 pieces of research, and is the latest in a series of Data Trackers published by Evident in 2025.

By monitoring these evolving research agendas, Evident members can anticipate which AI use cases are likely to graduate from lab experiments to production environments over the next 2-3 years, shaping the competitive landscape and setting new benchmarks for cutting-edge applications throughout financial services.

Please contact us to learn more about Evident membership, and the range of tools we can offer to help your AI adoption.

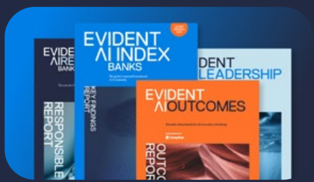
**INSIGHTS**
Keep up to date with the latest AI activity across financial services.

Our Member Hub is our home for our wider content offering, including data trackers, performance dashboards, research reports, and our events archive.



**DATA TRACKERS**
Comprehensive databases of public Use Cases and AI Research from 50+ banks

**INDEX DASHBOARD**
AI capability benchmarking
Methodology & raw data
90+ indicators




**RESEARCH REPORTS**
AI adoption trends
Sector best practices
Data trackers


**EVENTS & ROUNDTABLES**
Evident AI Symposium
Member roundtables
Community case studies

**EVIDENT DATA TRACKERS**
Evident members have access to a number of Data Trackers focused on AI Innovation in banking. The Evident team scours media feeds, press releases and investor relations materials to identify the latest AI use case and AI research announcements.

**USE CASE TRACKER**
This comprehensive database inventories and analyzes all the AI use cases disclosed by 50 of the world's largest banks and 30 of the world's largest insurers, summarising what the use cases do, for which lines of business, and how they are delivering ROI.

**AI RESEARCH TRACKER**
This newly launched tool captures all recent AI Research published by 50 of the world's largest banks and 30 of the world's largest insurers. This enables Evident members to anticipate which AI use cases are likely to graduate from lab experiments to production environments over the next 2-3 years.

**PRIVATE OUTCOMES BENCHMARK**
Evident's Outcomes Benchmark is a private benchmark of AI deployment and impact. It is built using anonymised, private data shared directly by the world's largest financial institutions, with respect to:

→ *Deployment*: Where are banks rolling out AI use cases? Which use cases are best-in-class and why?
→ *Financial Impact*: What realized returns are banks yielding from AI investments? How are returns and ROI being calculated?
→ *Non-Financial Results*: How does time to production, adoption rates, usage and other success metrics compare against peers?

Financial institutions share internal data to participate in Evident's Outcomes Benchmark. In return, they receive fully anonymized results against a set of comparable organizations. Please reach out to learn more.

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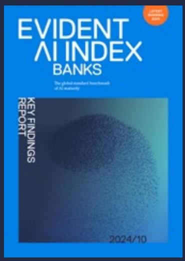
EVIDENT AI RESEARCH TRACKER BANKS

# Evident AI Index Rankings
## October 2024




The Evident AI Index assesses the various approaches banks are taking towards AI readiness. The October 2024 Index covers 50 of the largest banks in North America, Europe, and Asia. Each bank is assessed on 100+ individual indicators drawn from millions of publicly available data points specific to four pillars: Talent, Innovation, Leadership, and Transparency.

| COMPANY | RANK +/- YoY change | | TALENT Capability & development | | INNOVATION Research, patents, ventures, ecosystem | | LEADERSHIP in public comms and strategy | | TRANSPARENCY of responsible AI activities | |
|---|---|---|---|---|---|---|---|---|---|---|
| JPMorganChase | 1 | | 2 | | 1 | | 3 | ↓1 | 1 | |
| Capital One | 2 | | 1 | | 3 | ↓1 | 14 | ↓6 | 14 | ↓9 |
| Royal Bank of Canada | 3 | | 6 | ↑1 | 2 | ↑1 | 8 | ↓3 | 10 | ↓8 |
| Wells Fargo | 4 | | 4 | | 5 | | 36 | ↓4 | 8 | ↑2 |
| CommBank | 5 | ↑1 | 7 | ↑9 | 12 | ↑8 | 2 | ↑1 | 5 | ↓1 |
| UBS | 6 | ↓1 | 3 | | 18 | ↑1 | 15 | ↑2 | 15 | ↑7 |
| HSBC | 7 | ↑6 | 15 | ↑2 | 9 | ↑3 | 5 | ↑19 | 3 | ↑3 |
| Citigroup | 8 | ↑1 | 5 | | 7 | ↑1 | 13 | ↑13 | 43 | ↓12 |
| TD Bank | 9 | ↑2 | 10 | ↑5 | 8 | ↓2 | 20 | ↑11 | 16 | |
| Morgan Stanley | 10 | ↑7 | 18 | ↑2 | 4 | ↑3 | 17 | ↓3 | 42 | ↑4 |
| Goldman Sachs | 11 | ↓4 | 13 | ↓5 | 6 | ↓2 | 27 | ↓12 | 37 | ↑12 |
| BNP Paribas | 12 | | 12 | ↑6 | 14 | ↓1 | 6 | ↓2 | 21 | ↓8 |
| BBVA | 13 | ↑13 | 8 | ↑22 | 20 | ↑1 | 7 | ↑6 | 26 | ↑16 |
| BNY | 14 | | 20 | ↑3 | 13 | ↑2 | 10 | ↑2 | 11 | 3 |
| Bank of America | 15 | | 11 | ↑3 | 11 | | 18 | -11 | 20 | ↑15 |
| DBS | 16 | ↓6 | 21 | ↑1 | 50 | ↓16 | 1 | | 7 | ↑5 |
| ING | 17 | ↓9 | 9 | ↓3 | 19 | ↓9 | 9 | ↑10 | 24 | ↓9 |
| NatWest | 18 | ↑1 | 16 | ↓5 | 23 | ↑2 | 16 | ↑14 | 9 | |
| Standard Chartered | 19 | ↑4 | 31 | ↓4 | 15 | ↑7 | 11 | ↑22 | 2 | ↑9 |
| Scotiabank | 20 | ↓2 | 22 | ↓1 | 36 | ↓8 | 22 | ↑1 | 4 | ↓1 |
| Société Générale | 21 | ↓1 | 17 | ↓8 | 30 | ↑2 | 23 | ↓7 | 29 | ↓8 |
| CIBC | 22 | ↑19 | 29 | ↑11 | 28 | ↑1 | 24 | ↑22 | 6 | ↑33 |
| Intesa Sanpaolo | 23 | ↑2 | 46 | ↑1 | 24 | ↓8 | 4 | ↑5 | 12 | ↑5 |
| Bank of Montreal | 24 | ↓8 | 27 | ↓2 | 10 | ↓1 | 39 | ↓17 | 17 | ↓3 |
| Barclays | 25 | ↓3 | 19 | ↓7 | 21 | ↓7 | 45 | ↓18 | 28 | ↑16 |
| Deutsche Bank | 26 | ↑3 | 25 | ↑7 | 16 | ↑24 | 31 | ↓21 | 33 | ↓7 |
| Lloyds Banking Group | 27 | ↑1 | 28 | ↓9 | 17 | ↑26 | 33 | ↑5 | 19 | ↓1 |
| Santander | 28 | ↓7 | 23 | ↑1 | 31 | ↓13 | 34 | ↓23 | 18 | ↑9 |
| ABN AMRO | 29 | ↓5 | 14 | ↓1 | 35 | ↓9 | 35 | ↑6 | 46 | ↓16 |
| Rabobank | 30 | ↑1 | 24 | ↓14 | 41 | ↑5 | 29 | ↑14 | 30 | ↓1 |
| State Street | 31 | ↑8 | 38 | ↓2 | 26 | ↑15 | 21 | ↑7 | 27 | ↑16 |
| Crédit Agricole | 32 | ↓5 | 34 | ↓3 | 25 | ↓8 | 28 | ↑6 | 40 | ↓12 |
| ANZ | 33 | ↑5 | 36 | ↑7 | 40 | ↑2 | 12 | ↑6 | 25 | ↑9 |
| NAB | 34 | ↑1 | 32 | ↑10 | 46 | ↑2 | 32 | ↓7 | 13 | ↓6 |
| PNC Financial | 35 | ↑1 | 26 | ↑8 | 38 | | 44 | ↓7 | 35 | ↓12 |
| US Bank | 36 | ↓2 | 30 | ↓2 | 32 | ↑4 | 37 | ↑2 | 32 | ↓7 |
| Westpac | 37 | ↓4 | 37 | | 39 | ↓15 | 19 | ↑17 | 22 | ↓3 |
| KBC | 38 | ↓1 | 45 | ↓7 | 22 | ↑11 | 26 | ↓6 | 39 | ↓1 |
| Citizens Financial | 39 | ↑10 | 33 | ↑8 | 47 | ↑3 | 30 | ↑14 | 47 | |
| Groupe BPCE | 40 | ↑6 | 43 | ↑3 | 37 | ↓2 | 43 | ↑5 | 41 | ↓21 |
| CaixaBank | 41 | ↓1 | 40 | ↑8 | 45 | ↑2 | 38 | ↓32 | 38 | ↓5 |
| Danske Bank | 42 | ↑2 | 35 | ↑4 | 49 | ↓5 | 48 | ↓8 | 34 | ↓2 |
| Truist Bank | 43 | ↓13 | 44 | ↓15 | 34 | ↓7 | 46 | ↓17 | 45 | ↓8 |
| Crédit Mutuel | 44 | ↑1 | 50 | ↓1 | 27 | ↑3 | 25 | ↓4 | 31 | ↑9 |
| Commerzbank | 45 | ↓3 | 48 | ↓4 | 42 | ↓3 | 41 | ↑4 | 23 | ↑1 |
| UniCredit | 46 | ↓3 | 47 | ↓2 | 29 | ↓6 | 50 | ↓8 | 36 | ↑9 |
| Raiffeisen Bank Intl | 47 | ↓15 | 41 | ↓15 | 43 | ↓12 | 42 | ↓7 | 49 | ↓8 |
| Nordea | 48 | | 39 | ↓4 | 48 | ↑1 | 47 | ↑2 | 44 | ↓8 |
| Charles Schwab | 49 | ↓2 | 42 | ↓9 | 44 | ↑1 | 40 | ↑7 | 48 | |
| First Citizens | 50 | | 49 | ↑1 | 33 | ↑4 | 49 | ↑1 | 50 | |